

# Mapping vitiligo : Prevalence on a worldwide scale : Results of the ALL project

Julien Seneschal<sup>1</sup>, Charbel Skayem<sup>2</sup>, Marketa Saint Aroman<sup>3</sup>, Catherine Baissac<sup>3</sup>, Yaron BenHayoun<sup>4</sup>, Bruno Halioua<sup>5</sup>, Charles Taieb<sup>6</sup>, Khaled Ezzedine<sup>7</sup>

<sup>1</sup>Hôpital Saint-André, CHU de Bordeaux, Department of Dermatology, Bordeaux, France, <sup>2</sup>APHP - Hôpital Ambroise Paré, Department of Dermatology, Boulogne-Billancourt, France, <sup>3</sup>Pierre Fabre, Patient Centricity, Toulouse, France, <sup>4</sup>European Market Maintenance Assessment, Data Scientist, Tel Aviv, Israel, <sup>5</sup>Dermatologist, Paris, France, <sup>6</sup>European Market Maintenance Assessment, Patients Priority, Paris, France, <sup>7</sup>APHP - Hôpital Henri Mondor, Department of Dermatology, Créteil, France



## RATIONAL & OBJECTIVES

Vitiligo, a chronic inflammatory skin disease characterized by the loss of pigmentation, impacts millions of individuals globally.

This study aims to investigate regional differences in vitiligo prevalence, examining disparities between continents and the effects of environmental factors and living conditions on the course of the disease.

## METHODOLOGY

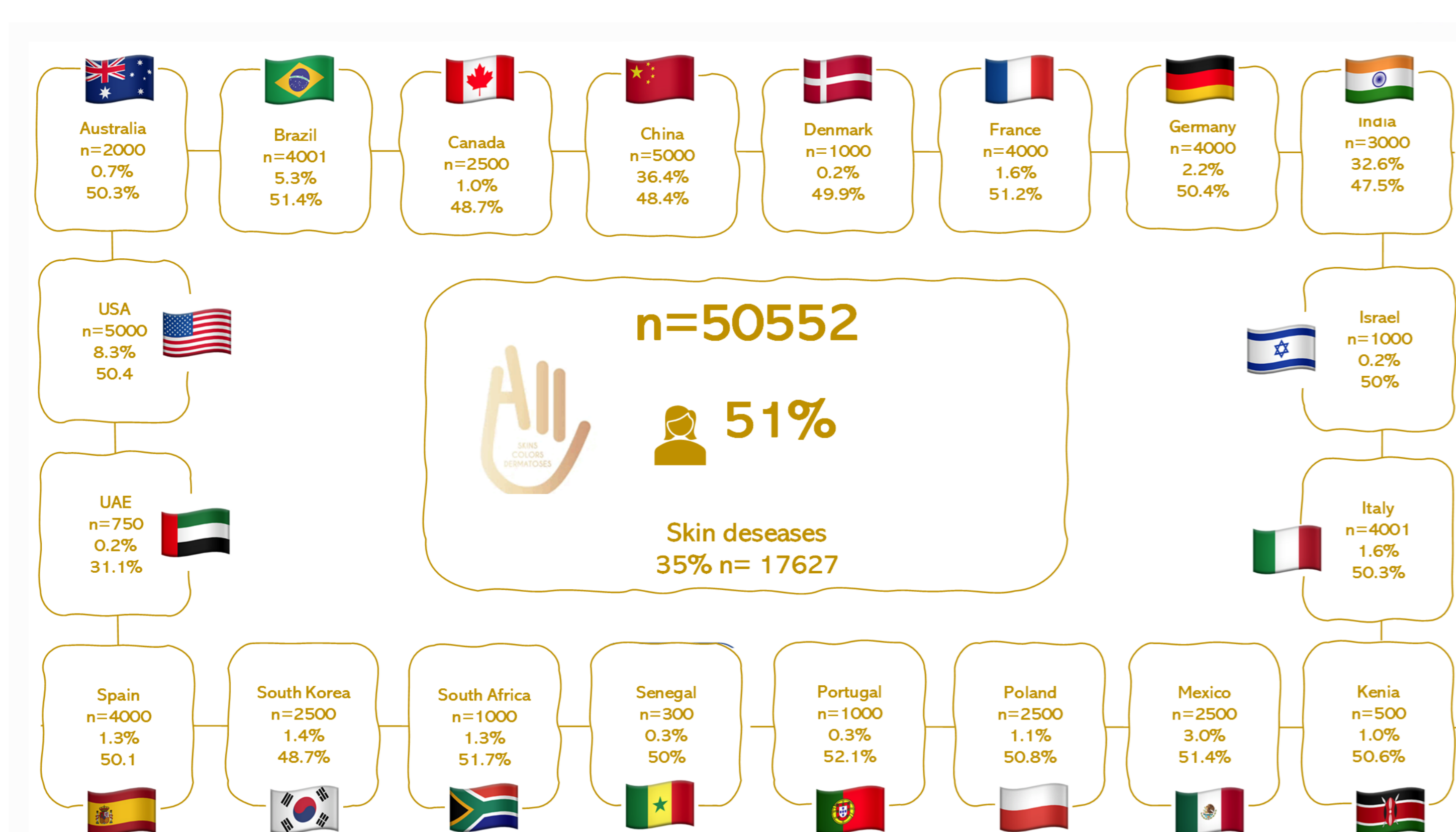
The ALL PROJECT is a large-scale study of individuals representative of the adult population in 20 countries on five continents: Europe [France, Italy, Germany, Poland, Portugal, Spain, Denmark; n=17500], Latin America[LA] [Brazil, Mexico; n=6501], Asia [China, India, South Korea; n=10500], North America [NA] [Canada, USA; n= 7500 ]; Middle East [ME] [Israel, United Arab Emirates; n=2750], Australia [Australia; n=2000] and Africa [Kenya, South Africa, Senegal; n=1800].

