

Presenting Patient's Stories to Improve Attitudes of High-school Students Towards Persons with Skin Diseases: A Bullying-reduction Strategy

Pavel V. CHERNYSHOV¹, Marta SZEPIETOWSKA², Bartosz LISICKI² and Jacek C. SZEPIETOWSKI²

¹Department of Dermatology and Venereology, National Medical University, Bulvar Shevchenko, 13, 01601 Kiev, Ukraine and ²Department of Dermatology, Venereology and Allergology, Wrocław Medical University, Wrocław, Poland. E-mail: chernyshovpavel@ukr.net

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Many patients with skin diseases experience bullying and teasing because of their condition (1). Reflex attitudes that associate any skin disease with contagion are prevalent, and bullying related to skin disease may be partly a consequence of fear, ignorance and poor knowledge about skin diseases (2–4). Participants in the project “Bullying among dermatologic patients” reported a negative influence on their lives of teasing, name-calling, unsolicited advice, and tactless questions (5). In most cases the perpetrators of teasing and bullying are other adolescents (6). Therefore, we hypothesize that education of peers could act as a prophylaxis against stigmatization and bullying, and, ideally, should begin at an early age. Our pilot study in university students showed that a simple educational activity with peer-to-peer interaction significantly improved the attitude of students to persons with skin disease (7).

The aims of this study were to investigate the attitudes of high-school students to their peers with different types of visual skin lesions, and to improve their attitude by presenting patients' stories.

MATERIALS AND METHODS

Patients with skin diseases who agreed to participate in the project were asked to provide photographs of their visible skin lesions and to write a few words about themselves, their attitude to skin disease, and any changes in this attitude with time. Photographs of volunteers without visible skin disease were made specifically by a professional photographer supervised by the project activist to ensure a diversity of skin types.

The photographs of patients with skin diseases and healthy volunteers were presented one after the other during classes to the high-school students, projected onto a large screen. The students were asked to express their attitude to each person shown in the photographs using a 5-point Likert scale: 1 – positive, 2 – rather positive, 3 – neutral, 4 – rather negative, 5 – negative. In addition, students were asked to answer the following questions: 1. Have you ever suffered from any skin disease? 2. Have you witnessed any cases of bullying due to skin problems? 3. Have you personally been involved in the bullying of people with problem skin? 4. Have you been bullied because of skin problems?

The students then listened to the patients' stories and were asked to express their attitude to the people shown in the photographs for a second time. The answers given were collected and translated into English.

Approved by the Bioethical Committee of Wrocław Medical University, Wrocław, Poland (KB-664/2022). Patients gave written permission for use of their photographs and information. Volunteers without skin disease gave written permission for use of their photographs. Students agreed that the data they provided could

be used in the study. For high-school students under the age of 18 years agreement to participate in the study was obtained from at least 1 of their parents.

Statistical analysis

Data were presented as mean ± standard deviation (SD) of the mean. Wilcoxon matched pairs test (2-tailed) was used to compare variables before and after the educational intervention. Unpaired *t*-test with Welch's correction was used for subgroup analysis. The results were considered significant if $p < 0.05$.

RESULTS

A total of 389 high-school students were invited to take part in the study. Of these, 388 subjects (97.2%) completed the 2 assessments of attitude to the people shown in the photographs. This exceeded the estimated minimum representative sample size. The mean age of respondents was 15.97 ± 1.93 years (range 14–18 years) and 45.80% were males.

This study showed that a single presentation to high-school students of the stories of patients with skin disease significantly improved the students' attitude to people with skin disease, in the context of patient photographs (Table I). This improvement was reported in all subgroups (Tables I and SI). The improvement was more prominent in the subgroups with the worst attitude at the initial assessment. Female students and students who self-reported any skin disease at present or in the past had a better attitude to patients at the first assessment, in the context of patient photographs. After the presentation of patients' stories, the attitude to photographs of persons with skin disease did not differ between those students who did or did not self-report skin disease, but the attitude of females was still better than that of males.

