

# Media-Based Research on Selfie-Related Deaths in Italy

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**Background:** The incidence of taking selfies and sharing them on social media as well as selfie-related dangerous behaviors is increasing, particularly among young people, also leading to selfie-related trauma and death. This study was performed to obtain epidemiological characteristics of selfie-related mortality in Italy.

**Methods:** Scientific literature and Italian media were reviewed.

**Results:** Twelve victims from 11 events, from 2014 to 2018, were analyzed (sex, age, accident types, the nationality, the Italian region where the incident took place, if the person involved was indigenous or a tourist, the dynamics and the *causa mortis*, if other people have been involved in the selfie, and if other people were deceased). The majority of selfie victims were male teenagers, the average age was 23.6 years, the most preferred site of taking selfies was the natural environment followed by the railway one, the most frequently reported event or accident type was falling from a height, and the most frequent causes of selfie-related deaths were multitrauma and drowning.

**Conclusions:** Selfie-related deaths in Italy appear to be an issue and appear to be increasing. Particularly, male teenagers and young adults are at high risk for selfie-related deaths. Measures should be taken to reduce their incidence.

**Key Words:** selfie, death, social media, media-based, forensic pathology  
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Smartphones have become part of daily life. These devices allow, with extreme ease, to take pictures and videos in any instant and in any place. Together with smartphones, social networks have become, for young people, in particular, essential in everyday life.

This led to the media and digital exposure culture, defining this generation as the “selfie generation.” A generation raised in a world populated with new technologies, accustomed to building its identity in the digital world. A generation where people are always posing, connected to the net but disconnected from reality.

Social connections are managed through social media: an ego network where the personal image has become a central issue and where the only important thing is to be seen. This habit was also made famous by some celebrities, for example, at the March 2014 Oscar ceremony in Los Angeles, host and comedian Ellen DeGeneres posted one of the most-shared selfies in the history of Twitter, with over 3.4 million retweets and 2.4 million likes.

Clicking selfies and sharing them on social media has become a mode of self-expression. People sometimes portray themselves amidst dangerous settings so as to gain attention on social

media sites. In some cases, this has resulted in fatal consequences: for example, a case of selfie-related death by electrocution has been described in a forensic pathology journal.<sup>1</sup>

A study conducted by Carnegie Mellon University, Pittsburgh, PA and by the Indraprastha Institute of Information Technology of New Delhi has classified all of the dangerous shots that caused a subject's death (falling from a height, drowning, and rail accidents were the top three causes of death).<sup>2</sup> The survey found that there were 127 reported deaths worldwide from selfies from March 2014 till September 2016. Of those, 76 deaths occurred in India, including a 2014 incident in which 10 young people tried to take a selfie while on a lake in Maharashtra; the second highest number of deaths occurred in Pakistan, the third in the United States, and the fourth in Russia.

According to a media-based research from 2014 to mid-2016, 75 people have died while attempting selfie, in 52 incidents worldwide,<sup>3</sup> whereas according to another media-based research focused on selfie-related injuries and deaths, the first three countries in terms of frequency of such events and victims were India (45 events or accidents, 40.5%; 75 victims, 47.2%), the United States (10 events or accidents, 9%; 11 victims, 6.9%), and Russia (8 events or accidents, 7.2%; 10 victims, 6.2%), respectively.<sup>4</sup>

However, there may be an underestimation of the actual number of selfie-related deaths in the studies conducted worldwide. In fact, studies performed by using media articles printed in English do not take into consideration the local press written in other languages.

This is the first study ever conducted in Italy to describe selfie-related deaths. It can impact the forensic community by providing the exact number of death in Italy and, being selfie-related mortality an issue in the modern society, by urging forensic pathologists to conduct similar studies in other countries as well.

## MATERIALS AND METHODS

### Cases and Data Collection

A careful and detailed examination of international and Italian scientific literature and of all Italian media resources was performed to evaluate selfie-related deaths in Italy.

### Inclusion Criteria

- Selfie-related deaths occurred in Italy from January 2014 to December 2018.

