University Medical Center Hamburg-Eppendorf
Institute for Health Services Research in Dermatology and Nursing

Inequalities in the impact of dermatological diseases across the globe: Impact results from the GRIDD study

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N. da Silva Burger[1], R. Pattinson[2], N. Trialonis-Suthakharan[1], J. Austin[3], A. Fitzgerald[*3], C. Bundy[2], M. Augustin[1]

INTRODUCTION

Previous patient-reported outcome measures did not fully capture the impact of living with dermatological conditions.

GRIDD — Global Research on the Impact of Dermatological Diseases

Using a ground-breaking patient-led methodology, the GRIDD project developed a new and unique measure of the impact of dermatological diseases on patients' lives.

This is the first real-world study applying the newly developed **PATIENT-REPORTED IMPACT OF DERMATOLOGICAL DISEASES** (PRIDD) questionnaire to collect global data on patients' perspectives of disease burden in multiple skin diseases.

OBJECTIVES

- to describe the worldwide impact of dermatological conditions
- to compare the burden of dermatological diseases across different socio-demographic groups

MATERIALS & METHODS

Study design: global online cross-sectional survey, available in 17 different languages (Arabic, Bengali, Danish, German, English, Spanish, French, Hindi, Italian, Japanese, Dutch, Portuguese, Russian, Serbian, Swahili, Vietnamese and Chinese), conducted between June 2023 and January 2024

Patients: adults (≥18 years) with a self-reported dermatological condition, recruited through the International Alliance of Dermatology Patient Organizations' membership network and via social media

Measures:
- Socio-demographic questionnaire
- PRIDD **P**ATIENT-**R**EPORTED **I**MPACT OF **D**ERMATOLOGICAL **D**ISEASES

PRIDD was developed in accordance with the COnsensus-based Standards for the selection of health Measurement INstruments (COSMIN), and is fully validated for use with adult patients with **any dermatological condition**.

PRIDD comprises 16 items, each rated on a scale ranging from "never" to "always".

It is a multidimensional measure that provides a total impact score, as well as scores for four impact dimensions:

PHYSICAL — PSYCHOLOGICAL
LIFE RESPONSIBILITIES — SOCIAL
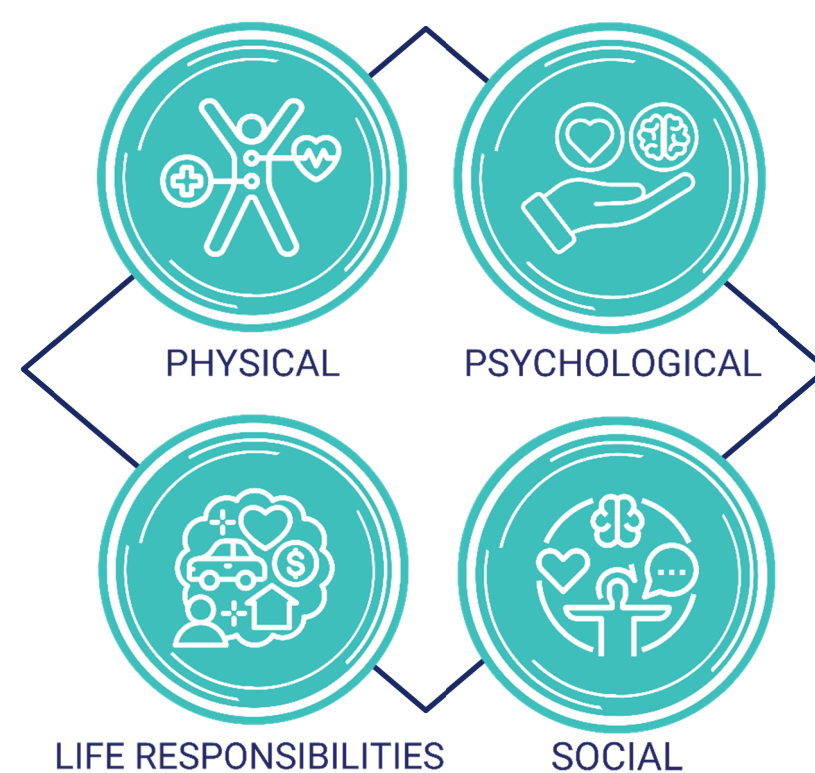
DISCUSSION

Further developments of the GRIDD project include comprehensive impact analyses and testing of relationships between PRIDD and other relevant variables, as well as psychometric analyses of PRIDD language translations.

