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Psoriasis-related stigma and its intersection with intergroup bias in medical students

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1 **Article type:** Research Letter

2 **Title:** Psoriasis-related stigma and its intersection with intergroup bias in medical students

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35 **Attachments:** Study vignettes and questionnaire

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37 **Keywords:** psoriasis-related stigma; intergroup bias; stigma intersection; patient care; medical students;
38 medical education.

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47 **Body of manuscript:** Disease, especially when resulting in visible markers shares a common
48 attribute with socially devalued conditions or statuses, an association with stigma and discrimination
49 [1]. Stigma denotes the marking of someone as less worthy due to a specific health condition or
50 other perceived difference such as race, gender, social status, or group membership [2]. It manifests
51 in negative emotions, attitudes, and behaviors toward holders of stigmatized statuses (enacted
52 stigma), but it can also be internalized by those affected by adopting negative attitudes (self-stigma)
53 or expectations of bias on part of others if the stigmatized condition becomes known (anticipated
54 stigma) [1]. Stigma is a major barrier to provision-of-care and health-seeking behaviors across a
55 range of health and social conditions globally [1,2,3]. When someone is marked with multiple
56 stigmatized conditions (stigma intersectionality), an overlapping of biases and adverse outcomes
57 occurs [3].

58 Psoriasis-related stigma has been well documented among lay persons, but only 1 study examined
59 it in medical students, indicating fewer stigmatizing attitudes [4]. Although processes related to
60 intergroup biases that may produce significant health care disparities have been widely examined
61 [2], to our knowledge, no research to date has addressed whether being affected by psoriasis and
62 belonging to an ethnically different, socially disadvantaged group (ie, an immigrant minority) might
63 lead to a doubling of the stigma effect. Thus, we conducted a study to investigate the intersection of
64 psoriasis stigma with intergroup bias in medical students.

65 Preclinical medical students (N = 290; mean age, 20.17 ± 2.3) of Italian nationality attending
66 the Medical School of the University of Bologna participated in the study. In a crossover design,
67 participants read 2 clinical vignettes (adopted from Epocrates online materials) and filled out a
68 paper-and-pencil questionnaire. Vignettes were matched in word length and described a patient with
69 psoriasis and a patient affected by a less visible condition (ie, gastrointestinal disease [GID]). For
70 each condition, the patient was presented as an Italian (ingroup) or a Middle Eastern immigrant
71 (outgroup).

72 Participants indicated from a list the emotion that best described their experience of taking care of
73 the patient described in the vignette. Then, they reported their willingness to take care of the patient
74 (caretaking disposition) or avoid this responsibility (caretaking avoidance), as well as their
75 attribution of disease origin. Finally, participants reported whether they believed the patient would
76 likely hide the illness from others for fear it could illicit negative judgments and attitudes
77 (anticipated stigma endorsement). All items used in the study were adopted from Pescosolido and
78 Martin [5].

79 Compassion and curiosity were the most reported emotions across conditions. However, the
80 percentage of reported disgust and pity, emotions typically associated with stigma, was twice as
81 high for the patient with psoriasis versus the patient with GID (Fig 1.a) and for the outgroup versus
82 ingroup patient with psoriasis (Fig 1.b,c). Less caring disposition, more caretaking avoidance, and
83 endorsement of anticipated stigma were found for the patient with psoriasis compared to the patient
84 with GID (Table 1.a). Stigma intersectionality was confirmed only for the psoriasis condition:
85 significant differences were reported between the ingroup versus outgroup patient for caretaking
86 avoidance and anticipated stigma endorsement, and a trend to significance was found for attributions
87 of disease origin to personal responsibility (Tables 1.b,c). Unlike previous evidence [4], our findings
88 indicate the presence of psoriasis-related stigma among preclinical medical students. In a novel way,
89 we further tested its intersection with intergroup bias and found that having psoriasis and belonging
90 to a socially devalued group resulted in an enhanced stigma effect.

91 These findings can be of import to both graduate and continuous medical education, the goal of
92 which is to unveil the nature of bias so that health care professionals may perform to the highest
93 standards of (e)quality of care. By incorporating these issues into clinical vignettes, educators can
94 address and reduce psoriasis-related biases, thus helping improve clinical reasoning among
95 emerging and established clinicians.

