

**SPECIAL REPORT**

# How young patients with cancer perceive the COVID-19 (coronavirus) epidemic in Milan, Italy: Is there room for other fears?

Michela Casanova<sup>1</sup> | Elena Pagani Bagliacca<sup>1</sup> | Matteo Silva<sup>1</sup> | Carlo Patriarca<sup>2</sup> |  
 Laura Veneroni<sup>1</sup> | Carlo Alfredo Clerici<sup>3,4</sup> | Filippo Spreafico<sup>1</sup> |  
 Roberto Luksch<sup>1</sup> | Monica Terenziani<sup>1</sup> | Cristina Meazza<sup>1</sup> | Marta Podda<sup>1</sup> |  
 Veronica Biassoni<sup>1</sup> | Elisabetta Schiavello<sup>1</sup> | Stefano Chiaravalli<sup>1</sup> | Nadia Puma<sup>1</sup> |  
 Luca Bergamaschi<sup>1</sup> | Giovanna Gattuso<sup>1</sup> | Giovanna Sironi<sup>1</sup> |  
 Maura Massimino<sup>1</sup> | Andrea Ferrari<sup>1</sup>

<sup>1</sup>Pediatric Oncology Unit, Fondazione IRCCS Istituto Nazionale dei Tumori, Milan, Italy

<sup>2</sup>Pathology Unit, St. Anna Hospital (ASST Lariana), Como, Italy

<sup>3</sup>Faculty of Medicine, Department of Oncology and Hemato-Oncology, University of Milan, Milan, Italy

<sup>4</sup>Clinical Psychology Unit, Fondazione IRCCS Istituto Nazionale dei Tumori, Milan, Italy

**Correspondence**

Dr. Andrea Ferrari, Pediatric Oncology Unit, Fondazione IRCCS Istituto Nazionale Tumori, Via G. Venezian, 1 20133 Milan, Italy.  
 Email: andrea.ferrari@istitutotumori.mi.it

**Abstract**

The rapid spread of coronavirus disease 2019 epidemic in Italy, in particular in the Milan focal point, required drastic measures and led to panic in the population. While in our center we did not change our approach to the treatment of our young patients with cancer, we developed a qualitative survey to assess their perception of the risk and level of stress. The survey showed that a relatively large proportion of young patients felt personally at risk of severe complications. We believe that we need to adequately inform our patients, focusing on hygienic measures and personal protection and prompt reporting of any suspicious symptoms.

**KEYWORDS**

adolescents, coronavirus, COVID-19, epidemic, fear, perception, survey

## 1 | INTRODUCTION

The outbreak of the coronavirus disease 2019 (COVID-19) in Italy began on February 20, 2020, a few weeks after the epidemic in China's Wuhan-Hubei Province was first reported.<sup>1-6</sup> Then came a rapid progression in the number of new cases and the first related deaths in Northern Italy. The country soon had the highest number of cases and deaths in Europe. The focal point of the epidemic was identified in a group of small towns south of Milan. Over the weekend of February 22 to 23, the regional government of Lombardia (where Milan is located) issued many drastic measures and orders to limit the diffusion of COVID-19: some towns were put under quarantine (with strict police and army surveillance); schools and universities were closed throughout the region, and so were cinemas, theaters, and museums; religious services, amateur, and professional sports matches; and all

events attracting large crowds were suspended. The alarming information in the mass media and the institutional measures led to scenes of panic in the population of Milan and surrounding areas, with supermarkets being assaulted as people unnecessarily stockpiled food and other items.

A week later, the World Health Organization raised the global risk of COVID-19 to the highest level of alert (February 28) and, with more than a thousand cases diagnosed and more than 20 deaths in Italy (mainly in Lombardia), fear pervaded Milan's population. The deaths in Italy mainly involved elderly patients with existing chronic (cardiovascular or oncological) diseases.

At the Paediatric Oncology Unit of the Istituto Nazionale dei Tumori of Milan, nothing changed in our approach to the treatment of our patients. At the time of writing, no cases of COVID-19 infection have been identified among the patients receiving treatment. A lot of effort has gone into coping with their families' anxiety, however. This is understandable, since the current data suggest that COVID-19

Abbreviation: COVID-19, coronavirus disease 2019.

infection very rarely affects children and adolescents, but patients with cancer seem to be one of the categories at high risk of severe complications.<sup>1-6</sup>

As part of the Youth Project at our pediatric oncology unit (which involves a large number of adolescents and young adults promoting various dedicated activities),<sup>7-9</sup> we developed a short survey to assess the perception of the risk and level of stress concerning COVID-19 among our young patients with cancer. Since it was mainly the parents who were expressing concern and asking questions, the idea was to ask the patients what they thought about the coronavirus epidemic.

