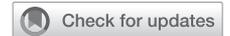


## EPIDEMIOLOGY

## Health-Related Lifestyles, Substance-Related Behaviors, and Sexual Habits Among Italian Young Adult Males: An Epidemiologic Study



Luca Flesia, PsyD,<sup>1</sup> Francesca Cavalieri, PsyD,<sup>1</sup> Stefano Angelini, PsyD,<sup>1</sup> Gioia Bottesi, PhD,<sup>2</sup> Marta Ghisi, PhD,<sup>2</sup> Enrico Tonon, PsyD,<sup>1</sup> Agustina Perez Roldan, PsyD,<sup>1</sup> Andrea Di Nisio, PhD,<sup>3</sup> Andrea Garolla, PhD,<sup>1</sup> Alberto Ferlin, PhD,<sup>4</sup> and Carlo Foresta, PhD<sup>1</sup>

## ABSTRACT

**Introduction:** Young adult males are more likely to demonstrate health-risk behaviors than other individuals. The use of specific data about health-risk behaviors within this population might be important to promote effective preventive psychosocial and educational programs and interventions.

**Aim:** To provide a detailed description of health-related lifestyles, substance-related behaviors, and sexual habits that can negatively affect fertility, sexual sphere, and health in a large sample of Italian young adult males.

**Methods:** A sample comprising 2,170 males aged 18–21 years, attending the last year of high school, was administered an online questionnaire made up of 39 multiple-choice questions. The questionnaire explored health-related lifestyles, substance-related behaviors, and sexuality and sexual habits. Descriptive analyses were conducted.

**Main outcome measure:** The outcome measures included data about health-related lifestyles, substance-related behaviors, and sexuality and sexual habits reported by Italian young adult males.

**Results:** *Health-related lifestyles:* 92.9% of the sample reported practicing some physical activity during the week. 90.3% declared a Mediterranean diet and 8.1% a hyperproteic diet. *Substance-related behaviors:* 33.8% of the sample reported having smoked tobacco at least once in their lives; among them, 71% reported current daily smoking. 40.2% declared drinking alcohol from 5 to 7 days in a week. 32.9% of the sample reported currently using a substance. *Sexuality and sexual habits:* 97.1% of the sample self-defined themselves as heterosexual. 73.3% of participants rated their knowledge about sexuality as “excellent/good,” 58.7% about sexually transmitted infections. Only 4.8% reported having had a seminal liquid examination. Half of the sample (52.2%) declared having had sexual intercourses, in the largest proportion protected sex. 14.7% of the sample reported having at least one sexual dysfunction. 88.6% of participants reported having used pornography, 18.7% every day.

**Conclusion:** The present study highlighted the need to empower the number and efficacy of preventive interventions to promote health-related behaviors among Italian young male population. **Flesia L, Cavalieri F, Angelini S, et al. Health-Related Lifestyles, Substance-Related Behaviors, and Sexual Habits Among Italian Young Adult Males: An Epidemiologic Study. Sex Med 2020;8:361–369.**

Copyright © 2020, The Authors. Published by Elsevier Inc. on behalf of the International Society for Sexual Medicine. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

**Key Words:** Risk Behaviors; Health; Prevention; Sexuality; Young Males; Epidemiology

Received October 28, 2019. Accepted March 24, 2020.

<sup>1</sup>Unit of Andrology and Reproductive Medicine, Department of Medicine, University of Padova, Padova, Italy;

<sup>2</sup>Department of General Psychology, University of Padova, Padova, Italy;

<sup>3</sup>Department of Medicine, University of Padova, Padova, Italy;

<sup>4</sup>Department of Clinical and Experimental Sciences, University of Brescia, Brescia, Italy

Copyright © 2020, The Authors. Published by Elsevier Inc. on behalf of the International Society for Sexual Medicine. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

<https://doi.org/10.1016/j.esxm.2020.03.003>

Sex Med 2020;8:361–369

## INTRODUCTION

Many studies have highlighted the effective impact of psychosocial and educational programs and interventions in preventing risk behaviors in adolescents and young adults, in reducing sexually transmitted diseases, and in promoting healthy behaviors.<sup>1</sup> Young people are more likely to demonstrate health-risk behaviors than older individuals.<sup>1</sup> In particular, young adult males are a population with higher prevalence of health-risk behaviors than their female counterparts. Such a high prevalence contributes to both self-morbidity and mortality<sup>2</sup> and morbidity and mortality of others (eg, aggressive and offending

behaviors). This difference between genders is likely attributable to many social and cultural reasons, which are mainly linked to the stereotype of hegemonic and dominant masculinity.<sup>3</sup> Consistently, young males are the population less likely to endorse health-preventive behaviors.<sup>2</sup> In the last decades, this trend has increased in Italy, where military service (and consequently military medical visits) is no longer mandatory.

The World Health Organization preventive medicine and health psychology scholars are increasingly pointing out that unhealthy behaviors and lifestyles affect morbidity, life expectancy, mortality, and health costs.<sup>4</sup> The American Psychological Association underlines that, for men, heightened risk behaviors begin in early adolescence and recommends the need for specific health-related prevention and education programs targeting this population.<sup>5</sup> Within this field, health education and prevention programs play a determinant role and young male individuals become a strategic target for this type of intervention.

A brief overview of the most important variables associated with the endorsement of risky behaviors and health-related problems in young adult males is reviewed below.

