

ARTICLE ONLINE FIRST

This provisional PDF corresponds to the article as it appeared upon acceptance.

A copyedited and fully formatted version will be made available soon.

The final version may contain major or minor changes.

What Italians think about acne: results of a survey on 2.327 patients and 2.327 mothers

Simona TAVECCHIO, Mauro BARBARESCHI, Stefano VERALDI

Giornale Italiano di Dermatologia e Venereologia

DOI: 10.23736/S0392-0488.18.05920-5

Article type: Original Article

© 2018 EDIZIONI MINERVA MEDICA

Article first published online:

Manuscript accepted: December 6, 2018

Manuscript revised: October 25, 2018

Manuscript received: January 16, 2018

Subscription: Information about subscribing to Minerva Medica journals is online at:

<http://www.minervamedica.it/en/how-to-order-journals.php>

Reprints and permissions: For information about reprints and permissions send an email to:

journals.dept@minervamedica.it - journals2.dept@minervamedica.it - journals6.dept@minervamedica.it

What Italians think about acne: results of a survey on 2.327 patients and 2.327 mothers

Simona TAVECCHIO*, Mauro BARBARESCHI, Stefano VERALDI

Department of Pathophysiology and Transplantation, Università degli Studi di Milano,
I.R.C.C.S. Foundation, Cà Granda Ospedale Maggiore Policlinico, Milan, Italy

Words count: 1208

*Corresponding author: Simona Tavecchio, Dermatology Unit, University of Milan,

Via Pace 9, 20122 Milan, Italy. E-mail: simona.tavecchio@gmail.com

ABSTRACT

BACKGROUND: The psychological impact of acne is comparable to that experienced by patients with severe diseases; however, most of the people does not consider acne as a true disease. We evaluated beliefs, sources of information and knowledge about acne in Italian adolescents and their mothers.

METHODS: This survey was carried out in 2.327 acne patients and their mothers (= 4.654 subjects) by means of a self-administered questionnaire. The questionnaire was based on ten questions: seven questions for the patients and three questions for their mothers.

RESULTS: All the 2.327 patients and their mothers completed the survey. Approximately 75% of patients declared that acne has a negative influence on their self-esteem and relationships; furthermore, 87% of patients stated that acne limits their social life. Finally, 65% of patients declared that they are under treatment, but only in 20% of cases the treatment was prescribed by a dermatologist. The mothers considered pollution, wrong diet and hyperseborrhoea as the most important aetiological factors. They considered the treatment suggested by a cosmetologist and contraceptive pill as the best one; only 8% of mothers reported that they regularly took their children to the dermatologist.

CONCLUSIONS: In order to improve the treatment and the quality of life in acne patients, there is a need to improve awareness about this disease and its causes and to highlight the role and importance of dermatologists.

Key Words: Acne - Quality of life - Self-esteem - Dermatologist.

Introduction

Some studies evaluated the influence of acne on the quality of life and self-esteem of patients. These studies reported that the psychological impact of acne is comparable to that experienced by patients with severe diseases, such as diabetes and epilepsy.¹ Despite of this influence on the daily life of acne patients, most of the people does not consider acne as a true disease, but only as a physiological condition of adolescence. Moreover, it was demonstrated that therapeutical success in chronic diseases is significantly associated with the level of knowledge of the disease itself.² A worldwide study in acne patients showed that 50% of subjects knew “little” or “nothing” about their disease.³ Furthermore, some studies reported that patients obtain information on acne mainly from magazines, television, friends and cosmetologists, and less from dermatologists, suggesting the importance of mass media in informing, advising and correcting the misconceptions on acne.^{2,4,5}

The aim of the present study was to evaluate sources of information, beliefs and knowledge on acne in 2.327 adolescents and their mothers by means of a self-administered questionnaire. To our knowledge, this is the first study about this topic that was carried out in Italy.

Materials and Methods

This survey was carried out in 2.327 acne patients and their mothers (= 4.654 subjects). Acne patients were 788 male and 1539 female and the mean age was 14,3 years (range 12 – 21). They filled out a self-administered questionnaire based on ten questions: three questions were for the mothers and seven for the patients. Questions for the mothers were: 1) What is the cause of acne? 2) What is the best method to treat acne? 3) When is it necessary to get a physician's consultation in order to treat acne? (Table I). Questions for patients were: 1) How common is acne at your class? (Table II). 2) Did/does acne influence negatively your self-esteem? 3) Acne causes awkwardness especially with... 4) With whom do you speak about acne? 5) Does acne limit your social life? (Table III). 6) Are you under treatment? 7) Who suggested you this treatment? (Table IV). Only one answer was possible for questions n. 2, 3, 4, 5, 7, 8, 9 and 10; more than one answer was possible for questions n. 1 and 6.

