

Hygienic and sanitary requirements of gyms in force in Italy: national issues and analysis of regional regulations

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Parole chiave: Igiene edilizia, normative sanitarie, ambiente confinato, palestre

Abstract

In recent years, the awareness of the importance of physical activity for human health is growing, as people practicing it; the number of gyms has also substantially increased. Currently, in Italy there is not a consistent regulation regarding hygienic and sanitary requirements of gyms. Several Italian regions issued laws about this topic. The authors analyse the standards required by the Italian Olympic Committee (CONI) and the regional laws, highlighting the numerous issues, among which the possible location of gyms in semi-basements and basements. They eventually call for a national regulation that should clearly transpose the hygienic and sanitary requirements of gyms into a satisfactory rule of law.

Introduction

In the past few years, the awareness of the importance of healthy lifestyles to preserve human health had raised among both general population and political institutions (1, 2). The practice of physical activity was implemented, and the proportion of population involved is constantly increasing (3). Physical activity is also recognised as having civic and Constitutional significance (4, 5). Sports practice is defined as: “any form of physical activity, which through casual or organized participation, aims to express or improve physical and mental condition, the development of social relationships

or obtaining results in competition at all levels”(6). This definition appears to be really wide, not limiting the places where sport is practiced, and emphasizing the functions it performs in different fields, such as social, cultural, educational and, of course, sanitary (7, 8). The expansion of the concept of sport highlights, therefore, the need to analyse the issue of safety in recreational activity, also in gyms and fitness centres (5, 9). As an increasing importance is acknowledged to sports and sports activities, local regulatory systems have taken them into account (9). In particular, in Italy 17.7 million people declared to practice one or more sports in their free time, and

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16.3 million are those who practice some physical activity (10).

The fact that such a huge amount of people is involved in physical activities poses the issues of safety of the structures where these are performed, especially if we consider enclosed ones. We decided to focus our attention on gyms because they might expose population to a number of hygienic threats linked with their indoor characteristics (11, 12). Gyms represent a peculiar indoor environment because of their building characteristics, but also because of the activities that are performed inside them (7, 11, 13). Among the several health threats that might be detected in gyms, some are common to all indoor environments (14, 15), while others are specific; considering that gyms are frequently located in ground floors or semi-basements, radon, temperature and humidity, moulds and inadequate ventilation should be included (31). Therefore proper maintenance of air conditioning systems and appropriate management of common structures and facilities for the users need to be stressed (9, 13).

In Italy 3842 gyms are currently active on national scale (+ 2.1% in 2014 compared to 2013) (16, 17), and only a few are affiliated with federations belonging to the Italian Olympic Committee (CONI), and therefore regulated by this institution, also for what concerns hygienic requirements.

Actually if complexes or sports facilities are affiliated to CONI through a sport federation or a sport promotion organization, they must comply not only to national rules, but also to CONI technical regulation "CONI Standards for Sports Facilities"(21).

The safety rules for the construction of sports facilities are part of the Ministerial Decree (D.M.) 18/03/1996, as further modified by D.M. 06/06/2005 (19, 20), both delivered by the Ministry of Interior.

Because of the Constitutional reform, Regions can introduce their own regulations about this topic (22, 23). So far, many

regional Governments issued laws about sports and physical activity but only a few have regulated the hygienic and sanitary requirements of gyms.

In this context, it appears to be important to perform a study on regulations focused on health and environmental sustainability. Our aim is to identify the Italian legal framework on a national and regional scale, in order to analyse it and understand the level of health protection and its possible inequalities across Italy.

Methods

The study consists in a review of national and regional regulations regarding hygienic and sanitary requirements of gyms.

Sources search has been carried out until September 30th, 2015 on both mainstream (Google) and legal-based (DeJure-Giuffr  and Maxima Praxis) search engines, using the following key words: "Palestre" "Requisiti Palestre" "Requisiti igienico-sanitari palestre" ("Gyms" "Gyms' requirements" "Hygienic and sanitary requirements of Gyms").

For each regulation the authors analysed the hygienic requirements, extracting data using a structured evaluation grid. Although they are not law, technical standards released from CONI were also analysed, because regulations refer to them.

Prescriptions produced at municipal level were not included in this study. Both CONI standards and regional laws reported acoustic parameters that were not analysed, because there are mainly related to emission limits. Finally school gyms were excluded from the discussion, because they have a specific regulation (18).

Results of review and discussion

National legislation about building hygiene does not take gyms into specific

Table 1 - Requirements according to CONI

Spaces	Ceiling height	Hygienic requirements	Lighting
4 m ² /user	Mean height 3 m, minimum height 2,7 m.	Air exchange can be guaranteed using windows, mechanical systems or mixed systems. Rooms with high humidity (pool, showers, overcrowded spaces) must be equipped to avoid the formation of moisture.	Different depending on the kind of space. At least 200 lux for areas where activities are performed.

account. The Ministerial Decrees 18/03/1996 and 06/06/2005 mainly deal with safety prescriptions, but they remand to the CONI standards (Table 1). These standards also contain specific microclimatic prescriptions, in particular related to thermo-hygrometric parameters, reported in the attached Table C (Table 2).

As a second step, we analysed the regional laws and evidenced that only six regions (Basilicata, Calabria, Liguria, Marche, Toscana and Umbria) (24-29) delivered specific regulations. These laws were issued between 1997 and 2013 and their contents are quite similar (Table 3) and do not substantially differ from technical guidelines provided by CONI.

