SKIN COLOR & QUALITY OF LIFE IN VITILIGO: A SYSTEMATIC REVIEW

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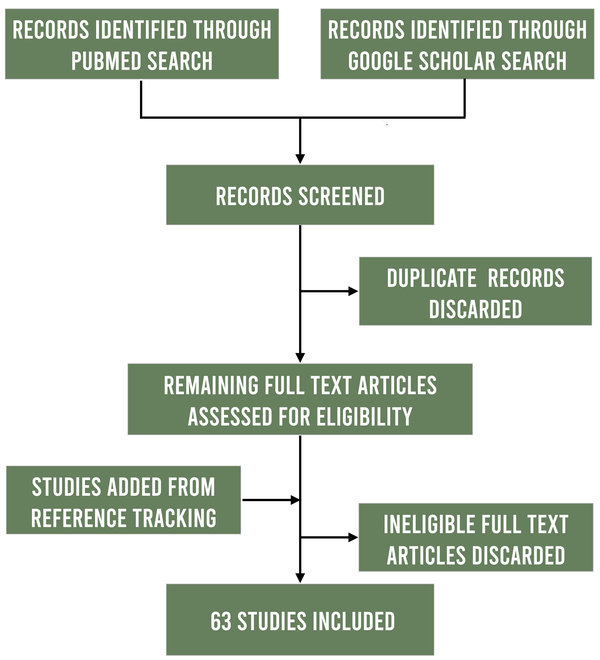
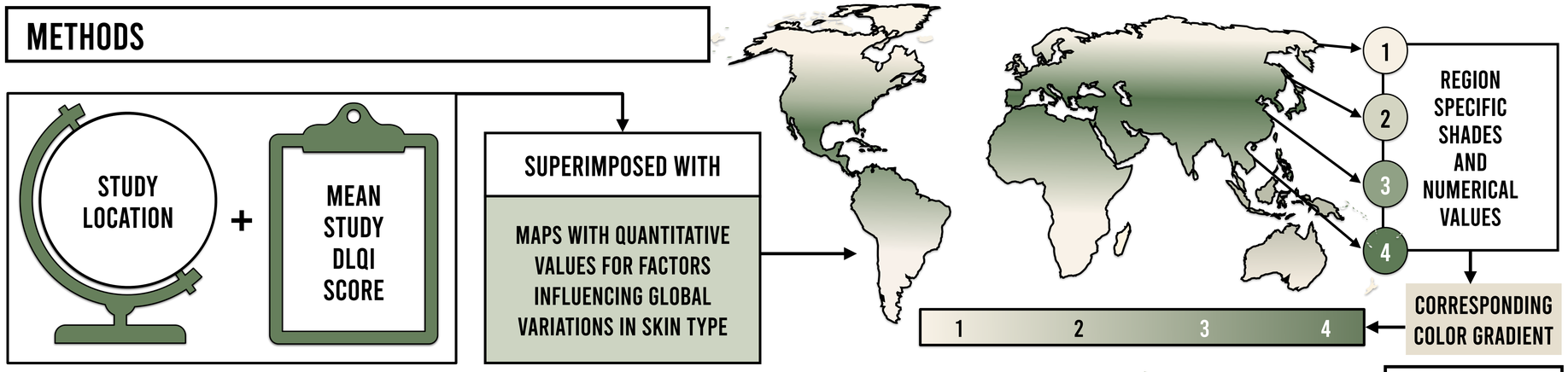
BACKGROUND

Vitiligo equally impacts individuals belonging to all racial groups worldwide. However, patients with darker skin tones have more noticeable patches, potentially leading to increased psychosocial comorbidity. Although the association is a commonly stated and well understood within the literature, there is no clear consensus on the extent of the impact of skin type on quality of life in patients with vitiligo. Additionally, lack in published quantitive evidence points to an overall gap in the medical literature. This study aims to provide evidence of a correlation between variations in skin type and worldwide reported dermatology life index (DLQI) scores in patients with vitiligo. Proper recognition and awareness of this association may facilitate greater multidisciplinary collaboration in identifying vulnerable individuals that may benefit from more comprehensive and individualized treatment options.