Results

The questionnaire was completed by 2.327 acne patients and their mothers. The answers of the mothers are reported in Table I. The answers of the patients are reported in Tables II-IV.

Discussion

Some studies evaluated the level of knowledge about acne; they involved patients,^{5,6} students,^{7,8} the general population⁹ and physicians.² To our knowledge, no data are available in the literature about the knowledge of acne in parents of the patients. Some reports highlighted the fact that parents are the most popular source of information on acne for their children, and mothers are the main interlocutors for the health problems of their children.^{4,10,11} For the first time, in our survey both Italian patients and their mothers were studied on their beliefs on acne and its treatment. As shown in Table I, the answers of the mothers of patients are very surprising. In fact, the mothers considered pollution (78%), wrong diet (66%), hyperseborrhoea (66%), hormone abnormalities (55%), uncorrected use of cosmetics (47%), poor hygiene (44%), bacterial infections (23%), viral infections (18%) and genetic factors (14%) as the most important aetiological factors of acne. Again surprising are the answers about the best method to treat acne. The mothers considered a treatment suggested by a cosmetologist (19%), contraceptive pill (19%), soaks with lemon juice (13%), wait and see (12%), a treatment suggested by a pharmacist (11%), soaks with salt water (9%) and sun exposure (9%) as the best treatment. Only 8% of mothers considered the therapy prescribed by a dermatologist as the best treatment for their child. Finally, at the question “When is it necessary to get a physician’s consultation in order to treat acne?”, 43% of the mothers answered that a dermatological consultation is necessary only when acne is severe and when previous treatments failed (26%). Only 8% of the mothers reported that they regularly took their children to a dermatologist; in addition, 23% of the mothers considered acne as a physiological condition of adolescence: therefore, an examination by a dermatologist is unnecessary.

As far as the knowledge of acne by the general population is concerned, some studies revealed widespread misunderstandings about aetiology.^{2,12,13} As previously mentioned, pollution and other factors were indicated as causes of acne.^{2,5,10,12,14,15-17} Contrariwise, genetic factors and bacterial or viral infections were less commonly indicated as causes of acne than in previous studies.^{4,10,16-18}

In a recent study,⁴ it was reported that treatment of acne was most frequently recommended by family members. In our survey, mothers were asked on the need to consult a dermatologist, and only 8% considers the opinion of this specialist as important. Results of our study are superimposable to previous findings indicating that more severe cases are referred to dermatologists; however, referral rates are low (7.2%).^{4,19}

In spite of the high prevalence of acne and the frequent and important impairment of quality of life, adolescents often use improper treatments.^{20,21} In our study, self-administered therapy suggested by a cosmetologist appeared as the most used approach and, as previously reported, treatment suggested by a dermatologist was considered in only 20% of cases (Table IV). There are some differences between gender, in fact male patients consider pharmacist' suggestions as the most important source of information about acne treatment, on the contrary, female patients reported that cosmetologists are their primary referees to obtain informations about acne and its treatments (Table IV).

A previous study showed that television, parents, friends and magazines are the most common sources of information on acne⁸ and may be partially responsible for persistent misconceptions and inadequate knowledge on acne.⁵ Our results reflect the important roles of friends (32% for male and 32% for female) and mass media (50% for male and 30% for female) in informing and advising patients, but they could also have an

important role in correcting all misconceptions. There is a difference in the importance of the family members between male and female, in fact they have an important role for female (23%) but not for male (only 7%).

Quality of life and social acceptance are relevant factors in adolescence, and skin diseases, such as acne, may lead to inhibition, timidity and anxiety.²² It is mandatory to evaluate psychological implications in the management of these patients; an interesting tool on this aspect could be “Acne radar”, a simple and intuitive graphic instrument to assess the quality of life of acne patients.²³ In our survey, we asked acne patients about the influence of the disease on self-esteem, and 24% of them declared not to be influenced, especially male patients (61%) compared to female patients (5%). As we can imagine, the main difficulties of relationship reported are with friends and classmates (Table III).