## 2 | METHODS

A semistructured qualitative questionnaire was developed by a committee of the Youth Project's staff (psychologists and physicians), and evaluated and approved by external collaborators and by the local Research Ethics Committee. The questionnaire was administered between March 2 and 5 (10-14 days after the coronavirus outbreak in Italy began) to three groups of adolescents and young adults (15-21 years old) living in Milan or Lombardia: 25 patients were receiving treatment; 25 patients were in follow-up who had completed their treatments; and 25 were healthy peers.

All the patients taking part in the study had been previously involved in Youth Project activities<sup>9-13</sup> and other surveys.<sup>14</sup> To rapidly recruit the samples, we decided to contact patients by phone and give them the information regarding the aims of the study. The questionnaire was sent by e-mail (between March 2 and 5), completed autonomously by the patients, and sent back via the same means. All the responses were received between March 2 and 7. Healthy peers were recruited among young people using the similar method, from high schools and universities in Milan, who had already participated in prior projects.<sup>15</sup> All responders (or their parents/legal guardians for underage patients) gave written informed consent to their involvement in the study.

## 3 | RESULTS

Questions and answers are reported in Table 1, as well as age, gender, and education level of the young people involved in the three groups. As a major finding, the survey showed that, while by far the majority of healthy peers did not expect to be affected by the virus, a relatively large proportion of the patients (those receiving treatment more than those in follow-up) were worried, and felt personally at risk of severe complications. The questionnaire also emphasized how the patients with cancer (differently from healthy peers) felt the burden of their parents' concern for them.

As further findings, most responding in both young patient and healthy peer groups judged the information in the media to be exaggerated and confusing or inconsistent in its content. On the other hand, the measures taken to contain the diffusion of the virus were consid-

ered appropriate by the majority of patients, but excessive by most healthy peers.

Most responders in all three groups reported that they changed their daily habits (e.g., schools and cinemas were closed), but they did not change (or only slightly modified) their relationship with peers. Our survey could not clarify whether this answer suggested a scarce compliance with the measures and lack of social distancing (as a result of the spirit of rebellion of teenagers), or instead it just expressed how peer relationships are important for young people who find alternative ways to maintain them within the context of quarantine measures using video chats and social networks.

Finally, the three groups of respondents agreed on some potentially positive side effects of the situation (i.e., less air pollution and more attention to personal hygienic procedures) that might be maintained in the future.

## 4 | DISCUSSION

Our survey was not intended as an epidemiological study, but as an opportunity to promote a discussion on how young people with (and without) cancer cope with an emerging challenge to global health care systems and a situation that strikes fear within the general population about an unknown disease.

As the prevention measures taken by the Italian government do not include specific recommendations for young patients with cancer, we believe that we need to adequately inform and support our patients, and help them calm their fears when necessary. As a consequence of our survey, focus group meetings will be organized by doctors and psychologists of the Youth Projects to give our patients the possibility of being heard and of confronting on the issues raised from our survey.

Whether such an unusual and unclear situation demands a change in our behavior as caregivers remains to be seen. It has been reported that Chinese experts consider the opportunity of intentionally deferring oncological procedures whenever possible (cases with stable cancer)<sup>16</sup> due to the risk of severe complications related to the COVID-19 epidemic. Our view is that our patients need to continue their cancer treatments. That said, it is clear that early diagnosis and speedy treatment are the best weapons for fighting COVID-19 infection. Therefore, our job is to raise awareness among all young people (with and without cancer), without adding to their level of anxiety, focusing on appropriate hygienic measures and personal protection, for example, but also on the prompt reporting of any suspicious symptoms.

As a conclusion, we believe it is important to report that a month after the first outbreak, and therefore since our survey was submitted, the number of cases diagnosed and the number of deaths, in Italy, has dramatically increased: on March 22, Italy registered 59,138 cases and 5,476 deaths.

## CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

**TABLE 1** The questionnaire and answers from the three groups of young people, that is, 25 patients receiving treatment, 25 patients in follow-up who had completed their treatments, and 25 healthy peers

