

Original Article

Data collection on indoor and outdoor physical activities during the SARS-Covid-2 pandemic

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Abstract

The SARS-Covid-2 pandemic and government restrictions have negatively affected the general health of the individual and the incomes of fitness and sport centers. The spreading of Covid-19 has undoubtedly changed the lifestyle in Italy: social distancing, restriction of kiss greetings, hugs and hand shakings. Additionally, the virus has imposed a new life routine and destroyed the old one. The aim of this study is collecting data about the trend and changes of physical activity during the COVID-19 pandemic, the training modes used during the lockdown and physical activity outdoors compared to current safety standards with the prolonged closure of gyms. The effects on physical activity in Italy have been strongly influenced by several prime ministerial decrees issued to detect routines and perceptions of the people. The study has been conducted using the Cluster Analysis methodology which collected data relating to the level of motor and sport practices before and after the closure of indoor gym activities. A questionnaire has been prepared drawn up with Google Forms aiming to collect data about the trend and changes of the indoor and outdoor physical activities. A major part of the cross-section has kept training despite restrictions, whilst to a minor part of the cross-section restrictions have been an opportunity to do start up indoor physical activity. The spreading of the virus and restrictions forced people training autonomously or in any case far from other people. Physical and sports activities, especially individual and outdoor activities, could be and should be allowed, respecting at the same time distance and people's needs. New adaptive strategies can be hypothesized in relation to the changed lifestyle for the prolonged closure of gyms, which can be adopted by managers of indoor gyms.

Key words: physical and sports activity, social distancing, trends and changes.

Introduction

There are numerous evidence inscientific literature supporting how a regular physical activity produces significant health effects which reduce the risk of premature death from all causes (Macera et al., 2003; Janssen & LeBlank, 2010, Rueggsegger & Booth, 2018), by stimulating educational value of the sport (Altavilla et al, 2020, D'Elia et al, 2020ab, Di Domenico et al, 2020, Invernizzi et al, 2020ab, Raiola et al, 2020ab) and, finally, by improving physical and sport skills (Altavilla, 2020, 2019, Altavilla, Gaetano, 2018, Altavilla et al, 2018, Raiola et al, 2020, Elia et al, 2020, Coppola, Raiola, 2019, Raiola 2017, 2013, Raiola, D'Isanto, 2016, Gaetano, Rago, 2014), also in relation of gender differences and biomechanical aspects (Sgrò et al., 2019, 2018, 2017ab, 2015ab). Furthermore, the physical activity develops qualitative aspects of movement (Giovanni et al, 2020, Di Domenico, 2020, Di Domenico et al, 2019abc, D'Isanto et al, 2019). Williams, in a meta-analysis, by highlighting a strong relationship between different loads of exercise, physical activity and the risk of developing heart and coronary diseases. This is another example that shows how physical activity produces increased health benefits (Williams, 2001). The World Health Organization (WHO) has established that the minimum amount of physical exercise to maintain or improve the state of health corresponds to at least 60 minutes of physical activity during the day at moderate-vigorous intensity.

This calculation is for young people aged between 5 to 17 years old (WHO, 2010). Instead, for adults has been recommended mild-moderate exercise, to be conducted on average for 150 minutes a week. Today the physical activity assumes a considerable importance for the health (Raiola, 2015). For this reason, it is important to know the effects of physical exercise (Severino et al, 2019) to prevent and treat widespread diseases in the industrialized countries (Altavilla et al, 2018; Altavilla, 2016). Additionally, it is equally important to disseminate information on the sedentary lifestyle, which shortens life expectancy and it also negatively affects health expenditure also in school (Viscione et al., 2019). Recent studies show that the activity of the population can represent a risk, since it can negatively affect both mental and physical health (Tiziana et al, 2017). The importance of the physical activity and its benefits not only affect the young population, but offer also various physical and mental benefits, as well as for the elderly (Pisano et al, 2019). In fact, the physical activity can improve the muscle tone and motor skills (Aliberti, et al, 2020), decreasing the back pain (Iliaria et al, 2019) and the risk of death caused by cardiovascular diseases, as well as decreasing the development of tumors and