Conclusions

There is a need to improve awareness of acne and its causes in order to correct misconceptions about this disease, prevent the occurrence of possible complications, and avoid unnecessary impairment of quality of life. Family members often recommend treatment and provide further information about acne. Therefore, additional information about acne should be provided not only to adolescents but also to their families.

Conflicts of interest. - The authors declare no conflicts of interest.

References

1. Mallon E, Newton JN, Klassen A, Stewart-Brown SL, Ryan TJ, Finlay AY. The quality of life in acne: a comparison with general medical conditions using generic questionnaires. *Br J Dermatol* 1999;140:672-6.
2. Brajac I, Bilić-Zulle L, Tkalcic M, Loncarek K, Gruber F. Acne vulgaris: myths and misconceptions among patients and family physicians. *Patient Educ Couns* 2004;54:21-5.
3. Dréno B, Thiboutot D, Gollnick H, Finlay AY, Layton A, Leyden JJ, Leutenegger E, et al. Large-scale worldwide observational study of adherence with acne therapy. *Int J Dermatol* 2010;49:448-56.
4. Karciauskiene J, Valiukeviciene S, Stang A, Gollnick H. Beliefs, perceptions, and treatment modalities of acne among schoolchildren in Lithuania: a cross-sectional study. *Int J Dermatol* 2015;54:e70-8.
5. Tan JK, Vasey K, Fung KY. Beliefs and perceptions of patients with acne. *J Am Acad Dermatol* 2001;44:439-45.
6. Rasmussen JE, Smith SB. Patient concepts and misconceptions about acne. *Arch Dermatol* 1983;119:570-2.
7. Green J, Sinclair RD. Perceptions of acne vulgaris in final year medical student written examination answers. *Australas J Dermatol* 2001;42:98-101.
8. Pearl A, Arroll B, Lello J, Birchall NM. The impact of acne: a study of adolescents' attitudes, perception and knowledge. *N Z Med J* 1998;111:269-71.
9. Smithard A, Glazebrook C, Williams HC. Acne prevalence, knowledge about acne and psychological morbidity in mid-adolescence: a community-based study. *Br J Dermatol* 2001;145:274-9.

10. Rigopoulos D, Gregoriou S, Ifandi A, Efstathiou G, Georgala S, Chalkias J, et al. Coping with acne: beliefs and perceptions in a sample of secondary school Greek pupils. *J Eur Acad Dermatol Venereol* 2007;21:806-10.
11. Fabbrocini G, Cacciapuoti S, Fardella N, Monfrecola G. Acne e adolescenti. I genitori influenzano i sintomi? *Dermakos* 2008;4:52-4.
12. Kurokawa I, Danby FW, Ju Q, Wang X, Xiang LF, Xia L, et al. New developments in our understanding of acne pathogenesis and treatment. *Exp Dermatol* 2009;18:821-32.
13. Poli F, Auffret N, Beylot C, Chivot M, Faure M, Moyse D, et al. Acne as seen by adolescents: results of questionnaire study in 852 French individuals. *Acta Derm Venereol* 2011;91:531-6.
14. Cheng CE, Irwin B, Mauriello D, Liang L, Pappert A, Kimball AB. Self-reported acne severity, treatment, and belief patterns across multiple racial and ethnic groups in adolescent students. *Pediatr Dermatol* 2010;27:446-52.
15. Amado JM, Matos ME, Abreu AM, Loureiro L, Oliveira J, Verde A, et al. The prevalence of acne in the north of Portugal. *JEADV* 2006;20:1287-95.
16. Shive M, Bhatt M, Cantino A, Kvedar J, Jethwani K. Perspectives on acne: what Twitter can teach health care providers. *JAMA Dermatol* 2013;149:621-2.
17. Uslu G, Sendur N, Uslu M, Savk E, Karaman G, Eskin M. Acne: prevalence, perceptions and effects on psychological health among adolescents in Aydin, Turkey. *JEADV* 2008;22:462-9.