### Exclusion Criteria

- Photography-related deaths that were not selfie-related and selfie-related injuries not amounting to death.
- Selfie deaths were differentiated from deaths due to mobile phones. For example, if a person died accidentally while using a mobile phone, he was excluded from study.
- Death related to videos of extreme activities intended to be shared on social networks.

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**RESULTS**

The scientific literature review allowed to identify 4 studies focused on selfie-related deaths worldwide:

- A study conducted from March 2014 to September 2016: 1 selfie-related death in Italy (year of occurrence and dynamics are not specified)<sup>2</sup>;
- A study conducted from January 2014 to mid-2016: 1 selfie-related death in Italy in 2014 of a 16 year old female student tourist who fell from the seafront railing<sup>3</sup>;
- A study conducted from December 2013 to January 2017: 2 cases in Italy (year of occurrence is not specified and it is impossible to understand if the 2 cases are about selfie-related deaths or injuries)<sup>4</sup>
- A study conducted from October 2011 to November 2017: 2 selfie-related deaths in Italy (years of occurrence and dynamics are not specified).<sup>5</sup>

The scientific literature analysis did not allow to detect any scientific article in Italy.

Since no specific article was found in Italy, the data of the other 3 articles<sup>2,4,5</sup> are too general and just the Jain and Mavani<sup>3</sup> reported case was analyzable, the study was carried out through the Internet search engine Google to perform media-based research.

Twelve victims involved in 11 different selfie-related accidents in Italy have been reported by Italian media between 2014 and 2018 (Table 1).

In 2014, 1 case was reported:

- A 16-year-old female student tourist fell from the seafront railing: the same case reported by Jain and Mavani.<sup>3</sup>

In 2015, 1 case was reported:

- A 60-year-old male German skier fell from a mountain.

In 2016, 1 case was reported:

- A 16-year-old boy was run over by a train while on the train tracks.

In 2017, 4 cases were reported:

- A 13-year-old boy was run over by a train while on the train tracks;
- An 18-year-old man died by electrocution while standing on a train roof;
- A 32-year-old woman, while taking a selfie on a cliff, fell down in the river below; her husband, of the same age, also died trying to save her;
- A 15-year-old female Hungarian tourist was swept up by a wave while taking a selfie on the cliff.

In 2018, 4 cases were reported:

- A 22-year-old man fell from a railing while taking a selfie by the lake;
- A 31-year-old woman slipped in a waterfall;
- A 15-year-old boy fell in an air duct while he was on the roof of a shopping center;
- A 15-year-old boy was run over by a train while he was lying down on the tracks.

**TABLE 1. Selfie-Related Deaths in Italy From 2014 to 2018**

Date	Sex/Age, y	Nationality	Italian Region	Indigenous/ Tourist	Environment	Initial Position	Dynamics	Causa Mortis	Other People Involved in the Selfie	Other People Deceased
June 14	F/14	Italian	Puglia	Student tourist	Natural	Seafront railing	Fall from height	Drowning	Yes	No
April 15	M/60	German	Trentino Alto Adige	Tourist	Natural	Mountain	Fall from height	Traumatic injuries	No	No
March 16	M/16	Italian	Campania	Indigenous	Railway environment	Train track	Rail accident	Traumatic injuries	No	No
March 17	M/13	Italian	Calabria	Indigenous	Railway environment	Train track	Rail accident	Traumatic injuries	Yes	No
April 17	M/18	Italian	Toscana	Indigenous	Railway environment	Roof of the train	Rail accident	Electrocution	No	No
May 17	F/32	Italian	Abruzzo	Indigenous	Natural	Riverbank	Slipping	Drowning	Yes	32-M (rescuer, drowned)
July 17	F/15	Hungarian	Sardegna	Tourist	Natural	Cliff	Swept away by a sea wave	Drowning	Yes	No
June 18	M/22	Italian	Lombardia	Tourist	Natural	Railing on the lake	Fall from height	Drowning	No	No
June 18	F/31	Italian	Abruzzo	Indigenous	Natural	Top of the waterfall	Fall from height	Traumatic injuries	No	No
September 18	M/15	Italian	Lombardia	Indigenous	Urban	Roof of the mall	Fall from height	Traumatic injuries	Yes	No
November 18	M/15	Italian	Lombardia	Indigenous	Railway environment	Train track	Rail accident	Traumatic injuries	No	No

F indicates female; M, male.