metabolic disorders. Last but not least, the physical activity also delays the decline of cognitive functions (Altavilla et al, 2019). Aerobic capacity, physical fitness and general wellness are constantly required to athletes (Altavilla, Raiola, 2019, Sannicandro 2020, 2011, Sannicandro et al, 2015, 2017, 2008) such as for players of team sports (D’Elia et al, 2019, Izzo et al, 2020abc, 2019ab). The arrival of Covid-19 has limited the practice of physical activity (Raiola et al., 2020ab) and has also changed lifestyles regarding our own physical and social conditions (D’Isanto, 2020, 2019). For this reason, it is needed to examine in depth the epistemology of exercise and sport sciences in order to increase the current knowledge (Raiola 2020ab, 2019abc, Raiola et al., 2018) and then to open other interdisciplinary scenarios to collect stimuli from urbanity, architecture etc. to design the future city for the pandemic phenomenon.

The SARS-Covid-2 pandemic has drastically changed the habits of trainers, both the home fitness and the outdoor training. Fitness video courses of online gyms conducted either with or without tools are not the solution, and the openings and closures of gyms will change the habits in order to better consider outdoor physical activities. This aspect increases the number of outdoor facilities, especially in parks, with small equipment that allows an outdoor physical and sport practice. The scenario has changed (Blocken et al, 2020) so, the study aims to investigate some aspects of current physical and sport practice and the possibility of practicing indoor and outdoor activities during the pandemic, through collecting data on trends and changes to identify habits and perceptions. Specifically, the survey aims to highlight the impact of the lockdown on physical activity, on training methods and on outdoor physical activity compared to current safety standards with the prolonged closure of gyms and to propose a practical contribute for the transformation and reorganization of the contexts and activities during and after this pandemic period.

Material and Methods

The fact-finding survey was carried out through cluster analysis. The sample includes 90 subjects chosen randomly from the contacts of a group of customers of 3 gyms in the Cava dei Tirreni (Sa) area. The sample is made up of 56% of females and 44% of males; 91.3% of the sample is between 18-30 years old, 2.2% is under 18 years old and 6.5% is between 31-40 years old. A questionnaire was used, prepared with Google Modules, and administered via email, to collect data on the trend of indoor and outdoor physical activity. Statistics are descriptive to calculate the different variables expressed as a percentage.

The questionnaire was created with the aim of collecting data on the trend and changes in indoor and outdoor physical activity during Covid-19, strongly influenced by the Prime Minister's Decree which regulated physical activity with the opening and closing of gyms. The usefulness of the study is to summarize the state of the art (within the limits of the small and non-representative sample) to use the results for a subsequent larger study, with sample selection methods for greater representativeness and consistency compared to the active population.

Results

The sample is made up of the majority of subjects (75.6%) who have been training for a long time (3 or more years), the rest of the sample (15.6%) of people who have been training for a short time, for less than a year and a small percentage (8.9%) say they have been training for 2 years (Fig. 1). It can therefore be seen that the champion is clearly divided into two parts, but the vast majority had been training for some time, while the rest for 1-2 years.