Almost one-third of respondents had witnessed incidents of bullying due to skin problems. This subgroup of students showed a tendency to express a better attitude towards patients. However, it is unclear if they were more empathetic, either because they had witnessed bullying in the past or whether they were better able to recognize when their peers with skin disease were being bullied because they were more empathetic than others. In contrast, victims of skin disease-related bullying did not have a greater improvement in their attitude towards the photographs of patients than non-victims of bullying and, after the presentation of the patients' stories, showed

Table I. Attitude of high school students to photographs of persons with skin disease before and after presentation of patients' stories

Photo-graph No.	Characteristics of person in photograph	Mean attitude																	
		In all respondents		In students with skin disease		In students without skin disease		In witnesses of bullying		In non-witnesses of bullying		In victims of bullying		In non-victims of bullying		In males		In females	
		Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
1	Male (control)	2.39 ± 0.98	2.23 ± 1.02***	2.37 ± 0.98	2.22 ± 0.99*	2.39 ± 0.98	2.21 ± 1.03***	2.34 ± 1.01	2.18 ± 1.07*	2.40 ± 0.97	2.23 ± 0.97***	2.33 ± 1.03	2.30 ± 0.99	2.20 ± 1.00***	2.38 ± 0.98	2.30 ± 0.99	2.18 ± 1.02	2.49 ± 0.95	2.24 ± 0.99***
2	Female (severe acne)	2.92 ± 0.99	2.49 ± 1.00***	2.75 ± 1.00	2.39 ± 0.96***	3.05 ± 0.96	2.57 ± 1.04***	2.76 ± 1.09	2.17 ± 1.05***	2.98 ± 0.94	2.61 ± 0.94***	2.23 ± 1.10	2.94 ± 0.98	2.50 ± 0.98***	2.94 ± 0.98	3.92 ± 0.91	2.88 ± 0.94***	2.63 ± 0.93	2.17 ± 0.92***
3	Female (control, overweight)	2.33 ± 1.05	2.18 ± 1.04***	2.15 ± 1.02	2.08 ± 1.03	2.44 ± 1.04	2.24 ± 1.05***	2.07 ± 1.09	2.01 ± 1.05	2.41 ± 1.08	2.22 ± 1.01***	2.13 ± 1.04	2.33 ± 1.06	2.17 ± 1.02***	2.33 ± 1.05	2.73 ± 1.06	2.54 ± 1.03***	1.98 ± 0.88	1.86 ± 0.90**
4	Female (vitiligo, African origin)	2.21 ± 1.07	1.98 ± 1.00***	2.06 ± 1.01	1.86 ± 0.97**	2.32 ± 1.10	2.06 ± 1.02***	1.98 ± 1.07	1.69 ± 0.93***	2.30 ± 1.06	2.07 ± 1.00***	2.10 ± 1.16	2.21 ± 1.07	1.97 ± 0.97***	2.21 ± 0.99	2.73 ± 0.99	2.43 ± 0.99***	1.80 ± 0.93	1.59 ± 0.82***
5	Female (control)	2.07 ± 0.95	2.07 ± 0.96	2.11 ± 0.97	2.06 ± 1.01	2.05 ± 0.92	2.05 ± 0.93	2.05 ± 1.00	1.97 ± 0.97	2.05 ± 0.52	2.10 ± 0.95	2.43 ± 0.97	2.02 ± 0.93	2.05 ± 0.97	2.02 ± 0.92	2.11 ± 0.92	2.11 ± 0.95	2.02 ± 0.98	2.03 ± 1.00
6	Female (epidermolysis bullosa, open clothes)	2.40 ± 1.05	2.20 ± 1.01***	2.26 ± 1.01	2.17 ± 1.01	2.50 ± 1.06	2.23 ± 1.04***	2.25 ± 1.04	1.91 ± 1.00***	2.45 ± 1.06	2.31 ± 0.99***	2.40 ± 1.07	2.10 ± 1.05	2.38 ± 1.05	2.19 ± 1.01***	2.81 ± 0.95	2.61 ± 0.95***	2.04 ± 0.95	1.85 ± 1.01***
7	Female (control, unusual nose proportions, open clothes)	2.23 ± 1.01	2.17 ± 1.02	2.24 ± 1.04	2.17 ± 1.04	2.22 ± 1.03	2.17 ± 1.02	2.17 ± 1.06	2.03 ± 1.10*	2.24 ± 1.01	2.22 ± 0.98	2.33 ± 0.99	2.23 ± 1.04	2.16 ± 1.02	2.21 ± 0.98	2.38 ± 0.98	2.36 ± 0.99	2.12 ± 1.02	2.03 ± 1.00
8	Female (vitiligo, open clothes)	2.33 ± 1.06	2.13 ± 0.99***	2.29 ± 1.09	2.11 ± 1.02**	2.36 ± 1.04	2.13 ± 0.98***	2.09 ± 1.06	1.93 ± 1.03*	2.42 ± 1.03	2.20 ± 0.97***	2.17 ± 1.09	2.32 ± 1.06	2.11 ± 0.99***	2.32 ± 1.06	2.67 ± 1.01	2.43 ± 0.90***	2.06 ± 1.02	1.87 ± 0.97***
9	Female (control)	1.97 ± 0.98	1.96 ± 0.97	1.99 ± 1.03	1.96 ± 0.97	1.96 ± 0.95	1.97 ± 0.98	1.84 ± 1.03	1.86 ± 1.01	1.98 ± 0.94	1.98 ± 0.95	2.13 ± 1.01	1.93 ± 0.96	1.92 ± 0.96	1.93 ± 0.96	2.04 ± 0.96	2.03 ± 0.98	1.92 ± 0.99	1.89 ± 0.99
10	Female (alopecia universalis)	2.02 ± 1.10	1.92 ± 1.10**	1.85 ± 0.99	1.84 ± 1.00	2.14 ± 1.15	2.00 ± 1.16**	1.77 ± 1.01	1.64 ± 1.06	2.11 ± 1.13	2.01 ± 1.09*	1.97 ± 1.10	2.01 ± 1.10	1.90 ± 1.09**	2.01 ± 1.10	2.41 ± 1.14	2.27 ± 1.11**	1.69 ± 0.94	1.63 ± 0.98
11	Female (control)	1.97 ± 0.95	1.90 ± 0.95	1.94 ± 0.94	1.90 ± 0.95	1.98 ± 0.97	1.89 ± 0.94	1.92 ± 1.00	1.83 ± 0.99	1.93 ± 0.93	1.91 ± 0.91	1.97 ± 0.96	1.95 ± 0.95	1.87 ± 0.93*	1.95 ± 0.95	2.04 ± 0.95	1.98 ± 0.99	1.63 ± 0.98	1.82 ± 0.89**
12	Male (control, mild acne)	2.28 ± 1.03	2.13 ± 0.99***	2.24 ± 1.07	2.13 ± 1.02*	2.29 ± 1.01	2.11 ± 0.97**	2.23 ± 1.11	2.07 ± 1.05*	2.31 ± 0.98	2.16 ± 0.97**	2.33 ± 0.96	2.23 ± 1.03	2.11 ± 0.99***	2.22 ± 1.03	2.67 ± 1.04	2.09 ± 0.95	2.35 ± 1.04	2.17 ± 1.02***