**TABLE 2.** Overall Analysis of the Results

Total number of victims	12
No. deceased clicking selfie	11
No. deceased rescuers	1
No. male victims	8
No. female victims	4
Minimum age	13 years
Maximum age	60 years
Median age	24 years
No. Italian victims	10
No. foreign victims	2
No. deaths in natural environment	7
No. deaths in railway environment	4
No. deaths in urban environment	1
No. deaths due to traumatic injuries	6
No. deaths due to drowning	5
No. deaths due to electrocution	1
No. deaths in 2014	1
No. deaths in 2015	1
No. deaths in 2016	1
No. deaths in 2017	5
No. deaths in 2018	4

### Data Analysis

Eleven were the person taking the selfies and 1 was a person attempting to rescue a victim (Table 2).

Of the 12 victims, 4 were female and 8 male, and the ages ranged from 13 years old to 60 years old (with the average age of 24 years old): the majority of the selfie victims were male teenagers followed by young adults.

In 6 cases, death was due to traumatic injuries, 5 cases to drowning, and 1 case to electrocution; the most common event was falling from height (5 cases) followed by railway accidents (4 cases).

The most preferred site of taking selfies was the natural setting (7 cases) followed by the railway environment (4 cases).

### LIMITATIONS

Being a media-based research, providing the result of medicolegal autopsy and of the toxicological studies has not been possible, as well as educational status and mental health of the victims.

## DISCUSSION

According to the Oxford dictionary, a selfie is defined as “A photograph that one has taken of oneself, typically one taken with a smartphone or webcam and shared via social media.”<sup>6</sup> “Killfie” is actually a term used in the common language to define an extreme selfie, potentially life-threatening for the author.

A case of selfie-related death is defined as an accidental death that is precipitated by the process of self-photography typically by a cell phone and death occurs just before, during, or just after the process.

This is the first Italian media-based research to study this phenomenon in Italy. Being a media-based study, providing the result of medicolegal autopsies and of the toxicological studies has not been possible, as well as educational status and mental health of the victims.

Analyzing the obtained data, there is no doubt that the selfie-related deaths cannot be ignored in Italy, although they are minimal compared with the total number of accidental deaths (eg, the Italian National Institute of Statistics [ISTAT], counts 7449 accidental deaths in 2016).<sup>7</sup>

The research identified 12 victims from 11 events, which were reported in the Italian media sources between 2014 and 2018. Eleven were the person taking the selfies and 1 was a person attempting to rescue a victim. Temporal distribution shows that selfie-related deaths appear to be a growing problem (Fig. 1): in fact, from 2014 to 2016 selfie-related deaths were isolated cases, whereas in 2017 and 2018, numerous deaths occurred (5 + 4).

The most common event was falling from height and the most preferred site of taking selfies was the natural setting followed by the railway environment, as described in other countries.<sup>2-4</sup> Even the causes of death are comparable to those described in similar studies<sup>2-4</sup>: mostly traumatic injuries, followed by drowning. Unlike other studies,<sup>4</sup> the majority of deaths in Italy did not occur during summer, but from March to June.

Of the 12 victims, 4 were female and 8 male, and the ages ranged from 13 to 60 years (with the average age of 24 years). The majority of selfie victims were male teenagers followed by young adults, whereas victims in the railway environment (people run over by the train or deceased due to electrocution on the roof of the train) were exclusively male teenagers (aged 13 to 18 years). As described in the literature, though females take more selfies than males, higher risk-taking behavior in males is likely to be responsible for higher death toll.<sup>8</sup> A recent survey by the Italian National Adolescence Observatory conducted on 8000 teenagers has revealed that 1 in 10 teen takes dangerous selfies where they put