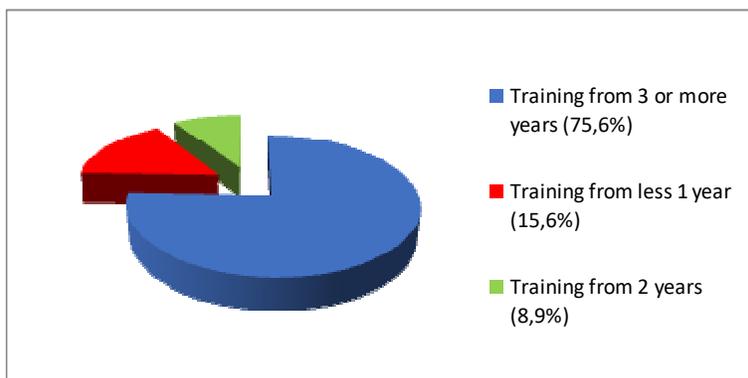


Fig. 1 –Physical activity practice of subjects

When asked what prompted you to start indoor training, during the first lockdown, more than half of the sample (63.6%) motivated the practice of physical activity for their psycho-physical well-being, 29.5% to improve their physical form, only a small percentage (4.5%) to pass the time and 2.3% of the sample because they did not have the necessary time before (Fig. 2).

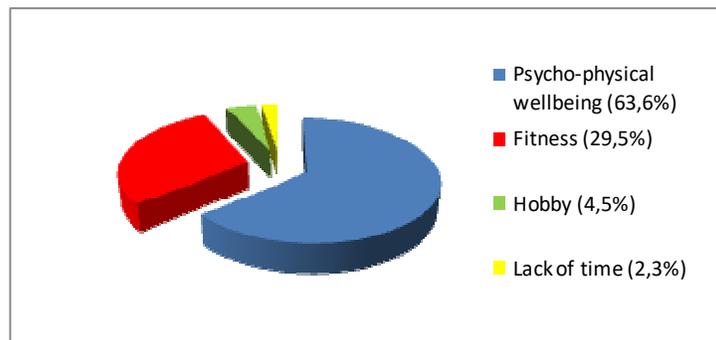


Fig. 2 –Motivation to physical activity

Almost half (46.5%) of the sample, before the arrival of the lockdown in the gym performed an aerobic and cardiovascular training, 37.2% practiced functional training and only a small part of training for hypertrophy. Most of the sample (82.6%) continued indoor training with the arrival of the lockdown, only a small part (17.4%) gave up training. 53.3% following the first closure, declared that they did not have tools available and 57.1% used household and everyday objects for indoor training, following the lack of sports equipment at home. The lack of tools led 56.5% to purchase equipment.

During the lockdown, 45.5% performed free body workouts and / or with the use of weights, 36.4% instead without the use of tools and therefore with free body favorite to go jogging. 37.8% said they train independently, 28.9% instead preferred to rely on Tutorials on YouTube, only 20% relied on the figure of the personal trainer and 13.3% took inspiration from social channels such as Instagram and Facebook (Fig. 3).

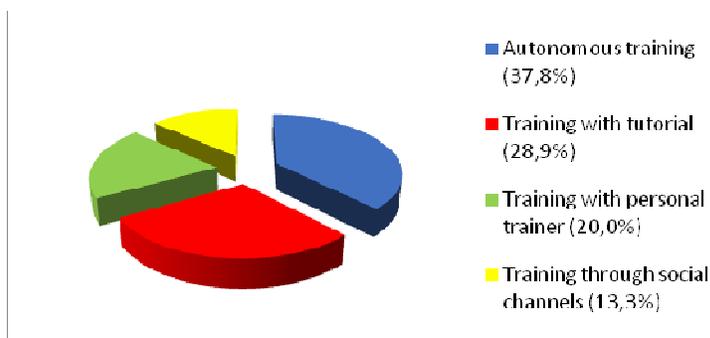


Fig. 3 –Training mode during the lockdown

Following the reopening of the gyms, with the DPCM of May 17, 2020, only 36.4% returned to the gym, the remaining 63.6 preferred to continue training at home. With the new closure of the gyms (DPCM 24 October 2020) 48.7% performed the outdoor activity independently, 38.5% instead did not perform outdoor physical activity, only 7.7% trained with their own gym group, 2.7% with a family member and 2.4% with their personal trainer (Fig. 4).