In each of the 20 countries surveyed, representative and extrapolable samples of the general population aged 16 and over were interviewed.

This methodology ensures that the results of the study can be generalized to the entire population of each country included in the project, thus providing a global and diversified perspective of the subjects studied.

Patients reporting only vitiligo as confirmed by a healthcare professional, were identified to avoid attributing effects to another skin condition.

The results were compared using chi-squared or Fisher's exact test. The alpha risk was set at 5% and two tailed tests were used. Statistical analysis was performed using EasyMedStat (version 3.34; www.easymedstat.com).



## RESULTS

The prevalence in Europe is 1.3% [0.76% to 1.21%]. In Asia, the Middle East and Africa, the prevalence is 2.5% [2.24% to 2.84%], 3.2% [2.38% to 4.02%] and 1.7% [1.08 to 2.26], respectively.

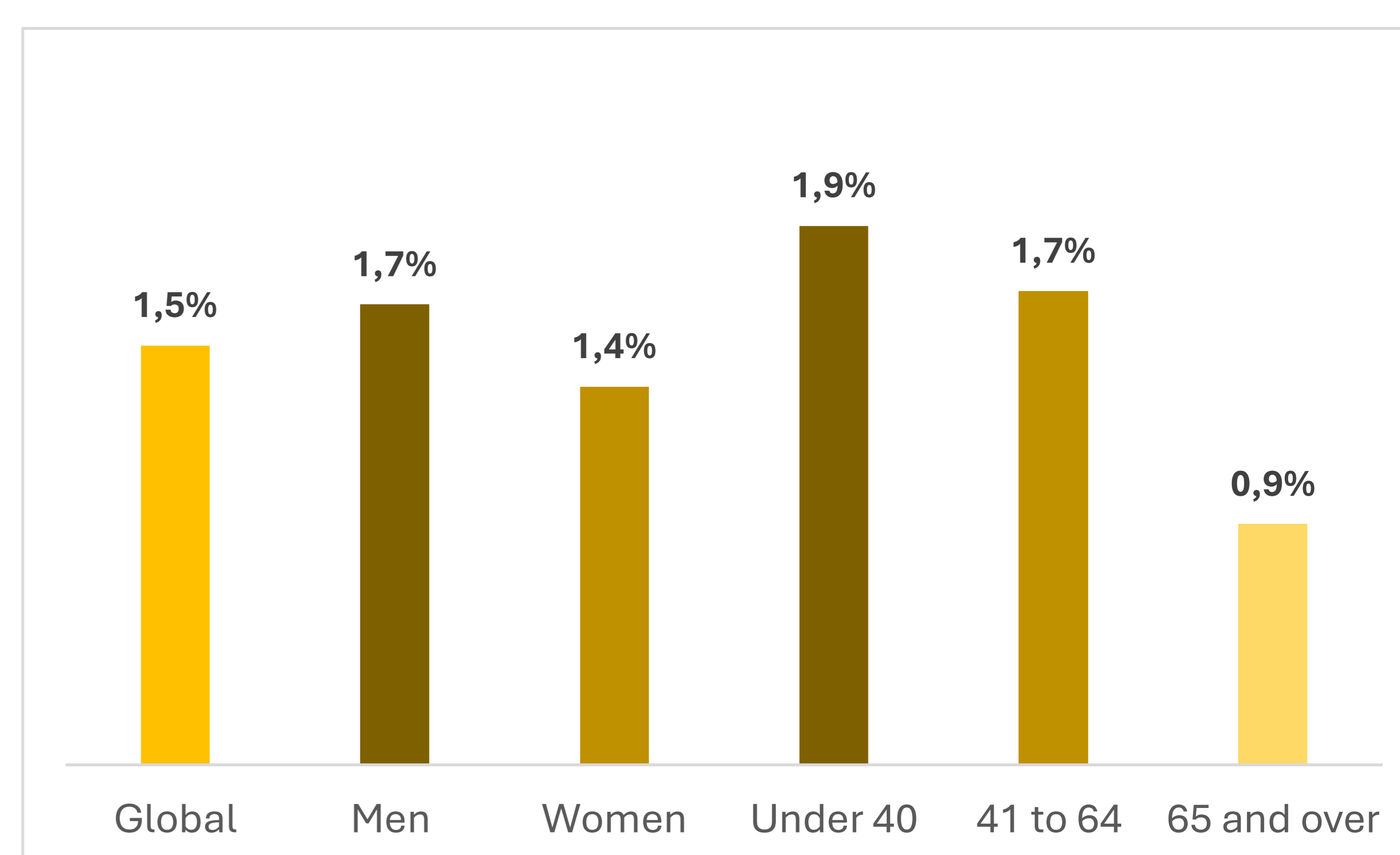
Only the first two regions stand out statistically, with significantly higher prevalences than in Europe [P value <0.001; 0.016]. Prevalence is lower in Latin America and North America, with values of 0.9% [0.66% to 1.12%; P value 0.016] for the former and 1.0% [0.76% to 1.21%; P value /0.058] for the latter.