Question	Answer	Patients receiving treatment	Patients in follow-up	Healthy peers
Median age		17.4	18.6	17.4
Sex	- Male	14	11	15
	- Female	11	14	10
Education level	- Professional college	1	0	2
	- Technical college	4	2	1
	- High school	12	8	15
	- University	1	12	6
	- Occupation	7	3	1
1. Have you heard about the coronavirus epidemic?	- Yes	25	25	25
	- No	0	0	0
2. Where do you get information about the coronavirus epidemic?	- Mass media	16	22	17
	- Social networks	16	15	17
	- Press conferences, statements, institutional sources	13	11	10
	- Discussions in the family and/or with friends	11	19	10
	- From asking doctors	3	6	2
3. Do you have a feeling the coronavirus epidemic is dangerous?	- Dangerous	4	5	6
	- Moderately or slightly dangerous	19	17	15
	- Not at all dangerous	2	3	4
	- Haven't heard about it	0	0	0
	- Don't know	0	0	0
4. If you think it's dangerous, for who in particular?	- For me personally	10	4	0
	- For elderly people	22	21	20
	- For people with chronic diseases	16	18	16
	- For small children	4	3	0
	- For the whole population	2	3	2
5. Are you afraid of catching the coronavirus infection?	- Very afraid	1	0	0
	- Moderately afraid	9	8	2
	- A little afraid	10	12	8
	- Not at all afraid	5	5	15
	- Don't know	0	0	0
6. Are you afraid you might have severe complications?	- Very afraid	1	1	0
	- Moderately afraid	9	4	2
	- A little afraid	6	12	5
	- Not at all afraid	8	7	16
	- Don't know	1	1	2
7. Are your family worried for you?	- Very worried	7	4	0
	- Moderately worried	8	8	5
	- A little worried	2	10	12
	- Not at all worried	5	3	8
	- Don't know	3	0	0
8. How do you experience your family's concern about you?	- It's all the same to me	4	6	7
	- It pleases me	4	4	4
	- It bothers me and/or makes me anxious	5	6	9
	- It scares me	0	1	1
	- Don't know	12	8	4
9. Are you worried your family might become ill?	- Very worried	2	2	2
	- Moderately worried	12	15	11
	- A little worried	8	5	10
	- Not at all worried	3	1	1
	- Don't know	0	2	1
10. Have you changed any of your daily habits as a result of the coronavirus epidemic?	- Definitely	3	9	5
	- Moderately	4	6	10
	- Slightly	9	8	7
	- Not at all	7	2	3
	- Don't know	2	0	0

(Continues)

TABLE 1 (Continued)

Question	Answer	Patients receiving treatment	Patients in follow-up	Healthy peers
11. In particular, have you changed your relations with your peers?	- Definitely	1	2	0
	- Moderately	3	2	4
	- Slightly	7	6	5
	- Not at all	14	15	16
	- Don't know	0	0	0
12. If so, what made you change your daily habits? (more than one answer is allowable)	- My choice	9	8	5
	- Imposed by my family	5	0	0
	- Imposed by the institutions	3	17	13
	- Based on what others do	0	2	0
	- Don't know	1	0	7
13. How does the change in your habits make you feel?	- It seems reasonable, I agree because I understand it's for my own good	11	13	14
	- It makes me angry, it seems to me another type of slavery	3	4	1
	- It scares me, I worry I might not get treated properly	0	1	0
	- It's all the same to me	9	5	5
	- Don't know	2	2	5
14. What do you think about the tone of the news in the mass media about the coronavirus infection in recent days?	- Definitely exaggerated	9	8	8
	- Maybe a bit excessive	10	14	15
	- Appropriate	4	2	1
	- Inadequate	1	1	1
	- Don't know	1	0	0
15. What do you think about the quality of the information conveyed by the mass media about the coronavirus infection?	- Scientifically appropriate	0	0	1
	- Adequate for informing the population	7	3	8
	- Confusing and contradictory			
	- Unreliable	13	19	11
	- Don't know	4	3	4
16. What do you think about the action taken by the institutions in Italy (closing schools, suspending sports events, etc.)?	- Definitely exaggerated	1	0	1
	- Maybe a bit excessive	9	6	13
	- Appropriate in the situation	12	12	10
	- Not enough	2	4	1
	- Don't know	1	3	0
17. What do you think about the action taken internationally (placing towns under quarantine, cancelling flights to and from countries with large numbers of infections, etc.)?	- Definitely exaggerated	2	1	1
	- Maybe a bit excessive	2	9	13
	- Appropriate in the situation	15	10	10
	- Not enough	2	2	1
	- Don't know	4	3	0
18. Do you think this emergency has any positive consequences too? (more than one answer is allowable)	- Less traffic pollution more attention to personal hygiene (I wash my hands more often)	11	14	15
	- An opportunity for remote learning (e-learning) that will remain after the epidemic is over	15	17	13
	- It puts in perspective all the bad news the newsreels and Internet were circulating about Italy and our future	3	2	2
		3	1	2
	- Don't think so/don't know	6	4	6
19. Would you like to have more information about the issue?	- Yes	12	20	13
	- No	10	5	6
	- Don't know	3	0	6

## ACKNOWLEDGMENTS

The authors wish to thank the Associazione Bianca Garavaglia Onlus, which supports the Youth Project; the authors also thank Pietro Ferrari and Gabriele Cazzaniga for their help in the survey.