### Health-Related Lifestyles

It is known that lifestyles adopted during adolescence are important predictors of general well-being during adulthood.<sup>4</sup> Within this perspective, *physical activity* represents one of the most important variables, physical inactivity being one of the major risk factors for health. On average, young males tend to practice more physical activity than females of the same age.<sup>6</sup> According to the National Institute of Statistics (ISTAT) data,<sup>7</sup> in Italy the highest percentage of those who regularly practice sport activities comprises individuals aged 6–17 years, whereas those occasionally practicing physical activity are males aged 20–24 (18.3%) years. Physical activity may be sometimes associated with the use of *food supplements* and *anabolic substances*, with percentages that widely vary depending on the study.<sup>8,9</sup>

In the last few years, a considerable change is occurring among young people's *eating habits*. In particular, “special” diets (ie, non-traditional diets, such as vegetarian, lactose-free, etc) are becoming extremely popular.<sup>10</sup> Also, body mass indices (BMIs) have changed in recent years, and an increase in the prevalence of overweight and obese people has been registered both in the USA and in Italy.<sup>11,12</sup>

### Substance-Related Behaviors

Young people are highly subjected to substance-related risk behaviors, such as cigarette smoking, alcohol, and drug use.<sup>1</sup> These behaviors are harmful for people in general, but they are even more harmful for adolescents since they cause brain modifications, sexual dysfunctions, and many other health problems.<sup>13</sup> Literature documents that using one substance often co-occurs with using other substances; furthermore, substance-related risk

behaviors are frequently associated with other risk behaviors: for example, early alcohol use is correlated with unprotected sex, thus promoting the spread of sexually transmitted infections (STI) and unwanted pregnancies.<sup>14</sup>

### Sexuality and Sexual Behaviors

Sexuality is a crucial aspect during adolescence: the maturation and integration of one's personal sexual identity is part of the core developmental stage of this period of life. Sexual orientation is an important dimension of sexual identity; demographics of sexual orientation are often highly variable.<sup>15,16</sup> Many studies have shown that belonging to a sexual minority is a risk factor for negative health outcomes, in terms of both mental and physical health. This may reinforce the endorsement of risk behaviors to manage the distress associated with a perceived condition of social disadvantage.<sup>17</sup>

A problem of huge socioeconomic importance is represented by the spread of STI among young people, who need more information about the transmission, prevention, and consequences of these diseases. Indeed, there is a high percentage of young people who have unprotected sex and, very often, adolescence is the stage of life where the first sexual intercourse takes place.<sup>18</sup>

As far as sexual function is concerned, there are a few studies investigating this issue in adolescent males. Available data document that sexual dysfunction may frequently occur in young adult males, with percentages varying from 20% to 40%.<sup>19,20</sup> Lastly, sexuality in relation to the Internet is a relevant topic of increasing importance. In young people, online pornography can represent a risk factor for the construction of false representations of sexual and gender roles and it can promote the desire to exercise power over women.<sup>21</sup>

### The Current Study

In the Italian sociocultural context, the social representation of masculinity is still strongly matched with the “macho imaginary” depicting a strong, brave, hypersexualized, and heterosexual male, who is defiant of risks and pain.<sup>22</sup> Several studies have highlighted the impact of this kind of representations on male physical and sexual health.<sup>23</sup> For many years, both the “Unit of Andrology and Reproductive Medicine” of Padua and the “Fondazione Foresta Onlus” represented 2 privileged observatories of young adult males' health and sexuality in Northern Italy. Clinical experience, associated with research and scientific knowledge, led to the idea that many of the problems characterizing adult males might be reduced by promoting healthy behaviors and lifestyles during adolescence. It is to be noted that males have currently a life expectancy about 5 years shorter than female peers with the same biological potential.<sup>24</sup>

These considerations led to the design and implementation of the “Permanent Andrological Project,” which was developed in 2005 with the collaboration of the Provincia of Padova, the University-Hospital of Padova, the ULSS 6, and the Fondazione

Foresta Onlus. The project involved young adult males attending the last year of 100 high schools of Regione Veneto, with the general objective to inform and raise awareness on the topics and problems related to the sexual and reproductive system. The specific aims of the project were: (i) sensitizing young males in sexual and andrological health; (ii) promoting the primary prevention of the reproductive male system pathologies; (iii) informing young people about the importance of preventing infertility risk factors; (iv) collecting information about behaviors, lifestyles, and general health condition of young male people; and (v) suggesting appropriate therapeutic interventions when identifying the occurrence of pathologies.

The current study sought to provide a detailed description of the prevalence of several health-related lifestyles, substance-related behaviors, and sexual habits that can negatively affect fertility, sexual sphere, and health in general in a large sample of Italian young male adults.

## METHOD

### Participants and Procedure

A large sample made up of 2,170 males aged 18–21 years was recruited in the area of Padova (Italy), during the school year 2016–2017. Participants were young adult males attending their last year of high school and their mean age was 18.45 (SD = 0.73). Most of them (85.9%) declared living with both parents and only a small proportion were the only child (13.7%).

The scientific supervisor of the project and/or his collaborators presented the study in detail to school principals. Those who accepted entering the study allowed then the scientific supervisor of the project and/or his collaborators to present the purposes of the study to students. The overall project consisted in a 3-hour lecture about sexual and andrological health, with a specific focus on the primary prevention of pathologies regarding the reproductive male system. At the end of the lecture, participants completed an ad hoc questionnaire (see Measure section). All participants were aware that the study was completely anonymous: no identifying information was asked, and all data were analyzed only as aggregated. Participants were also told that they were not forced to answer any questions. Lastly, they were informed that the questionnaire did not have any clinical or diagnostic purpose.