SYSTEMATIC REVIEW PROCESS



METHODS



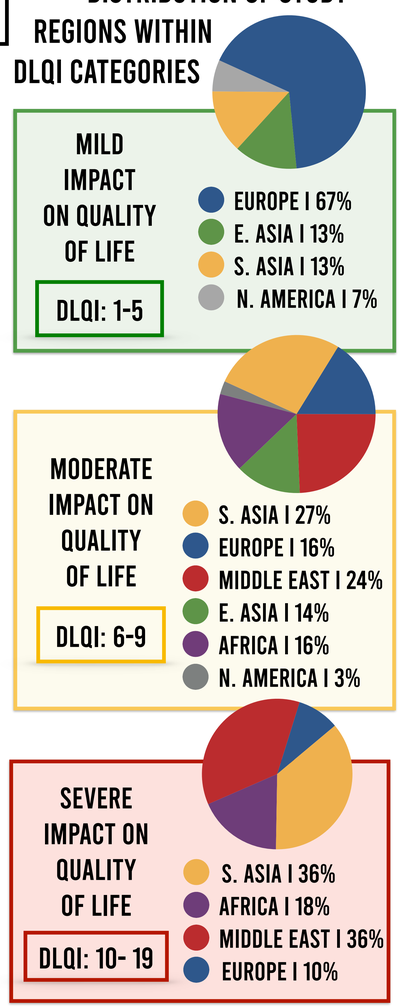
RESULTS

INTEGRATION OF FACTORS RELATED TO SKIN COLOR VARIATION WITH GEOGRAPHIC DATA & MEAN DLQI SCORES

MEASURED FACTORS ASSOCIATED WITH GLOBAL VARIATIONS IN SKIN TYPE*	RANGE	COLOR GRADIENTS FROM MAPS DEPICTING FACTORS INFLUENCING GLOBAL SKIN COLOR VARIATION	MEAN COLOR GRADIENT VALUE OF STUDIES WITH			STATISTICAL CORRELATION & SIGNIFICANCE**	
			MILD DLQI SCORES	MODERATE DLQI SCORES	SEVERE DLQI SCORES	SPEARMAN'S RHO VALUE	P-VALUE (2 TAILED)
MEAN ANNUAL UVA	1 - 10		5.5	7.2	8.8	0.51	4E-05
MEAN DAILY UVR	<2500 - >5500		2805.1	3839.3	4585.1	0.47	0.0001
SKIN PIGMENTATION IN NATIVE POPULATIONS	1 - 30		12.0	16.9	20.3	0.45	0.0003
UVR	1 - 30		11.4	16.1	17.6	0.45	0.0003
MULTIPLE FACTORS***	1 - 13		5.4	7.4	9.4	0.42	0.0007
MEAN ERYTHEMAL DOSE RATE	1 - 380		145.7	192.7	220.9	0.39	0.0016
MEAN ANNUAL UVMED	1 - 18		7.7	10.2	12.5	0.35	0.0049
MEAN ANNUAL UVB	1 - 9		4.5	6.3	8.0	0.37	0.0027
SKIN MELANIZATION IN INDIGENOUS POPULATIONS	1 - 9		4.2	5.0	6.2	0.34	0.0062

Abbreviations: UVA, Ultraviolet-A; UVB, Ultraviolet-B; UVR, Ultraviolet Radiation; UVMED, Ultraviolet Minimal Erythemal Dose
*Caution is advised while attributing any single factor such as UVR or UVMED as a direct cause of global skin color variation. Regional distributions of skin types can vary greatly and may be influenced by a multitude of environmental, genetic, and cultural factors.
**Cook's distance (Di) test was utilized to identify and remove 1-4 potential outliers (specifically those with a Di value greater than 4/n)
***Environmental factors including ultraviolet radiation exposure, climatological information, skin reflectance

DISTRIBUTION OF STUDY REGIONS WITHIN DLQI CATEGORIES



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7. Variation in human skin color. Figure 26.13. Adapted from Barsh GS. PLoS Biol. 1: 019, 2003 Public library Science [Figure], by Barton, NH, Briggs, DEG., Eisen, JA, Goldstein, DB. and Patel, NH. 2007. Evolution. 1st edition. New York: Cold Spring Harbor Laboratory Press.

CONCLUSIONS

- A statistically significant positive correlation was found between reported worldwide DLQI scores in vitiligo patients and various factors influencing global differences in skin types. However, conclusions should be drawn with caution as further research is needed encompassing comprehensive worldwide data including vitiligo QoL scores and values of multifactorial skin type influencers. Additional potential limitations include inability to control for disease severity and population migration, uneven distribution of studies within reported categories of DLQI, and risk of potential bias as a result of unaccounted confounding variables.
- Greater awareness, use of screening tools, and multidisciplinary collaboration during the management of patients with vitiligo and skin of color may be beneficial in holistically addressing the negative psychosocial implications of an overall reduced QoL.