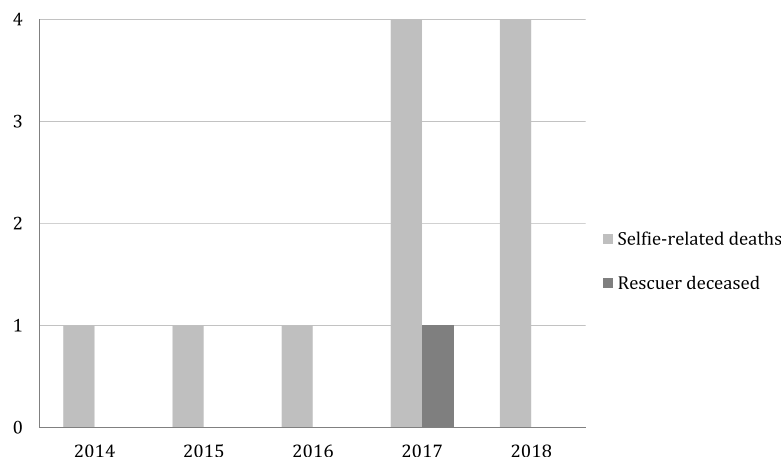
**FIGURE 1.** Temporal distribution of deaths.



FIGURE 2. No selfie zone in Goa.

their lives at risk, and more than 12% have been challenged to take an extreme selfie to prove their courage.<sup>9</sup>

It is, therefore, interesting to highlight that the characteristics of selfie-related deaths in Italy (sex, age, dynamics, *causa mortis*) are comparable to those that occur in other countries: this may be due to the globalization of behaviors in the era of smartphones and of social media.

As this phenomenon spreads all over the world, many states are taking steps to stem the injuries and death. For example, in India, “no selfie zones” have been created<sup>10</sup> (Fig. 2). After accidents caused by high-risk selfies, the Russian interior ministry launched a campaign urging people to take safer selfies with slogans like “A cool selfie could cost you your life” signs demonstrating behaviors that should not be performed, like taking a selfie while holding a gun, on the side of a cliff, on a rooftop, in front of wild beasts in freedom, on the train tracks, on the electricity pylons, in a speedboat, climbing the stairs<sup>11</sup> (Fig. 3). In Denver, CO, a serious hazard was reported for people who tried to take selfies with bears in the natural park<sup>12</sup> and in Pamplona, Spain, selfies are forbidden during the running of the bulls, on occasion of the feast of St. Fermin.<sup>12</sup> On the Swiss alps, selfie stops

enclosed by steel cages are used to enable people to take pictures of themselves safely.<sup>13</sup> Greater attention should be paid to this issue by the authorities of other countries.

This study establishes that there is an underestimation of the real number of selfie-correlated deaths in the studies conducted worldwide. In fact, such studies, by using media articles in English, do not take into consideration the local press written in other languages. Thus, this limitation results in an underestimation of the real numbers of such phenomenon. For example Jain and Mavani<sup>3</sup> in their study from March 2014 to June 2016 describe only 1 victim in Italy, whereas this research found 3 victims in the same period.

Therefore, it would be beneficial if research from all over the world conducted similar researches to describe this problem in a thorough manner in every nation, so as to have an accurate count of death related to these acts.

Information and awareness campaigns are also necessary, especially among the youngest, to highlight the risks of this practice and to avoid deaths and injuries in a quest for a moment of popularity in the infinite and infinitely dispersive world of social media.

The forensic pathologist's role in such cases of unusual death consists of shedding light on the dynamics of the events. Although the cause of death is rarely in doubt, the manner of death is often not as clear. Consequently, the inquiry needs to be thorough to establish if the death was indeed accidental rather than suicidal or homicidal. To this end, the pictures and data retrieved from the cell phone of the victims may be useful.<sup>14</sup>

Moreover, for forensic practitioners, the challenge is to be able to correctly identify cases where cell phone usage is directly implicated in deaths, so that a more accurate profile of these particular types of fatalities can be established, leading to an understanding of the exact incidence.<sup>15</sup>

### CONCLUSIONS

This is the first study conducted to describe selfie-related deaths in Italy. Analyzing the obtained data, selfie-related deaths in Italy appear to be an issue and appear to be increasing but further surveillance and prevention are necessary. Particularly, male teenagers and young adults are at high risk for selfie-related deaths. Greater attention should be paid to the issue by the authorities and by the scientific community to understand and contain this trend. Information and awareness campaigns are necessary to highlight the risks of this crazy practice and to reduce the incidence.



FIGURE 3. Russian icons of bad selfie ideas.

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