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98 **References**

- 99 1. van Brakel, W. H., Cataldo, J., Grover, S., Kohrt, B.A., Nyblade, L., Stockton, M., Wouters, E.
100 and Yang,
101 L.H. Out of the silos: identifying cross-cutting features of health-related stigma to advance
102 measurement and intervention. *BMC Medicine* (2019) 17:13.
- 103 2. Stang, A.L., Earnshaw, V.A., Logie, C.H., van Brakel, W., Simbayi, L.C., Barré1, I. and Dovidio,
104 J.F. The Health Stigma and Discrimination Framework: a global, crosscutting framework to inform
105 research, intervention development, and policy on health-related stigmas. *BMC Medicine* (2019)
106 17:31.
- 107 3. Jackson-Best and Edwards. Stigma and intersectionality: a systematic review of systematic
108 reviews across HIV/ AIDS, mental illness, and physical disability. *BMC Public Health* (2018)
109 18:919.
- 110 4. Pearl, R.L, Wan, M.T, Takeshita, J. and Gelfand, J M. Stigmatizing attitudes toward persons with
111 psoriasis among laypersons and medical students. *J Am Acad Dermatol* 2019; 80:1556-63.)
- 112 5. Pescosolido, B.A. and Martin, J.K. The Stigma Complex. *Annu. Rev. Sociol.* 2015. 41:87–116
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124 **Figure 1.A legend** [Reported emotions (in %) elicited by the vignette describing a psoriatic vs. GID
125 patient. Chi-squared test significance levels, $p < 0.001$. Note: GID = Gastrointestinal Disease.]

126 **Figure 1.B legend** [Reported emotions (in %) elicited by the vignette describing an ingroup vs.
127 outgroup psoriatic patient. Chi-squared test significance levels, $p = 0.016$]

128 **Figure 1.C legend** [Reported emotions (in %) elicited by the vignette describing an ingroup vs.
129 outgroup GID patient. Chi-squared test significance levels, $p = 0.301$]

130

131 Figure 1.A “Emotions elicited by taking care of a Psoriatic vs. GID patient.”

132 Figure 1.B “Emotions elicited by taking care of an Ingroup vs. Outgroup psoriatic patient.”

133 Figure 1.C “Emotions elicited by taking care of an Ingroup vs. Outgroup GID patient.”

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135 **Table 1.a legend** [Mean (SD) scores obtained by medical students on stigma-related variables per
136 psoriasis and GID affected patient. Note: GID = Gastrointestinal Disease.]

137 **Table 1.b legend** [Mean (SD) scores obtained by medical students on stigma-related variables per
138 ingroup and outgroup psoriatic patient.]

139 **Table 1.c legend** [Mean (SD) scores obtained by medical students on stigma-related variables per
140 ingroup and outgroup GID patient.]

Table 1.a "Psoriatic vs. GID patient"

	Psoriatic Patient	GID Patient	t ₍₂₈₉₎	p
Caretaking Disposition	2,8 (0,8)	3,1 (0,8)	-4,463	< 0,0001
Caretaking Avoidance	4,0 (1,5)	3,3 (1,5)	7,288	< 0,0001
Disease Origin Attribution				
Genetic factors	3,2 (0,9)	2,9 (0,7)	4,901	< 0,0001
Personal Responsibility	2,3 (0,8)	2,8 (0,8)	-6,942	< 0,0001
Chance	2,1 (1,0)	2,0 (0,9)	1,409	0,160
Anticipated Stigma Endorsement	11,6 (2,2)	10,2 (2,6)	7,696	< 0,0001

Table 1.b "Ingroup vs. Outgroup psoriatic patient"

	Psoriatic Ingroup Patient	Psoriatic Outgroup Patient	t ₍₂₈₈₎	p
Caretaking Disposition	2,9 (0,9)	2,8 (0,9)	0,721	0,471
Caretaking Avoidance	3,7 (1,5)	4,2 (1,5)	-2,046	0,042
Disease Origin Attribution				
Genetic factors	3,3 (0,8)	3,1 (0,9)	1,726	0,085
Personal Responsibility	2,2 (0,8)	2,5 (0,9)	-1,907	0,057
Chance	2,3 (1,1)	2,0 (0,9)	1,830	0,068
Anticipated Stigma Endorsement	12,3 (2,1)	11 (2,1)	4,954	< 0,0001

Table 1.c "Ingroup vs. Outgroup GID patient"

	GID Ingroup Patient	GID Outgroup Patient	t ₍₂₈₈₎	p
Caretaking Disposition	3,1 (0,8)	3,0 (0,8)	-0,627	0,531
Caretaking Avoidance	3,3 (1,3)	3,2 (1,1)	-1,017	0,311
Disease Origin Attribution				
Genetic factors	2,9 (0,7)	2,9 (0,8)	0,818	0,414
Personal Responsibility	2,8 (0,8)	2,7 (0,8)	-1,063	0,289
Chance	2,0 (0,9)	2,1 (1,0)	0,712	0,477
Anticipated Stigma Endorsement	10,3 (2,5)	10,2 (2,7)	-0,402	0,688