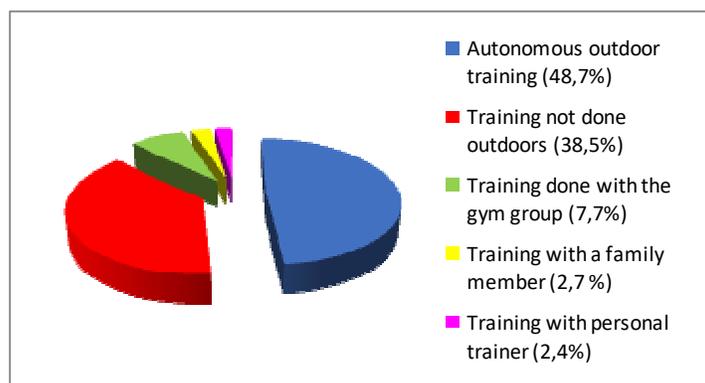


Fig. 4 – Outdoor training mode

Discussion

Following the first national closure, which took place with the Prime Ministerial Decree of March 8th, and which witnessed the whole national territory locked up at home, and therefore without the possibility of accessing to gyms, the training at home (indoor) became predominant. The first data on the consequences of the lockdown, in respect to the practice of physical and motor activity, most of the sample (82.6%) continued indoor training with the arrival of the lockdown, only a small part (17.4 %) gave up on training. To the question: what did encourage you to start indoor training during the first lockdown? More than half of the sample (63.6%) answered being motivated by the practice of physical activity for their psycho-physical well-being; 29.5% answered to improve their physical form; only a small percentage (4.5%) answered to pass time; lastly, 2.3% of the sample answered because before the lockdown they did not have much free time. It can be hypothesized that for a small part of the sample (2.3%) the arrival of the lockdown has represented an opportunity to devote themselves to training, given that habitually there was not the necessary time to do it. During the lockdown, 45.5% performed free body training and / or with the use of weights; 36.4% instead without the use of tools and therefore free body; 18.1% preferred to go jogging. More than half of the sample (53.3%) following the first closure, declared that they had no tools available and 57.1% of the sample used household items and everyday objects for indoor training. The lack of tools led more than half of the sample (56.5%) to purchase the equipment. Both during the first Lockdown and afterwards there was an increasing demand for sports equipment on sites and in sports equipment stores. This led to 90% of sports equipment to be sold out both online and in stores. 72.1% of the sample declared they had achieved results with indoor training, but at the same time indoor training did not produce the same motivation compared with the training performed in the gym for 63.4% of the sample. With the prime ministerial decree of May 17th, gyms are finally reopened, but not all of the practitioners came back. Only 36.4% declared they had returned to the gym. This means that a large percentage of the sample (63.6%) had continued to train at home. The reopening lasted only a few months with the decree of October 24th. The gyms had been closed one more time, as they were considered a place where contagion easily occurs. However, the decree did not prohibit outdoor physical activity, and here personal trainers organize themselves to create structures equipped outside to allow outdoor physical activity. 48.7% did outdoor training independently, 38.5% did not perform outdoor physical activity, 7.7% trained with their own gym group, 2.7% in the company of a family member and 2.4% with their personal trainer. The analysis of this latest data shows that as the time went by, the increase numbers of Covid19 infections and restrictions, people have chosen to train independently and, in any case, away from contacts.

Conclusion

Both the first and the second lockdown did not stop the practice of physical and motor activities, as the sample examined. In fact, people tried to adapt to the restrictions by practicing both indoor and outdoor activities, albeit a clear indoor prevalence. The results of the study clearly show that with an increasing number of Covid19 infections and limitations, people were forced to train mainly independently or away from contacts. No one practiced or organized outdoor fitness classes, and this could be an interesting and innovative idea, as being a healthy and safe alternative to indoor activities. Given the evolving phenomenon, the keyword is social distancing, in order to be able to carry out physical activities safely. A possible impediment could be the lack of non-formal spaces and equipped areas also reserved for physical-motor-sports activities. Finally, the study can provide a practical contribute in relation to the changed lifestyle during the prolonged closure of gyms. Such contribution can also be adopted by managers of indoor gymsto transform and reorganize outdoor-and-indoor contexts and activities.

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