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**The importance of a multidisciplinary care: community pharmacies as a hub to support oncologic patients with cutaneous reactions due to treatments.**

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Dear editor,

we want to focus attention on the patients' perception of cutaneous adverse drug reactions due to oncologic therapies. It is known that cutaneous reactions are not uncommon both in patients treated with conventional/non-targeted chemotherapeutic agents and in those treated with targeted drugs. Indeed, conventional oncologic treatments usually target rapid proliferation cancer cells, but they have low specificity and affect also other systems with high turnover rate including the mucocutaneous one. On the other hand, targeted therapies usually act on specific site often present also in the skin (EGFR, VEGFR...).

Characteristics of cutaneous reactions vary a lot depending on the type of treatment.

Cutaneous manifestations that frequently affect oncologic patients in conventional chemotherapies are erythema, edema, mucositis, nail changes. For those patients treated with targeted chemotherapeutic agents, the most common reactions are papulopustular eruptions, xerosis, hair and nail changes, hand-foot syndrome, stomatitis, rash.<sup>1-4</sup>

1 Thus all persons caring for oncologic patients should be aware of these cutaneous adverse  
2 effects and of their resolutions in order to improve their management and consequently  
3 patients' quality of life. The task of oncologists and dermatologists is to recognize the cause  
4 of these problems and to direct towards the better resolution. Furthermore, other health  
5 personnel (for examples pharmacists) could contribute in different ways to manage this  
6 issue.  
7

8 Indeed, resolution of some reactions needs medical intervention - such as treatment  
9 interruption - or the prescription of some medicines - such as antibiotics, oral corticosteroids,  
10 topical retinoids, diuretics. Further strategies can be adopted with the support of a non-  
11 medical health care professional (such as the pharmacist), as the use of bland emollients,  
12 ointments, topical analgesics, antihistamines, keratolytics, antiseptics, anesthetic rinses,  
13 anesthetic/antifungal/antibiotic/corticosteroid mouthwashes, the use of tight clothes and  
14 shoes, appropriate soaks, pedicures, sun protection.<sup>1-4</sup>  
15

16 This was one of the themes we investigated by carrying out a survey on oncologic patients  
17 using self-administered and anonymous questionnaires in five oncological clinics in Turin  
18 (Italy).  
19

20 The results showed that 32% of the 258 interviewees declared to have suffered from  
21 cutaneous reactions. No differences in the prevalence of reactions were found between male  
22 or female respondents nor between younger or older patients. Among patients reporting a  
23 diagnosis for less than one year, a quarter of them had cutaneous reactions, whereas, among  
24 those with a diagnosis for more than one year, subjects with cutaneous reactions increase to  
25 43%. In the light of this finding it could be interesting to investigate if the cutaneous  
26 reactions onset occurs late because they appear later in the treatment or because of a switch  
27 to second-line treatments. The main form of cancer suffered by the patients who participated  
28 in the study was breast cancer (104; 40%). Among these patients, 25% declared to have  
29 suffered from cutaneous reactions. Instead, one of the lowest percentages of interviewees  
30 was recorded for lung cancer (19; 7%) and among these patients, those who suffered from  
31 cutaneous reactions were 31,5%. The other percentages are shown in Table I.  
32

33 The questionnaire also investigated the kind of oncologic treatment. The highest percentage  
34 was recorded for a combination of treatments (146; 57%). Among these patients, 34%  
35 declared to have suffered from cutaneous reactions. Instead, the smallest percentage of  
36 interviewees was recorded for radiotherapy (3; 1%) and among these patients, nobody  
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1 affirmed to have suffered from cutaneous reactions. The other percentages are shown in  
2 Table II.

3  
4 The frequency with which patients attend pharmacies are very similar between interviewees  
5 reporting cutaneous reactions and those not reporting cutaneous reactions: in both cases  
6 almost half of them answered they usually go to the pharmacy more than once a month and  
7 about the 23% more than once a week. Regarding opinion about the importance to ask  
8 questions and doubts in pharmacy on health status and effects of medicines taken, answers  
9 were very similar between patients with and without cutaneous reactions (almost 70% in  
10 both groups answered it was very important).

11 The majority of patients reporting cutaneous reactions (65,5%) dealt with this problem  
12 addressing to an oncologist. However, it is interesting to notice that, on the other hand,  
13 around 20% of the patients asked advice to the pharmacist for a topical product.

14 Even if this survey presents many limits such as the small sample size, the lack of  
15 information about the medicines taken, the administration's way of questionnaires (self-  
16 administration) and the short time of data collection (3 months), it has been found that  
17 patients reporting cutaneous reactions to treatments are not a negligible part of total  
18 oncologic patients.

19 The management of cancer patients and in particular of cutaneous reactions needs, therefore,  
20 a multidisciplinary approach in order to provide better patients care and to ensure  
21 appropriate continuity of assistance between hospital and territory<sup>5</sup>. In this direction, in  
22 addition to oncologists and dermatologists, community pharmacists can certainly give a  
23 contribution. Indeed, they represent both health care professionals and everyday interlocutors  
24 to which talk about cutaneous problems that could be solved even through over the counter  
25 medicines or cosmetics. Moreover, in this survey about half of the patients affirmed to attend  
26 pharmacy more than once a month, a quarter, instead, more than once a week.

27 In Italy such experiences of patients support by non-medical personnel in a non-hospital  
28 setting are already present, but not systematically. We think that it is necessary to create a  
29 network of professionals largely spread on the territory and fully trained on these themes.

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*Conflicts of interest.*— The authors certify that there is no conflict of interest with any financial organization regarding the material discussed in the manuscript.

*Authors' contributions.*— IP and PB performed the conceptualization of the work. GV contributed to write the questionnaire used in the survey. PQ, AC, AA, MI, RS supervised the project and made the administration of the questionnaires possible. FB performed the data-entry. LRE performed the statistical analysis. IP and LRE wrote the manuscript. PB coordinated the project. All authors approved the final version of the manuscript.

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## TABLES

	<b>Breast cancer</b> 104 patients	<b>Colorectal cancer</b> 24 patients	<b>Melanoma</b> 20 patients	<b>Lung cancer</b> 19 patients
Patients who suffered from cutaneous reactions	25%	42%	55%	31,5%

Table I.— *Main cancer diagnosis and percentages of patients with cutaneous reactions for each form of cancer*

	<b>Combination of treatments</b> 146 patients	<b>Intravenous treatment</b> 48 patients	<b>Surgery</b> 33 patients	<b>Oral treatment</b> 27 patients	<b>Radiotherapy</b> 3 patients
Patients who suffered from cutaneous reactions	34%	31%	24%	33%	0%

Table II.— *Oncologic treatments and percentages of patients with cutaneous reactions for each treatment*

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