The current project was approved by the Ethics Committee of Psychological Sciences of the University of Padova (Prot. n. 2605).

### Measure

The measure used was an online questionnaire made up of 39 multiple-choice questions. The questionnaire was a measure developed ad hoc for the present research. The following topics were explored: general information (sex, age, age of the parents, weight, height, siblings, etc); nutrition type, tobacco use, alcohol use, psychopharmacological drugs use, psychotropic drugs use,

**Table 1.** Health-related lifestyles across the sample

Health-related lifestyles	Percentage (N)
Physical activity (% yes)	92.9 (2,014)
More than 3 h per wk	54.2 (1,174)
More than 1 h per wk	13.7 (297)
Less than 3 h per wk	13.3 (289)
Less than 1 h per wk	11.7 (254)
Anabolic substances/food supplements ("how do you buy them?")	
Pharmacy	55.2 (503)
Mall	17.8 (162)
Internet	16.9 (154)
Gym	6.5 (59)
Specialized shop	2.6 (24)
Other	1.0 (9)
Diet*	
Mediterranean	90.3 (1,400)
Hyperproteic	8.1 (126)
Vegetarian	0.8 (12)
Celiac	0.3 (5)
Vegan	0.2 (2)
Other	0.3 (5)

\*Due to a technical problem, registered responses for this section of the survey were N = 1,550.

presence and frequency of physical activity; sexuality (use of contraceptives, sexual information received, sexual difficulties, sexual intercourse frequency); and Internet and pornography use.

## RESULTS

### Health-Related Lifestyles

Detailed information pertaining to health-related lifestyles is reported in Table 1.

As far as physical activity is concerned, 92.9% of the sample reported some practice during the week. Only a small percentage of participants (1.7%) reported using anabolic substances, whereas 42.9% reported taking food supplements; in most cases, they bought supplements at pharmacies. Among participants using anabolic substances, 86.5% declared using also food supplements.

A large proportion of the sample declared following a traditional, Mediterranean diet; hyperproteic diet was the most represented among the non-traditional ones. Lastly, BMI ranged between 16.13 and 36.52 kg/m<sup>2</sup> (mean = 22.45; SD = 2.83). In detail, 1.5% of the sample was underweight (BMI < 17.5 kg/m<sup>2</sup>), 1.8% obese (BMI > 30 kg/m<sup>2</sup>), 13% overweight (25 kg/m<sup>2</sup> < BMI ≤ 30 kg/m<sup>2</sup>), and the remaining 83.7% was within the normal range (17.5 kg/m<sup>2</sup> ≤ BMI ≤ 25 kg/m<sup>2</sup>).

### Substance-Related Behaviors

Approximately one-third of the current sample declared having smoked tobacco at least once in their lives. Only a small

**Table 2.** Substance-related behaviors across the sample

Substance-related behaviors	Percentage (N)
Tobacco use* (% yes)	33.8 (562)
Every day	71.0 (399)
At least once a wk	18.7 (105)
Rarely	6.8 (38)
Less than once a wk	3.5 (20)
Substance use (% at least once in a lifetime)	48.7 (1,056)
Marijuana/hashish	99.7 (1,053)
Polyabuse	11.1 (117)
Cocaine	5.8 (61)
Ecstasy	5.4 (57)
Hallucinogens	4.7 (50)
Acids	4.5 (48)
Amphetamines	3.0 (32)
Popper	1.9 (20)
Heroin	0.9 (10)

\*Due to a technical problem, overall registered responses for this section of the survey were N = 1,665.

proportion (14%) of participants reported they have never drunk alcohol; 45.8% confessed drinking alcohol less than 5 days in a week, while the remaining 40.2% declared drinking alcohol from 5 to 7 days in a week. Among those using alcohol, 13.8% reported having 5 or more alcoholic drinks in a weekend. 523 (24.1%) participants reported both tobacco and alcohol consumption. Lastly, almost half of the sample reported having used a substance at least once in their life; marijuana emerged as the most common one, followed by cocaine, ecstasy, and polyabuse. 32.9% of participants referred a current substance use. Please refer to [Table 2](#) for a detailed description of substance-related behaviors in the current sample.

### Sexuality and Sexual Habits

With respect to sexual orientation, 97.1% self-defined themselves as heterosexual, 1.4% fluid, 1.3% homosexual, and 0.2% bisexual.

[Table 3](#) displays detailed information about sexuality and sexual habits in the present sample. Most of the participants rated their knowledge about sexuality and contraceptives as “excellent/good.” Nonetheless, a lower percentage of individuals rated their knowledge of STI as “excellent/good.” Similarly, scarce levels of knowledge about sexually related diseases emerged. Among sexually related diseases, the most commonly referred was varicocele; 1.3% of the sample reported the occurrence of an STI. Only 4.8% reported having had a seminal liquid examination.

Half of the sample (52.2%) declared having had sexual intercours: 43.5% with 1 or 2 partners, 8.7% with 3 or more (up to 10) partners. The largest proportion of participants reported having protected sex (87.8%): among contraceptives, condom was the most commonly used (78.1%), followed by contraceptive pills (5.9%), natural methods (2.2%), and intrauterine device (0.6%).

