

Staying healthy at home: what factors act on people behaviours when a pandemic emergency occurs?

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Introduction

Since Spring 2020, the world population have started to experience a pandemic emergency probably they have never lived before, that completely modified their daily life. Health systems asked millions of people to stay at home to contain the rapid spread of the coronavirus. Even if this type of restriction produces, on the one hand, beneficial effects on the health of people who avoid contracting the virus, on the other it can have negative effects on people's mental health and lifestyles (Maugeri et al, 2020; Creese et al, 2020] For these reasons, health systems and organizations have launched campaigns to address this crucial matter: as the WHO campaign “#HealthyAtHome” (WHO,2020) focusing on issues like physical activity, mental health, tobacco, parenting and diet; or the campaign of the Italian Ministry of Health on “Covid-19, how to follow an appropriate and healthy lifestyle when staying at home”, which focuses on diet, physical activity, alcohol, tobacco and mental health (Italian Ministry of Health, 2020a; Italian Ministry of Health, 2020b). Why have they put the attention on lifestyles during the pandemic? Healthy lifestyles are protective factors in preventing chronic diseases and good predictors of a healthy ageing. Studies demonstrated the beneficial effects of diet and physical activities among the young and adult population, with chronic conditions or not (Rhodes et al,2017), and recommendations were produced for community services (Pronk and Remington, 2015). Over time, both theories and evidences have supported healthcare systems and organizations to develop campaigns and interventions to spread healthy diet and an active lifestyle (Glanz, et al 2015; Sternfeld et al, 2009, Pennucci et al, 2019). However, to the best of my knowledge, little is known about how people behave when they are asked to adopt healthy lifestyles under certain restrictions such as staying at home. (Maugeri et al, 2020).

Objectives and research questions

This work reports a preliminary analysis exploring if the adult Italian population had a physically active life or not, before and during the COVID-19 pandemic emergency, which strategies they followed to adopt these behaviours and which personal factors conditionate their choices.

Frederick-Recascino and Schuster-Smith (2003) studied the relationship between competitiveness and interest/enjoyment motivation and adherence to physical activity in cycling and doing fitness exercises' groups and observed that competitiveness is always associated to motivation while produces adherence only within the first group. Others deepened the role of peer relationships among young populations (Weiss and Stuntz, 2004), or how both individual

or in team competitions positively works on physical activity levels (Johannesson et al, 2010). Additionally, Zhang et al (2016) implemented an online social network-based exercise and observed that competition enhances the individual level of physical activity, without any effect of incentives, while social support does not provide any contribution. Competition was already studied in comparison with collaboration, and it was observed for adolescents that the first one is perceived to request more energy while collaboration provides better outcome and adherence over time (Marker and Staiano, 2015). Collaborative gaming is going to spread also into rehabilitation, to enhance the interactions among players, and obtain better results (Mace et al, 2017).

Following, the research questions that guide the analysis and find answers into the observed results.

RQ1 – Imposing a restriction as staying at home during a pandemic emergency has negative effects on the health habits of an adult population?

RQ2 – What tools and strategies (APPs, online classes) do adult individuals adopt to be physically active change when a pandemic emergency starts?

RQ3 – What personal factors among competitive and collaborative attitudes and social support conditionate adult individuals in adopting healthy lifestyles such as physical activity, before and during a pandemic emergency?

Methods

This study is based on an audience listening research “Health coproduction” conducted at the national level to explore the healthy lifestyles (physical activity and diet) among adult individuals during the pandemic emergency in Italy. The questionnaire was administered by the Facebook platform to the general adult population, due to the goal to achieve both doers and not, by targeting for groups homogenous for age. Data on the use of Facebook by Italian people reports significant differences in the age classes, while the access by men and women was not significantly different. However, because of a low answer from male individuals, an additional administration was necessary to increase their participation to the research.

Data used in this work were collected with the questionnaire’s sections on: 1) the physical activity behaviours before and during the covid-19 pandemic emergency; 2) the individual attitudes to be competitive and collaborative (adapted from Johnson & Norem-Hebeisen, 1979); 3) the level of social support the individuals receive to be physically active (adapted from Ball and Crawford, 2006); 4) people values (adapted from Wilson et al, 2010). The measures on physical activity behaviours were designed by the research team coherently with the recommendation provided by the Italian Ministry of Health during the covid-19 pandemic emergency.

To answer the RQ1-2 preliminary descriptive analyses were performed to measure differences in the behaviours before and during the covid-19 pandemic emergency when the Italian Government asked people to stay at home. The chi-square test was used. Finally, an evaluation of personal factors associated with the level of physical activity adopted by an adult population was done by using the Spearman(RQ3).

Results

The Italian individuals who responded to the questionnaire were mostly female (77.6%), had 48 year in average, an university degree (35.77%) or an high school diploma (29.77), and adequate economic resources (72.58%). They had a job (57.83) or were retired (20.50).