This initial set of descriptive analyses is essential to characterize the study participants in detail and to raise awareness for geographical and socio-cultural differences on the impact of dermatological conditions.

RESULTS

After excluding 327 participants who did not meet the inclusion criteria or had missing data in core variables, the sample was composed of **3811 patients,** 76.6% female, mean age = 48.49 ± 15.74 years (range 18-98), living in 90 different countries and representing 114 different primary dermatological conditions (12.6% lichen sclerosus, 12.4% psoriasis, 8.2% hidradenitis suppurativa, 7.5% atopic dermatitis, 6.9% vitiligo, 4.2% eczema, 48.2% other diagnoses).
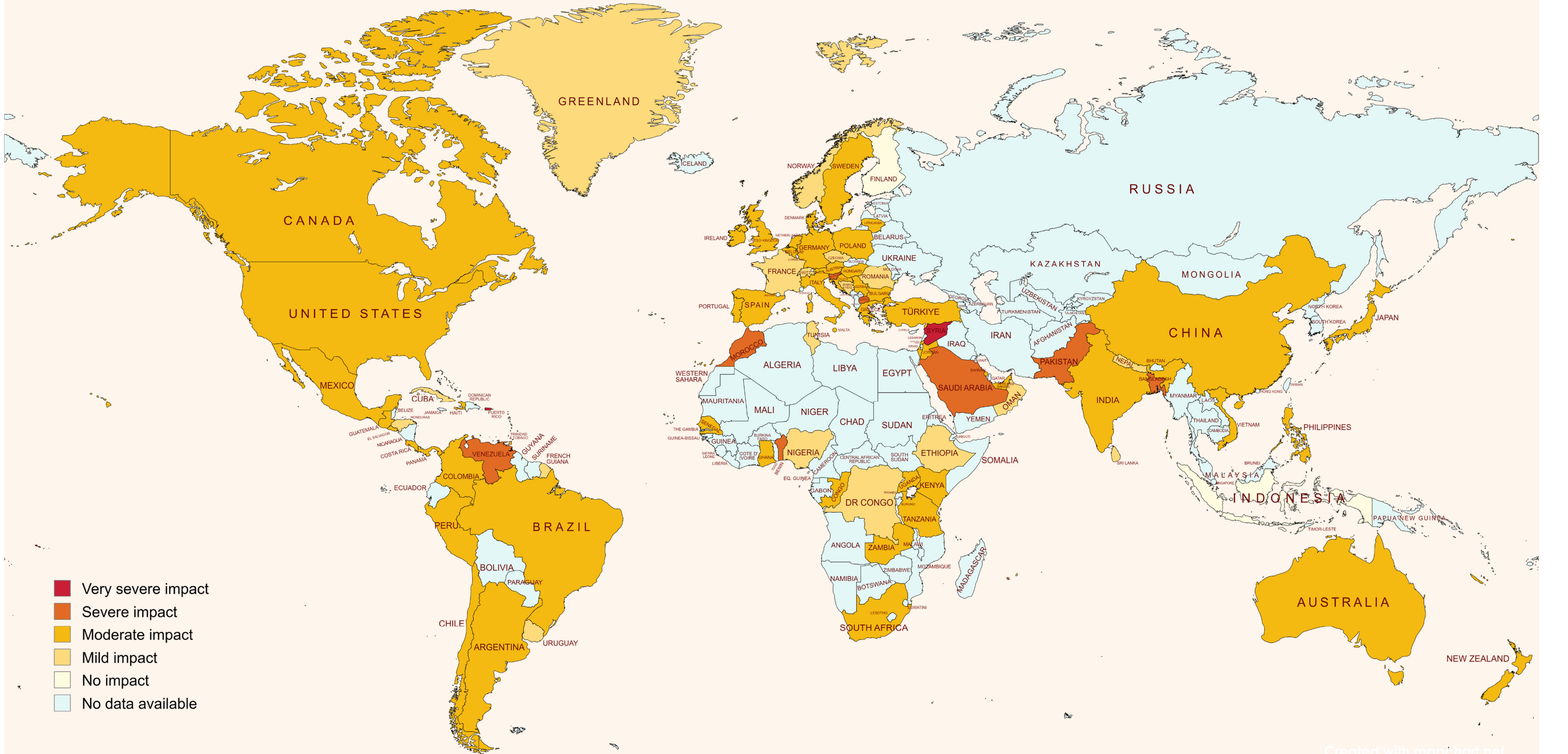

Figure 1 | The impact of living with a dermatological condition, as assessed with the PRIDD total score, across the 90 participating countries.