**Table 3.** Sexuality and sexual habits across the sample

Sexuality-related issues	Percentage (N)
How do you rate your knowledge about sexuality?	
Excellent/good	73.1 (1,587)
Poor	24.9 (540)
Null	1.8 (39)
No answer	0.2 (4)
How do you rate your knowledge about contraceptives?	
Excellent/good	78.7 (1,708)
Poor	20.4 (443)
Null	0.7 (16)
No answer	0.2 (3)
How do you rate your knowledge about sexually transmitted diseases?	
Excellent/good	58.6 (1,272)
Poor	40.3 (875)
Null	1.0 (21)
No answer	0.1 (2)
Have you ever heard about this sexually related disease? (% yes)	
Testicular traumas	55.2 (1,197)
Varicocele	43.3 (940)
Cryptorchidism	8.6 (186)
Hydrocele	5.9 (127)
Do you suffer from any of the following sexually related diseases? (% yes)	
Varicocele	9.4 (204)
Phimosis	4.7 (102)
Cryptorchidism	2.9 (63)
Delayed pubertal development	1.2 (25)
Congenital penile curvature	0.7 (15)
Gynecomastia	0.7 (15)
Hypospadias	0.3 (7)

318 participants (14.7% of the overall sample) reported having at least one sexual dysfunction. The most frequently occurring dysfunction was premature ejaculation (50.6%); 17.3% declared having had trouble maintaining an erection, 17% low sexual desire, 12.6% difficulties in achieving an orgasm, 9.7% problems in achieving an erection, 7.9% pain during penetration, and 3.5% absence of ejaculation or orgasm.

Lastly, 88.6% of participants reported having used pornography. Among them, 47.8% reported currently using it at least once a week, 21.9% less than once a week, 18.7% every day, and 11.6% never. Most of the participants using pornography (93%) declared they spend less than 1 hour on pornographic websites; 5.5% more than 1 hour, 0.8% more than 3 hours, and 0.7% between 1 and 3 hours. Browsing these websites was reported as “always exciting” by more than half the sample (58.7%); 32.6% declared that, with time, it is easy to get used to it; 13.6% reported that, to their opinion, this habit can induce dependence; and 12.7% referred that, in their opinion, the use of pornography reduces sexual interest.

## DISCUSSION

The main aim of the present study was to collect epidemiologic data about the prevalence of the main behaviors and lifestyles that can affect the general and sexual health of Italian young adult males.

### Health-Related Lifestyles

In the current study, 54.2% of people reported practicing *physical activity* after school for more than 3 hours a week; although the collected data do not allow estimating the percentage of how many people practice an activity according to guidelines, almost a half certainly distance themselves from them. The World Health Organization recommends that adults (people aged more than 18 years) should undertake at least 150 minutes of moderate-intensity aerobic physical activity, or 75 minutes of vigorous-intensity aerobic physical activity, or an equivalent combination per week.<sup>6</sup> Data about health-related lifestyles vary depending on the European country taken into consideration. For example, the study of Fernandes<sup>25</sup> examined the change in moderate and vigorous physical activity trends during 10 years in 12- to 18-year-old Portuguese boys and girls. The study showed that, from 2006 to 2016, a decrease in the percentage of adolescents who reached standards of physical activity—as recommended by the guidelines—occurred (10.7% vs 8.1%). The time invested in physical activity varies depending on age; with increasing age there is a decrease in the amount of practiced physical activity.<sup>26</sup> The need for improving physical activity derives also from the low prevalence rate trends of this in both adults and adolescents.

In the current sample, a low percentage (1.7%) of participants referred using *anabolic substances*, a result similar to that observed in the study by RensloSandvik et al.<sup>8</sup> Specifically, their study involved 77,572 young Norwegian people and found that 1.81% of males (0.76% of females) used anabolic androgenic steroids; also a weak positive correlation with exercise in the gym emerged. Differently, a study by Tsarouhas et al<sup>9</sup> showed that almost 60% of 16- to 18-year-old Athenian boys and girls usually training in the gym used food supplements (proteins, amino acids, and vitamins), and 10.9% of males supplemented themselves with anabolic agents. It should be noted that, in the Greek study, the participants were exclusively people that usually trained in the gym; thus, they were a sample of individuals more likely interested in physical presence.

As for *eating habits*, 0.8% of our sample reported a vegetarian diet, and only 0.1% a vegan diet. These percentages are much lower than those in international literature: such a difference might be due to a comparison limit, because of the absence of a female sample within the present sample. In a study including 4,746 adolescents from Minnesota aged from 11 to 18, Perry et al<sup>27</sup> found that 5.8% followed a vegetarian diet and, among these, 26.3% were males. Therefore, the majority of people following a non-traditional diet were females. A Finnish study also outlined that “special” diets, like non-traditional diets

(vegetarian, lactose-free, etc), have increased across years: among boys and girls aged between 16 and 18 years, these diets have indeed increased from 9.3% in 1999 to 16.3% in 2013.<sup>10</sup> Another possible explanation for the low percentage of non-traditional diets observed in the present study is that almost all participants were still living with their parents due to their age; therefore, they were probably conforming to their own family's eating habits. To note, according to Eurispes 2018,<sup>28</sup> vegan and vegetarian people make up 7% (6.2% vegetarian and 0.9% vegan) of the Italian population aged 18 years and over.