## ORCID

Elena Pagani Bagliacca  <https://orcid.org/0000-0001-8699-6459>

Laura Veneroni  <https://orcid.org/0000-0003-2152-0411>

Filippo Spreafico  <https://orcid.org/0000-0002-5587-3509>

Roberto Luksch  <https://orcid.org/0000-0002-7203-4176>

Monica Terenziani  <https://orcid.org/0000-0002-7080-6718>

Cristina Meazza  <https://orcid.org/0000-0002-1875-9563>

Luca Bergamaschi  <https://orcid.org/0000-0003-2149-329X>

Maura Massimino  <https://orcid.org/0000-0002-5506-2001>

Andrea Ferrari  <https://orcid.org/0000-0002-4724-0517>

## REFERENCES

1. Chen N, Zhou M, Dong X, et al. Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study. *Lancet*. 2020;395(10223):507-513.
2. Wang C, Horby PW, Hayden FG, Gao GF. A novel coronavirus outbreak of global health concern. *Lancet*. 2020;395(10223):470-473.
3. Zhou P, Yang XL, Wang XG, et al. A pneumonia outbreak associated with a new coronavirus of probable bat origin. *Nature*. 2020. <https://doi.org/10.1038/s41586-020-2012-7>.
4. Li Q, Guan X, Wu P, et al. Early transmission dynamics in Wuhan, China, of novel coronavirus-infected pneumonia. *N Engl J Med*. 2020;382(13):1199-1207.
5. Li Q, Guan X, Wu P, et al. Early transmission dynamics in Wuhan, China, of novel coronavirus-infected pneumonia. *N Engl J Med*. 2020. <https://doi.org/10.1056/NEJMoa2001316>.
6. Chan JF, Yuan S, Kok KH, et al. A familial cluster of pneumonia associated with the 2019 novel coronavirus indicating person-to-person transmission: a study of a family cluster. *Lancet*. 2020.pii: S0140-6736(20)30154-9. Epub ahead of print.
7. Ferrari A, Clerici CA, Casanova M, et al. The Youth Project at the Istituto Nazionale Tumori in Milan. *Tumori*. 2012;98:399-407.
8. Ferrari A, Silva M, Veneroni L, et al. Measuring the efficacy of a project for adolescents and young adults with cancer: a study from the Milan Youth Project. *Pediatr Blood Cancer*. 2016;63(12):2197-2204.
9. Ferrari A, Veneroni L, Clerici CA, et al. Clouds of Oxygen: adolescents with cancer tell their story in music. *J Clin Oncol*. 2015;33(2):218-221.
10. Ferrari A, Signoroni S, Silva M, et al. "Christmas Balls": a Christmas carol by the adolescent cancer patients of the Milan Youth Project. *Tumori*. 2017;103(2):e9-e14.
11. Ferrari A, Veneroni L, Signoroni S, et al. Loop: there's no going back: a graphic novel by adolescent cancer patients on the Youth Project in Milan. *J Med Hum*. 2019;40(4):505-511.
12. Signoroni S, Veneroni L, Pagani Bagliacca E, et al. "Summer is you": adolescents and young adults with cancer sing about their desire for summer. *Pediatr Blood Cancer*. 2019 May;66(5):e27630.
13. Ferrari A, Gaggiotti P, Silva M, et al. In search for happiness. *J Clin Oncol*. 2017;35(19):2209-2212.
14. Veneroni L, Bagliacca EP, Sironi G, et al. Investigating sexuality in adolescents with cancer: patients talk of their experiences. *Pediatr Hematol Oncol*. 2020:1-12. <https://doi.org/10.1080/08880018.2020.1712502>.
15. Magni C, Segrè C, Finzi C, et al. Adolescents' health awareness and understanding of cancer and tumor prevention. When and why an adolescent decides to consult a physician. *Pediatr Blood Cancer*. 2016;63(8):1357-1361.
16. Liang W, Guan W, Chen R, et al. Cancer patients in SARS-CoV-2 infection: a nationwide analysis in China. *Lancet Oncol*. 2020. [https://doi.org/10.1016/S1470-2045\(20\)30096-6](https://doi.org/10.1016/S1470-2045(20)30096-6).

**How to cite this article:** Casanova M, Bagliacca EP, Silva M, et al. How young patients with cancer perceive the COVID-19 (coronavirus) epidemic in Milan, Italy: is there room for other fears? *Pediatr Blood Cancer*. 2020;e28318. <https://doi.org/10.1002/pbc.28318>