Prevalence was also lower in Australia, at 1.0% [0.56% to 1.44%] Prevalence rates for men are higher than for women in Europe (1.6% vs 1.0%), North America (1.4% vs 0.6%) and Africa (1.8% vs 1.5%). In Asia, the gender difference is reversed, with a prevalence rate of 2.9% for women compared with 2.2% for men. The situation is similar in Latin America [1.0% for women vs 0.8% for men].

Overall, a significant difference [ $<0.0001$ ] was observed, with a prevalence of 1.8% in urban areas, 1.0% in rural areas and 1.2% in semi-urban areas. In addition, no significant difference was observed between fair skin (0.9%) and dark skin (1.4%) overall.

To avoid any potential bias, we identified patients who did not report any skin disease other than Vitiligo's disease to describe their treatment history [n=179]. In 50.8% of cases, patients reported having consulted a doctor about their Vitiligo disease in the previous 12 months.

The proportion of patients who consulted a physician ranged from 47% in Europe to 62.5% in the Middle East, 70.3% in Asia and 61.5% in Latin America. The majority of these consultations were with dermatologists 63.7%). In Europe, 61.5% of consultations were with dermatologists.



	Global Population		Men		Women	
	n	%	n	%	n	%
GLOBAL POPULATION	764	1,5%	421	1,7%	343	1,4%
North America	74	1,0%	51	1,4%	145	0,6%
Asia	267	2,5%	122	2,2%	32	2,9%
Latin America	58	0,9%	26	0,8%	101	1,0%
Europe	259	1,3%	158	1,6%	7	1,0%
Australia	20	1,0%	13	1,3%	14	0,7%
Africa	30	1,7%	16	1,8%	21	1,5%
Middle East	56	3,2%	35	3,4%	343	2,9%

	Under 40		41 to 64		65 and over	
	n	%	n	%	n	%
GLOBAL POPULATION	349	1,9%	259	1,7%	156	0,9%
North America	34	1,3%	26	1,4%	14	0,5%
Asia	116	2,8%	106	3,0%	45	1,7%
Latin America	32	1,1%	15	0,7%	11	0,7%
Europe	113	1,9%	69	1,2%	77	0,9%
Australia	8	1,1%	9	1,7%	3	0,4%
Africa	17	1,7%	9	1,7%	4	1,4%
Middle East	29	3,8%	25	3,8%	2	0,6%

	Urban areas		Semi-Urban areas		Rural areas	
	n	%	n	%	n	%
GLOBAL POPULATION	519	1,8%	162	1,2%	83	1,0%
North America	32	1,3%	27	0,8%	15	0,9%
Asia	216	2,5%	33	2,6%	18	3,0%
Latin America	44	0,9%	12	1,0%	2	0,8%
Europe	156	1,6%	62	1,1%	41	0,8%
Australia	7	1,1%	11	1,1%	2	0,7%
Africa	17	2,4%	10	1,2%	3	1,1%
Middle East	47	3,4%	7	3,1%	2	1,3%

	Global Population		Fair Skin		Dark skin	
	n	%	n	%	n	%
GLOBAL POPULATION	764	1,5%	581	1,4%	183	1,8%
North America	74	1,0%	55	0,9%	19	1,4%
Asia	267	2,5%	205	2,6%	62	2,3%
Latin America	58	0,9%	40	0,9%	18	1,0%
Europe	259	1,3%	214	1,2%	45	1,8%
Australia	20	1,0%	16	0,9%	4	1,3%
Africa	30	1,7%	11	1,8%	19	1,6%
Middle East	56	3,2%	40	2,9%	16	4,1%

## DISCUSSION

The findings reveal fluctuating prevalence rates of vitiligo across regions, with heightened occurrences noted in Asia and the Middle East as opposed to Europe and the Americas. These differences could stem from variations in genetic predispositions, environmental conditions, or disparities in healthcare access and utilization.