In the current study, data on excess weight (14.8% overweight and obese) were similar to those of the recent national data of 2016, which showed that among 18- to 19-year-old boys and girls the overweight and obesity percentages are equal to 13.9%.<sup>29</sup> The comparison between the 2002 and 2015 ISTAT surveys points out an exponential increase in obesity percentages (1.7% in 2002 against 2.6% in 2015) among 18- to 24-year-old boys and girls. Data from people interviewed by the Progress of Health Companies in Italy<sup>29</sup> estimate that about 4 adults out of 10 are excess weight: 3 overweight and 1 obese. In addition, international evidences are in line with these data.<sup>30</sup> A survey by Ogden et al<sup>31</sup> reported a 16.2% prevalence of U.S. obese adolescents (12- to 19-year-old boys and girls). Both underweight and obesity are associated with compromised personal well-being in young men.<sup>32</sup>

### Substance-Related Behaviors

With respect to *tobacco use*, about one-third of the current sample (33.8%) reported having smoked at least one cigarette in their lives. This percentage is much lower than the one reported in international literature about tobacco use in 18-year-old boys and girls (67%).<sup>33</sup> In our sample, 71% of participants who declared having smoked at least once in their lives reported daily smoking; this corresponds to 24% of the whole sample. Such a result is consistent with data from the National Survey on Drug Use and Health,<sup>34</sup> which reported a percentage of 23.5% smokers among 18- to 25-year-old male and females. According to a study by Young et al,<sup>33</sup> 31.4% of their sample reported having smoked more than 5 times in their lives, 18.4% reported having smoked daily for at least 1 month, and 16.9% fulfilled tobacco dependence criteria. According to the “Health-Behavior in School-Aged Children” survey, in 2016, 13.8% of boys and girls declared smoking every day (these data have increased compared to 2010, when it was 12.6%).<sup>35</sup> ISTAT data outline that, in 2017, 19.7% of Italian people aged more than 14 years were tobacco smokers; among men, 24.8% are smokers.<sup>36</sup> According to the Eurobarometro survey, the percentage of young smokers (aged 15–24) has increased from 24% up to 29% between 2014 and 2017.<sup>37</sup> As it appears, tobacco smoke is an increasing risk behavior, especially among male young people.

Data about *alcohol use* showed that there is a higher prevalence of alcohol use in our sample, as compared with international data. Indeed, 86% of participants confessed having drunk

alcohol at least once in their life; in the study conducted by the American Substance Abuse and Mental Health Services Administration, about 60% of teens, by the age of 18 years, have had at least 1 drink in their lives.<sup>34</sup> The prevalence of habitual alcohol drinkers is higher among Italian sample as well: 45.8% of Italian boys reported drinking less than 5 times in a week and 40% from 5 to 7 times in a week; data collected from the National Youth Risk Behavior Survey<sup>34</sup> reported 30% alcohol use in the last month among high school students, and those from the U.S. National Survey on Drug Use and Health 58% among 18- to 25-year-old respondents.<sup>38</sup> These differences could be interpreted considering that the current sample is composed exclusively of males (whereas other studies were conducted on mixed samples): males, in general, are more probable alcohol users.<sup>39</sup> Moreover, the Northern Italy sociocultural custom of drinking alcohol has to be taken into account. Indeed, Veneto is one of the 3 Italian regions where people usually drink high amounts of alcohol at earlier ages.<sup>39</sup> In such a cultural context, drinking alcohol is considered as a social ritual, historically born to counteract the cold climate, and as an indicator of one's strength. When considering data about high alcohol use, the percentage observed in the current study is lower than in other studies: in the current sample, 13.8% of participants using alcohol reported drinking 5 or more alcoholic drinks in a weekend. In 2003, data from the National Youth Risk Behavior Survey reported that, among the 44.9% of high school students who declared having drunk at least one alcoholic beverage in the last 30 days, 28.8% were rated as binge drinkers (5 or more beverages in only one occasion).<sup>40</sup> More recent data derived from the same longitudinal study reported 30% alcohol use in the past month and 18% of binge use in the population of 18-year-old boys and girls.<sup>34</sup>

The prevalence of *drug use* in the current sample, on the contrary, reported results similar to international data. 48.7% of Italian young male adults reported having used drugs at least once in their life; in USA, 53% of 18- to 25-year-old boys and girls declared using or having used marijuana during their lives (Substance Abuse and Mental Health Services Administration, 2005).<sup>41</sup> In the current sample, consistent with literature, marijuana was reported to be the most used substance.<sup>42</sup>

## Sexuality and Sexual Habits

The present study highlighted a lower percentage of young males who defined themselves as non-heterosexual (2.9%), as compared to similar studies. In a study by Igartua et al, participants were adolescents aged above 16 years; 90.8% self-defined as heterosexual, 4.5% as lesbian, gay, or bisexual, 3.2% "uncertain," and 1.5% did not provide any answer.<sup>15</sup> The YouGov UK survey focused on young people aged 18–24 years and found that 54% of respondents self-defined themselves as "not completely heterosexual to a certain extent"; the same survey conducted in the United States found a percentage of 36% in the same age cohort.<sup>16</sup>