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

The students were asked to express their attitude to each person shown in the photographs using a 5-point Likert scale: 1 – positive, 2 – rather positive, 3 – neutral, 4 – rather negative, 5 – negative.

less improvement in their attitude than the non-victims. Amongst the 6 high-school students who had been personally involved in bullying of people with skin problems, 2 had also been victims of such bullying. These results raise the question as to how best to support victims of skin disease-related bullying, such as developing special psychological programmes. It is also important to collect more results from students involved in bullying of people with skin problems because the number of subjects reported in this study was insufficient to reach significance.

DISCUSSION

Students who bully others are likely to influence their friends to start bullying (8). It is hoped that the educational method used in this study might contribute to reducing the likelihood of this happening. Being bullied has been reported by people with various skin diseases, including alopecia areata, atopic dermatitis, psoriasis, epidermolysis bullosa, vitiligo, and acne (6, 9–13). Bullying may be a source of psychosocial problems and quimp (quality of life impairment) in patients with skin diseases. The most widely used dermatology-specific quality of life instrument for children, the Children's Dermatology Life Quality Index, contains an item on bullying, and some other quality of life instruments also contain items on bullying and stigmatization (14). Therefore, such instruments may help to identify patients with skin diseases who experience bullying and may especially need psychological help and educational activities targeting their families and peers. To achieve maximal effect, educational activities should be multidirectional and target not only students, but also teachers, parents of classmates of children with skin diseases, patients' parents, and patients themselves. More general educational activities could be organized on a national level in the press, social media and using other communication methods.

This study has some limitations. The educational method used is not considered to be a panacea to eradicate bullying among students. It is important to study how long a positive effect might last. This was a single-centre study and the results may not be generalizable to other areas. The negative impact of skin diseases may be similar, but not identical, in neighbouring countries (15). Therefore, it is unclear if educational activities will be equally effective in different countries.

In conclusion, this study found that a simple educational activity involving elements of a

peer-to-peer method significantly improved the attitude of high-school students to photographs of people with skin diseases.

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