Recently the Administrative Court of Campania Region sentenced that the Major

was entitled to withhold the authorization to place a gym in a basement. The Judges said that according to art. 32, subparagraph 4, of law number 383 of 2000, "*the headquarters of social promotion associations and the places in which they carry out their activities are compatible with all the homogeneous intended uses envisaged by the decree of the Minister of Public Works April 2, 1968 n. 1444, regardless of the location permit*" (30). Basements may pose a number of health threats because of their nature, and in particular because they have scarce or totally absent natural illumination and/or ventilation, both of which are key aspects to ensure an adequate drying and the removal of dangerous airborne contaminants such as cigarette smoke, radon and moulds (31, 32, 33).

Table 2 - Attachment to CONI standards regarding thermo-hygrometric parameters (modified)

Type	Temperature °C	Humidity %	Illumination lux	Air exchanges Vol/h	Air speed m/s	Rooms
Indoor	16-20	50	*	**	0,15	Activity
	20-22	50	200	**	0,15	Preparatory
	18-22	50	150	5	0,15	Locker
	22	70	80	8	0,15	Shower
	22	60	80	5-8	0,15	Toilet
	20	50	200	2,5	0,15	First Aid
	20	50	200	1,5	0,15	Office
	20	50	200	1	0,20	Entrance
	16	50	100	0,5-1	0,25	Storage
	20	50	150	0,5	0,20	Others

* Reported in Table B (they varies from 100 to 800 depending to audience size)

** At least 20 m³/h/person for the public area; 30 m³/h/person for athletes area.

Table 3 - Requirements in the different Italian Regions.

Region	Spaces	Ceiling height	Location	Hygienic requirements	Lighting
Basilicata	4 m ² /user (freestyle) 6 m ² /user (tools)	2.4 m for services rooms; 3 m for rooms dedicated to activities for less than 50 users, - 3.5 for more than 50. (2.7 m for existing structures, installing a mechanical ventilation system)	Ground or semi-basement; (not lower than one floor underground or up-ground); Structure than can contain over 50 user must be at ground floor or have a direct exit to open spaces.	/	/
Calabria	4 m ² /user	Mean height 3 m, minimum height 2.7 m.	/	Air exchange using windows, MVS or mixed systems; Rooms with high humidity (pool, showers, overcrowded spaces) must be equipped to avoid moisture	Different depending on the kind of space. 200 lux for areas where activities are performed
Liguria	50/80 m ² *; 3m ² /user	2.5 m	/	/	/
Marche	100 m ² (total floor) 3 m ² /user (freestyle) 5 m ² /user (tools)	2.7 m, 2.4 m for storage and toilets 2.4, reduced to 2.2 m for structures already authorized.	/	/	/
Toscana	4 m ² /user	/	/	1/12 of floor area for activity rooms (if not possible, MVS must be installed). For toilets and showers at least 1/8 of floor area (If not possible MVS that ensure at least 5 vol/h of air exchange must be installed)	/
Umbria	Total floor area 100 m ² , 50 of who dedicated to activities; 3 m ² /user (freestyle) 5 m ² /user (tools)	2.7 m for activities area, first aid, locker room, 2.4 m for other rooms	The structure cannot be located over the first underground floor and must have a direct exit outdoor; it may be placed over 12 m only if emergency services can reach it.	Air exchange must comply with UNI 10339/1995;	

MVS: mechanical ventilation systems

Conclusions

The present study represents a first step in dealing with the problem of hygienic and sanitary issues connected with the use of gyms, and it aims at constituting a base for further in-depth scientific analysis, with the purpose of supporting public health operators' and designers' in their daily institutional and professional activities.

Considering the extant and the discrepancies of regional laws production, as well as its continuous evolution, our research might result not completely exhaustive. Furthermore the exclusion of prescriptions eventually produced at municipal level is a limitation, they need to be analysed in future investigation.

The previously evidenced study complexities have to be considered as limits, but they allow as well some relevant reflections, first of all on the scarcity of specific national and regional regulations on the matter, already underlined as necessary in other studies (9). We can affirm that, at a national level, a consistent and systematic regulation about hygienic and sanitary requirements of gyms is needed. A second important issue is represented by the use of semi-basements and basements as gyms, which appears to be widely allowed across the country.

All of the above has the aim of stimulating administrators to take initiatives to develop new and updated regulatory instruments for building hygiene, as already underlined in other contexts by other studies (31, 34, 35), relying on the most recent acquisitions of international scientific literature (36) and guaranteeing the highest standards in public health safeguard.

Riassunto

I requisiti igienico-sanitari delle palestre in Italia: criticità nazionali e studio delle normative regionali

Negli ultimi anni la consapevolezza dei benefici dell'attività fisica per la salute umana è cresciuta, e con

essa il numero di persone che la praticano; parallelamente, anche il numero di palestre è sostanzialmente aumentato. A livello nazionale non esistono organiche normative che regolamentino i requisiti igienico-sanitari delle palestre, ma diversi legislatori a livello regionale hanno provveduto a colmare questo vuoto. Nel presente studio gli autori analizzano la normativa tecnica del CONI ed i citati provvedimenti regionali, sottolineando le criticità, fra le quali anche la possibile ubicazione delle palestre in locali seminterrati od interrati. Infine, concludono sottolineando la necessità di maggiore univocità e chiarezza nella determinazione dei requisiti igienico-sanitari su scala nazionale.

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