We asked our participants to rate their knowledge about sexuality, contraceptives, and STIs. It is noteworthy that other

studies mainly focused on the sources through which they gained information. For example, the study by Bleakley et al assessed knowledge about gender, condoms, hormonal birth control, and romantic relationships among boys and girls aged 14–17 years ( $n = 1,990$ ).<sup>43</sup> Males emerged as more likely to use media as a source of information than women: importantly, given the variety of information retrievable on the Internet, males can be considered as more exposed to the risk of acquiring inadequate and inaccurate information on sexuality.<sup>21</sup>

This age group is already sexually active, as confirmed also by our findings. An American study conducted in 2011 outlined that 47.4% of adolescents aged 12–18 years reported having sex.<sup>44</sup> Similar data were reported in 2017; specifically, 49% of boys aged 15–19 years declared that they had already had sex.<sup>45</sup> Also, Cederbaum et al<sup>18</sup> reported that over a third of Portuguese young people aged 13–18 years (37%) had already had sex. However, it is noteworthy that data from our sample outlined a greater percentage of first sexual relationships occurring up to 18 years.

As far as sexual dysfunctions during sexual experiences are concerned, in our study lower percentages compared to other studies emerged (14.7% of the total sample). Indeed, a U.K. study on sexually active boys and girls aged 16–21 years showed that 33.8% of their sample reported having had one or more problems related to sexual function in the past year, and 9.1% reported related distress. The most common problem was premature ejaculation (13.2%), followed by low sexual desire (10.5%), difficulty in achieving orgasm (8.3), and problems maintaining or achieving an erection (7.8%).<sup>20</sup> A study by Richters et al found that 4.3% of sexually active Australian participants aged 16–19 years reported erection difficulties and 15.3% premature ejaculation.<sup>19</sup> Lastly, a Portuguese study found that, in a sample of 18- to 24-year-old males, 23% reported premature ejaculation, 8% difficulty in achieving an orgasm, 2% moderate or severe erectile dysfunction, and 2% low sexual desire.<sup>46</sup>

Regarding the use of pornography, results from our study mirrored data from similar studies conducted in other countries. High percentages of participants reported frequently using the Internet for purposes of the use of pornography (88.6%). In a study by Bulot et al, 99.7% of their male sample attended pornographic websites; the average age of first contact with pornography was 15.2 years.<sup>47</sup> In a study by Sorensen and Kjørholt, 56% of 18-year-old males declared that they connected to pornographic sites several times a week<sup>48</sup>; Svedin et al reported that 10.5% of men used pornography every day, 28.6% a couple of times a week, 29.6% a couple of times a month, and 2.2% never.<sup>49</sup>

## Limitations and Future Perspectives

We acknowledge that the current study is characterized by some shortcomings. First, participants provided their answers by completing an online questionnaire; the online format guarantees

anonymity as well as the possibility of recruiting large samples, but it does not allow verifying the reliability of responses and the understanding of questions from the participants. Second, the measure we used in this study is a non-validated, descriptive self-report questionnaire that was implemented ad hoc for the present research. This also implies that we could not directly compare our findings with those from other studies, because different measures across studies were adopted. Third, the comparisons we performed with other international studies have partial validity because of the different age ranges considered and because the focus of our study was exclusively on males, while most of the other studies considered males and females together. Lastly, we did not collect some information about the history of smoking/alcohol consumption (eg, number of cigarettes smoked per day; the duration of smoking/alcohol in years). This was also the case for some information about sexual habits, such as morning erection, nocturnal penile tumescence, and masturbation practice. We recommend that future studies should overcome this shortcoming by exploring in detail also these issues and analyzing the relationships of lifestyle factors, substances, and sexual habits among participants. Future research should also consider comparing current data with those from a young adult female sample; this will allow better discrimination of gender differences in risky behavior, thus identifying specific risk factors and gender lifestyles. Moreover, collecting specific data about the age of onset of risky behaviors would permit planning more effective and incisive prevention programs. Considering the importance of cultural aspects, it could be also useful to investigate these aspects in other Italian realities.

## CONCLUSIONS

Data from the present study showed that among young adult males many risky behaviors are present since adolescence. These risky behaviors can heavily affect health conditions both in adolescence and in adulthood. Unfortunately, these behaviors have been barely studied in young males to date.

Despite established evidence about the importance of offering information and promoting health awareness and health prevention campaigns, both international data and those from the present study highlight the need of increasing and strengthening the number and the effectiveness of these interventions. Indeed, there is still an important percentage of young male adults that keep assuming risky behaviors, as confirmed from our findings. Although most of our results are consistent with those reported in other studies, it is noteworthy that we observed higher percentages of people using alcohol than international literature. Consequently, future Italian informative campaigns should probably devote more attention to this issue.

**Corresponding Author:** Luca Flesia, PsyD, Unit of Andrology and Reproductive Medicine, Department of Medicine, University of Padova, Via Giustiniani, 2, 35128, Padova, Italy. Tel:

+390498218517; Fax: +390498218520; E-mail: [luca.flesia@ordinepsicologiveneto.it](mailto:luca.flesia@ordinepsicologiveneto.it)

*Conflict of Interest:* The authors report no conflicts of interest.

*Funding:* None.