18. Yahya H. Acne vulgaris in Nigerian adolescents – prevalence, severity, beliefs, perceptions, and practices. *Int J Dermatol* 2009;48:498-505.
19. Ghodsi SZ, Orawa H, Zouboulis CC. Prevalence, severity, and severity risk factors of acne in high school pupils: a community-based study. *J Invest Dermatol* 2009;129:2136-41.
20. Kane A, Niang SO, Diagne AC, Ly F, Ndiaye B. Epidemiologic, clinical, and therapeutic features of acne in Dakar, Senegal. *Int J Dermatol* 2007;46:36-8.
21. Corey KC, Cheng CE, Irwin B, Kimball AB. Self-reported help-seeking behaviors and treatment choices of adolescents regarding acne. *Pediatr Dermatol* 2013;30:36-41.
22. Nijsten T, Rombouts S, Lambert J. Acne is prevalent but use of its treatments is infrequent among adolescents from the general population. *JEADV* 2007;21:163-8.
23. Fabbrocini G, Lauro C, Izzo R, Mazzella, Di Bonito M, Piccolo A, et al. Acne Radar: a new intuitive graphic visualization of quality of life in acne patients. *Journal of plastic dermatology* 2013;9:1-8.

Table I. *Questions for 2.327 mothers.*

“What is the cause of acne?” (more than one answer was possible).	No. of mothers	%
Pollution	1.815	78%
Wrong diet	1.536	66%
Hyperseborrhoea	1.536	66%
Hormone abnormalities	1.280	55%
Uncorrect use of cosmetics	1.094	47%
Poor hygiene	1.024	44%
Bacterial infections	535	23%
Viral infections	419	18%
Genetic factors	326	14%
“What is the best method to treat acne?” (only one answer was possible).		
Suggested by a cosmetologist	442	19%
Contraceptive pill	442	19%
Soaks with lemon juice	303	13%
Wait and see	279	12%
Suggested by a pharmacist	256	11%
Soaks with hot salt water	209	9%
Sun exposure	209	9%
Prescribed by a dermatologist	186	8%
“When is it necessary to get a physician’s consultation in order to treat acne?” (only one answer was possible).		
Only when acne is severe	1.001	43%

When previous treatments failed	605	26%
Acne is a physiological condition of adolescence: a dermatological examination is unnecessary	535	23%
Regularly	186	8%

Table II. First question for the 2.327 patients: "How common is acne at your class?" (only one answer was possible).

How common is acne at your class?	No. of patients	%
From 1 to 5 of my classmates	1.466	63%
From 5 to 10 of my classmates	698	30%
More than 10 of my classmates	163	7%

Table III. Questions for the 2327 patients about the impact of acne on their quality of life.

“Did/does acne influence negatively your self-esteem?” (only one answer was possible).	No. of patients	%
Often	768 (147 M–621 F)	33% (19% M-40% F)
Rarely	628 (127 M-501F)	27% (16% M-33% F)
Never	558 (482 M-76 F)	24% (61% M-5% F)
Always	373 (32 M-341 F)	16% (4% M-22% F)
“Acne causes awkwardness expecially with...” (more than one answer was possible).		
The other sex	2.257 (726 M-1531 F)	97% (92% M-99% F)
At school	1.513 (577 M-936 F)	65% (73% M-61% F)
Friends	1.257 (455 M-802 F)	54% (58% M-52% F)
No problem	535 (511 M-24 F)	23% (65% M-2% F)
Relatives	186 (88 M-98 F)	8% (11% M-6% F)
“With whom do you speak about acne?” (only one answer was possible).		
Internet	861 (397 M-464 F)	37% (50% M-30% F)
Friends	745 (255 M-490 F)	32% (32% M-32% F)

		F)
Relatives	419 (58 M-361 F)	18% (7% M-23% F)
Medical doctor	209 (36 M-173 F)	9% (5% M-11% F)
Nobody	93 (42 M-51F)	4% (5% M-3% F)
“Does acne limit your social life?” (only one answer was possible).		
Often	1.047 (271 M-776 F)	45% (34% M-50% F)
Sometimes	605 (202 M-403 F)	26% (26% M-26% F)
Always	372 (71 M-301 F)	16% (9% M-20% F)
Never	303 (244 M-59 F)	13% (31% M-4% F)

M: male; F: female

Table IV. *Questions for the 2327 patients about acne treatment.*

Are you under treatment?	No. of patients	%
Yes	1.513 (290 M-1223 W)	65% (37% M-79% W)
No	814 (498 M-316 W)	35% (63% M-21% W)
“Who suggested you this treatment?” (only one answer was possible).		
Cosmetologist	439 (83 M-356 W)	29% (29% M-29% W)
Pharmacist	333 (118 M-215 W)	22% (41% M-18% W)
Friends	333 (64 M-269 W)	22% (22% M-22% W)
Dermatologist	303 (20 M-283 W)	20% (7% M-23% W)
General practitioner	105 (5 M-100 W)	7% (2% M-8% W)