Table 1 – Physical activity and “secondary” habits before and during the COVID-19 pandemic emergency (lockdown)

	Before COVID19	During COVID19	chi-square
Variables on Physical activity (PA)	Yes (on N=766)	Yes (on N=766)	p-value
Physical activity	65.93	63.71	0.000
N of types of PA per week			
<i>0 type of PA per week</i>	34.07	36.29	0.000
<i>1 type of PA per week</i>	16.06	30.16	
<i>2 types of PA per week</i>	21.02	19.32	
<i>3 types of PA per week</i>	28.85	14.23	
Time spent in PH			
<i>0 min</i>	34.07	36.29	0.000
<i>Less then 150 min per week</i>	15.93	27.02	
<i>150 min and more per week</i>	25.46	34.73	
<i>300 min and more per week</i>	24.54	1.96	
Tools and strategies to do Physical activity (PA)	Always, sometimes	Always, sometimes	p-value
APP	(N=505)	(N=488)	
<i>Monitoring heartbeat, breath, blood pressure, etc.</i>	30.49	31.15	0.000
<i>Tracking intensity, km, duration, distance</i>	55.25	44.27	
<i>Searching ideas for or being guided in doing PA</i>	35.44	50.82	
Courses			
<i>On internet</i>	27.92	60.45	0.000
<i>On TV</i>	3.56	7.17	
<i>With DVD</i>	2.97	1.43	
Places where doing PA			
<i>Public outdoor places</i>	56.44	15.98	0.000
<i>At home</i>	17.43	77.25	

Table 1 shows that the Italian population habits in terms of physical activity changed with the spread of the covid-19 pandemic emergency, that led the Italian national government to adopt a lockdown strategy to slow down the pandemic. The number of inactive people increased, and who performed 2 or 3 types of physical activities per week reduced their choice to two or one type(s). Finally, the number of those who highly adherent (≥ 300 minutes) - before the pandemic - to the international guidelines to stay active at least 150 minutes a week decreased during the lockdown period from 24.54% to 1,96%, while consistently and moderately increased the number of those who spent less than 150 minutes and more than 150 minutes per week, respectively, in doing physical activity.

The Italian adult population also modified their “secondary” behaviours related to a physically active life (Table 1). During the lockdown period people tended to use more than ever the APPs to search new ways or a guide to do PA (from 35.44% to 50.82%), while they slightly increased the monitoring of the vital functionalities (+0.66%) and partially reduced the use of tracking functions (from 55.25% to 44.27%).

There was a duplication of the percentage of people following a physical activity class on the web (from 27.92% to 60.45%) or on TV (from 3.56 to 7.17%). The place where doing physical activity obviously changed for most of the respondents, and people who continued to perform outdoors physical activities during the lockdown were 15.93%, while before they were 56.44%.

Finally, Table 2 shows that, both before and during the pandemic spread, the more people perceived to receive support from friends the more they tend to do physical activities; and, additionally, higher is the adherence to values like friendship, fun and taking care of ourselves higher is the physical activity performance.

Table 2 – to what extent personal factors are associated to physical activity, before and during the pandemic spread.

	PA pre-covid19	PA during covid-19
Personal factors	Spearman's rho	Spearman's rho
Competition	n.s.	0.1147*
Collaboration	n.s.	n.s.
Social Support (Family)	n.s.	n.s.
Social Support (Friends)	0.1223**	0.1087*
Friends as a value	0.0903**	0.0918**
Education as a value	n.s.	0.0919**
Fun as a value	0.1554****	0.1565****
Take care of ourselves as a value	0.2871****	0.3548****

* <0.01 , ** <0.05 , *** <0.001 , ****.0000

While, highly individuals kept help to their competitive attitudes highly they did physical activity during the lockdown period as well as highly they behave coherently with their “education” value and highly they performed.

Discussion, Managerial Implications and Conclusion

This work provides preliminary insights about the effect of national restrictions on healthy behaviours. A large part of the Italian adult population got worse their healthy habits due to the restriction to stay at home during the COVID-19 pandemic in Italy. Who was adherent to the international guidelines to be active for at least 150 minutes per week where half of respondents before the pandemic spread and becomes just over 30%. Additionally, the Italian adults have continued to use ICT tools, like APPs on their smartphone and internet, mainly searching for an “external” guide to maintain healthy lifestyles. And most of them respected the restriction to stay at home, also to do physical activity. Finally, results show that there are personal resources that people can always rely on to have an active lifestyle: they are support from friends and belief in values like friendship, take care of ourselves, and fun. While other personal resources, like competitive attitudes and education value, are brought out at particularly critical moments, as during a worldwide pandemic limit people to stay at home.

Generally, we can conclude that national campaigns carried out to support individuals to maintain a healthy lifestyle, and based on the well known recommendations to do at least 150 minutes of physically activity per week, were not enough to those who reduced or stopped to do physical activities. More in-depth analyses are necessary, both qualitative to explore how people perceived the national campaigns on following appropriate and healthy lifestyles and quantitative to investigate the mediating role of tools and strategies like APPs and online classes.

However, this early evidence can provide healthcare providers in charge of health promotion with valuable information. Many people felt they have been deprived of the freedom to be themselves; hence, first of all, seeing the situation through the people eyes, to provide messages that do not sounds so far from the reality they are experiencing and use images that consider that. Additionally, more factual actions could be appreciated as providing a list of reliable APPs and websites to be accessible for young adults, adults and elderly, respectively. Finally, taking in care the people’s values to unlock their brakes and activate positive levers that -for example- involve friends, or transform a funny moment in a good opportunity for stay healthy, also at home!

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