## STATEMENT OF AUTHORSHIP

### Category 1

#### (a) Conception and Design

Luca Flesia; Carlo Foresta; Stefano Angelini; Francesca Cavalieri

#### (b) Acquisition of Data

Stefano Angelini; Francesca Cavalieri; Luca Flesia; Enrico Tonon; Agustina Perez Roldan; Carlo Foresta

#### (c) Analysis and Interpretation of Data

Gioia Bottesi; Luca Flesia; Francesca Cavalieri; Stefano Angelini; Marta Ghisi; Alberto Ferlin; Andrea Di Nisio

### Category 2

#### (a) Drafting the Article

Luca Flesia; Francesca Cavalieri; Stefano Angelini; Gioia Bottesi; Marta Ghisi; Enrico Tonon; Agustina Perez Roldan; Andrea Di Nisio; Andrea Garolla; Alberto Ferlin; Carlo Foresta

#### (b) Revising It for Intellectual Content

Luca Flesia; Gioia Bottesi; Carlo Foresta

### Category 3

#### (a) Final Approval of the Completed Article

Luca Flesia; Francesca Cavalieri; Stefano Angelini; Gioia Bottesi; Marta Ghisi; Enrico Tonon; Agustina Perez Roldan; Andrea Di Nisio; Andrea Garolla; Alberto Ferlin; Carlo Foresta

## REFERENCES

1. Jackson C, Geddes R, Haw S, et al. Interventions to prevent substance use and risky sexual behavior in young people: a systematic review. *Addiction* 2012;107:733-747.
2. Kann L, Kinchen S, Shanklin SL, et al. Youth risk behavior surveillance—United States, 2013. Morbidity and mortality weekly report. *Surveill Summ* 2014;63:1-168.
3. Connell JW, Messerschmidt RW. Hegemonic masculinity. Rethinking the concept 2005. *Gend Soc* 2005;19:829-859.
4. World Health Organization. Global accelerated action for the health of adolescents (AA-HA!): guidance to support country implementation: summary. World Health Organization; 2017.
5. American Psychological Association. Guidelines for Psychological practice with boys and men. APA; 2018; Available at: <https://www.apa.org/about/policy/boys-men-practice-guide-lines.pdf>. Accessed May 3, 2020.
6. World Health Organization. Physical activity Factsheets for the 28 European union Member States of the who European region 2018; Available at: <http://www.euro.who.int/pubrequest>. Accessed May 3, 2020.
7. Istituto nazionale di Statistica - Istat, EpiCentro, Il portale dell'epidemiologia per la sanità pubblica. Attività fisica, Istituto Superiore di Sanità; 2015.