Group comparison analyses (Table 1) showed that higher overall impact of dermatological diseases was reported by:

- women
- participants younger than 65 years
- inhabitants of the Eastern Mediterranean and African regions
- residents in low income countries
- participants with Oceania, Black, Latino or mixed ethnic origins
- participants with darker skin types V and VI or with very sensitive skin type I

Similar results were observed for the four PRIDD dimensions of physical, life responsibilities, psychological and social impact (results not presented).

Table 1 | Comparison of PRIDD total scores across socio-demographic groups.

	n	M	SD	F	p	Post-hoc comparisons with Bonferroni correction
Biologic sex						
Female	2918	28.91	7.89	19.25	<0.001	-
Male	886	27.52	9.30			
Age groups						
Emerging adults (18-30 years)	576	29.33	8.05	39.15	<0.001	Emerging adults > Elderly
Adults (31-64 years)	2549	29.09	8.13			Adults > Elderly
Elderly (65+ years)	686	26.09	8.45			
WHO region of living						
Eastern Mediterranean Region (EMR)	19	33.56	8.32	20.66	<0.001	EMR > EUR, SEAR
African Region (AFR)	373	31.25	9.17			AFR > AMR, WPR, EUR, SEAR
Region of the Americas (AMR)	1202	29.13	8.19			AMR > EUR, SEAR
Western Pacific Region (WPR)	390	29.03	7.78			WPR > SEAR
European Region (EUR)	1747	27.72	7.95			EUR > SEAR
South-East Asian Region (SEAR)	80	23.58	8.72			
Country of living by income [a]						
High income	2897	28.24	8.13	9.42	<0.001	Low > High income
Upper middle income	345	29.35	7.68			
Lower middle income	351	29.27	8.80			
Low income	213	30.96	9.33			
Ethnic origin, group or background						
Oceania (OC)	15	35.13	10.78	10.94	<0.001	OC > EU, EA, SA
Black (BL)	412	31.09	9.09			BL > EU, EA, SA
Other/ Mixed ethnicity (MIX)	54	30.54	8.45			MIX > SA
Latino (LAT)	283	30.19	8.45			LAT > EU, EA, SA
South-East Asian (SEA)	121	29.57	6.44			SEA > SA
Middle Eastern (ME)	38	28.27	10.56			
White/ European descent (EU)	2527	28.10	7.88			
East Asian (EA)	198	27.62	8.50			
South Asian (SA)	110	25.98	9.21			
Fitzpatrick skin type						
I: skin always burns, never tans, and is sensitive to UV exposure	212	29.88	8.22	7.71	<0.001	I > III, IV
II: skin burns easily and tans minimally	736	28.65	8.27			V > III, IV
III: skin burns moderately and tans gradually to light brown	1644	28.07	8.06			VI > II, III, IV
IV: skin burns minimally and always tans well to moderately brown	714	28.00	8.00			
V: skin rarely burns and tans profusely to dark	354	29.92	9.13			
VI: skin never burns, is deeply pigmented, and is least sensitive to UV exposure	44	33.18	7.36			

n – number of participants; M – Mean; SD – Standard-deviation; F – analysis of variance (ANOVA).
[a] cf. New World Bank country classifications by income level: 2022-2023

This is the first study using the PRIDD questionnaire to collect global patient-reported data. The identification of socio-demographic groups at greater risk of suffering high disease burden paves the way for detecting specific patient needs, developing health policies, and determining resource allocation and research priorities on a global scale.

[1]Institute for Health Services Research in Dermatology and Nursing (IVDP), University Medical Center Hamburg-Eppendorf (UKE), Hamburg, Germany
[2]School of Healthcare Sciences, Cardiff University, Cardiff , United Kingdom
[3]International Alliance of Dermatology Patient Organizations, Ottawa, Canada

* Presenting Author (contact: Allison.fitzgerald@globalskin.org)

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