8. RensloSandvik M, Bakken A, Loland S. Anabolic-androgenic steroid use and correlates in Norwegian adolescents. *Eur J Sport Sci* 2018;903-910.
9. Tsarouhas K, Kioukia—Fougia N, Papalexis P, et al. Use of nutritional supplements contaminated with banned doping substances by recreational adolescent athletes in Athens, Greece. *Food Chem Toxicol* 2018;115:447-450.
10. Parviainen H, Elorinne AL, Väisänen P, et al. Consumption of special diets among adolescents from 1999 to 2013: a population-based study in Finland. *Int J Consumer Stud* 2017; 41:216-224.
11. Flegal KM, Carroll MD, Ogden CL, et al. Prevalence and trends in obesity among US adults, 1999-2008. *JAMA* 2010; 303:225-241.
12. Istituto Nazionale di Statistica - Istat, 2013. Primo rapporto sul Benessere Equo e Sostenibile in Italia. Cnel - Consiglio Nazionale dell'Economia e del Lavoro; Available at: [https://www.istat.it/it/files/2013/03/bes\\_2013.pdf](https://www.istat.it/it/files/2013/03/bes_2013.pdf). Accessed May 3, 2020.
13. NHS, United Kingdom. The effects of drugs; Available at: <https://www.nhs.uk/live-well/healthy-body/the-effects-of-drugs/>. Accessed May 3, 2020.
14. Stueve A, O'donnell LN. Early alcohol initiation and subsequent sexual and alcohol risk behaviors among urban youths. *Am J Public Health* 2005;95:887-893.
15. Igartua K, Thombs BD, Burgos G, et al. Concordance and discrepancy in sexual identity, attraction, and behavior among adolescents. *J Adolesc Health* 2009;45:602-608.
16. YouGov. 1 in 2 young people say they are not 100% heterosexual. In: lifestyle; Available at: <https://yougov.co.uk/topics/lifestyle/articles-reports/2015/08/16/half-young-not-heterosexual>. Accessed May 3, 2020.
17. Frost DM, Meyer IH, Schwartz S. Social support networks among diverse sexual minority populations. *Am J Orthopsychiatry* 2016;86:91-102.
18. Cederbaum JA, Rodriguez AJ, Sullivan K, et al. Attitudes, Norms and the Effect of social Connectedness on adolescent sexual risk Intention. *J Sch Health* 2017;87:575-583.
19. Richters J, Grulich AE, de Visser RO, et al. Sex in Australia: sexual difficulties in a representative sample of adults. *Aust New Zeland J Public Health* 2003;27:164-170.
20. Mitchell KR, Geary R, Graham C, et al. Sexual function in 16- to 21- year-Olds in Britain. *J Adolesc Health* 2016;16:422-428.
21. Bischmann A, Richardson C. Age and experience of first exposure to pornography: Relations to masculine Norms. Washington, D.C: American Psychological Association; 2017.
22. Puppa FD, Miele F. Beyond (but not too much) the male breadwinner model: a qualitative study on child care and masculinities in contemporary Italy. *Mod Italy* 2015; 20:167-184.
23. Sloan C, Conner M, Gough B. How does masculinity impact on health? A quantitative study of masculinity and health behavior in a sample of UK men and women. *Psychol Men Masculinity* 2015;16:206.
24. Istituto nazionale di Statistica - Istat, comunicato stampa su speranza di vita; Available at: <https://www.istat.it/it/archivio/201175>. Accessed May 3, 2020.
25. Fernandes HM. Physical activity levels in Portuguese adolescents: a 10-year trend analysis (2006–2016). *J Sci Med Sport* 2018;21:185-189.
26. Macera CA. In: Rippe JM, ed. Physical activity and aging, lifestyle medicine; 2013. p. 1289-1298.
27. Perry CL, Mcguire MT, Neumark-Sztainer D, et al. Characteristics of vegetarian adolescents in a multiethnic urban population. *J Adolesc Health* 2001;29:406-416.
28. Eurispes. Rapporto Italia 2018; Available at: <http://www.eurispes.eu/content/eurispes-rapporto-italia-2018>. Accessed May 3, 2020.
29. United Nations. Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture 2017. Italian data for un-SDGs; Available at: <https://unstats.un.org/sdgs/report/2016/goal-02/>. Accessed May 3, 2020.
30. Lim J, Park HS. Trends in the prevalence of underweight, obesity, abdominal obesity and their related lifestyle factors in Korean young adults, 1998-2012. *Obes Res Clin Pract* 2017; 12:358-364.
31. Ogden CL, Carroll MD, Curtin LR, et al. Prevalence of high Body mass index in US children and adolescents, 2007-2008. *JAMA* 2010;303:242-249.
32. Linna MS, Kaprio J, Raevuori A, et al. Body mass index and subjective well-being in young adults: a twin population study. *BMC Public Health* 2013;13:231.
33. Young SE, Corley RP, Stallings MC, et al. Substance use, abuse and dependence in adolescence: prevalence, symptom profiles and correlates. *Drug and alcohol dependence* 2001; 68:309-322.
34. National Survey on Drug Use and Health (NSDUH). Substance abuse and mental health services Administration (SAMHSA) 2016. Alcohol Use in Lifetime, past Year, and past Month, by detailed age; Available at: <http://www.samhsa.gov/data/sites/default/files/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015.htm#tab2-19b>. Accessed May 3, 2020.
35. World Health Organization. Health Behaviour in school-aged children (HBSC); Available at: <https://gateway.euro.who.int/en/datasets/hbsc/>. Accessed May 3, 2020.
36. Istituto Nazionale di Statistica - ISTAT. Annuario statistico italiano 2016; Available at: <http://www.istat.it/it/files/2016/12/Asi-2016.pdf>. Accessed May 3, 2020.
37. Eurobarometro; Available at: <http://www.europarl.europa.eu/at-your-service/it/be-heard/eurobarometer>. Accessed May 3, 2020.
38. Lipari R, Jean-Francois B. Trends in Perception of risk and Availability of substance Use Full-time College students. National Survey on Drug Use and Health 2016. Substance Abuse and Mental Health Services Administration (SAMHSA); Available at: [https://www.samhsa.gov/data/sites/default/files/report\\_2418/ShortReport-2418.html](https://www.samhsa.gov/data/sites/default/files/report_2418/ShortReport-2418.html). Accessed May 3, 2020.

39. Istituto Nazionale di Statistica - ISTAT. Il consumo di alcol in Italia"; Available at: [https://www.istat.it/it/files//2017/04/Consumo\\_alcol\\_in\\_Italia\\_2016.pdf](https://www.istat.it/it/files//2017/04/Consumo_alcol_in_Italia_2016.pdf). Accessed May 3, 2020.
40. Miller JW, Naimi TS, Brewer RD, et al. Binge drinking and associated health risk behaviors among high school students. *Pediatrics* 2007;119:76-85.
41. Lee CM, Neighbors C, Woods BA. Marijuana motives: young adults' reasons for using marijuana. *Addict Behaviors* 2007;32:1384-1394.
42. United Nations Office on Drugs and Crime UNODC. Drugs and age. Drugs and associated issues among young people and older people. World Drug Report; 2018.
43. Bleakley A, Khurana A, Hennessy M, et al. How Patterns of Learning about sexual information among adolescents are related to sexual behaviors. *Perspect Sex Reprod Health* 2018;50:15-23.
44. Eaton DK, Kann L, Kinchen S, et al; Centers for Disease Control and Prevention (CDC). Youth risk behavior surveillance – United States, 2011. *MMWR Surveill Summ* 2012;61:1-162.
45. Abma JC, Martinez GM. Sexual activity, contraceptive use, and childbearing of teenagers aged 15–19 in the United States. *Natl Health Stat Rep* 2017:1-22.
46. Quinta Gomes AL, Nobre PJ. Prevalence of sexual problems in Portugal: results of a population-based study using a stratified sample of men aged 18 to 70 years. *The J Sex Res* 2013;51:13-21.
47. Bulot C, Leurent B, Collier F. Pornography sexual behaviour and risk behaviour at university. *Sexologies* 2015;24:78-83.
48. Sorensen AD, Kjørholt VS. Generation P? A quantitative study pornography in the Nordic countries - Quantitative studies. Copenhagen: Nordic Council of Ministers; 2008.
49. Svedin C, Akerman Priebe G. Frequent users of pornography. A population based epidemiological study of Swedish male adolescents. *J Adolescence* 2011;34:779-788.