



Sun Awareness and Prevention in Chemotherapy Patients: A Comparative Study

G. Doat¹, A. Stevinnin¹ C. Baissac², M. Saint Aroman², M. Inane³, C. Skayem^{4,5} C. Taieb⁶

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⁵ Hôpitaux de Paris (AP-HP), Paris Saclay University, Ambroise Paré Hospital, Boulogne Billancourt.
⁶ Patient Priority, EMMA, Paris, France



RATIONALE

Exposure to the sun, especially when it is intense, can pose increased health risks, especially for people undergoing chemotherapy. Our study aims to assess the awareness and use of public health recommendations for sun protection in patients undergoing chemotherapy, an essential measure to minimize harmful effects and support the healing process.

MATERIEL & METHODE

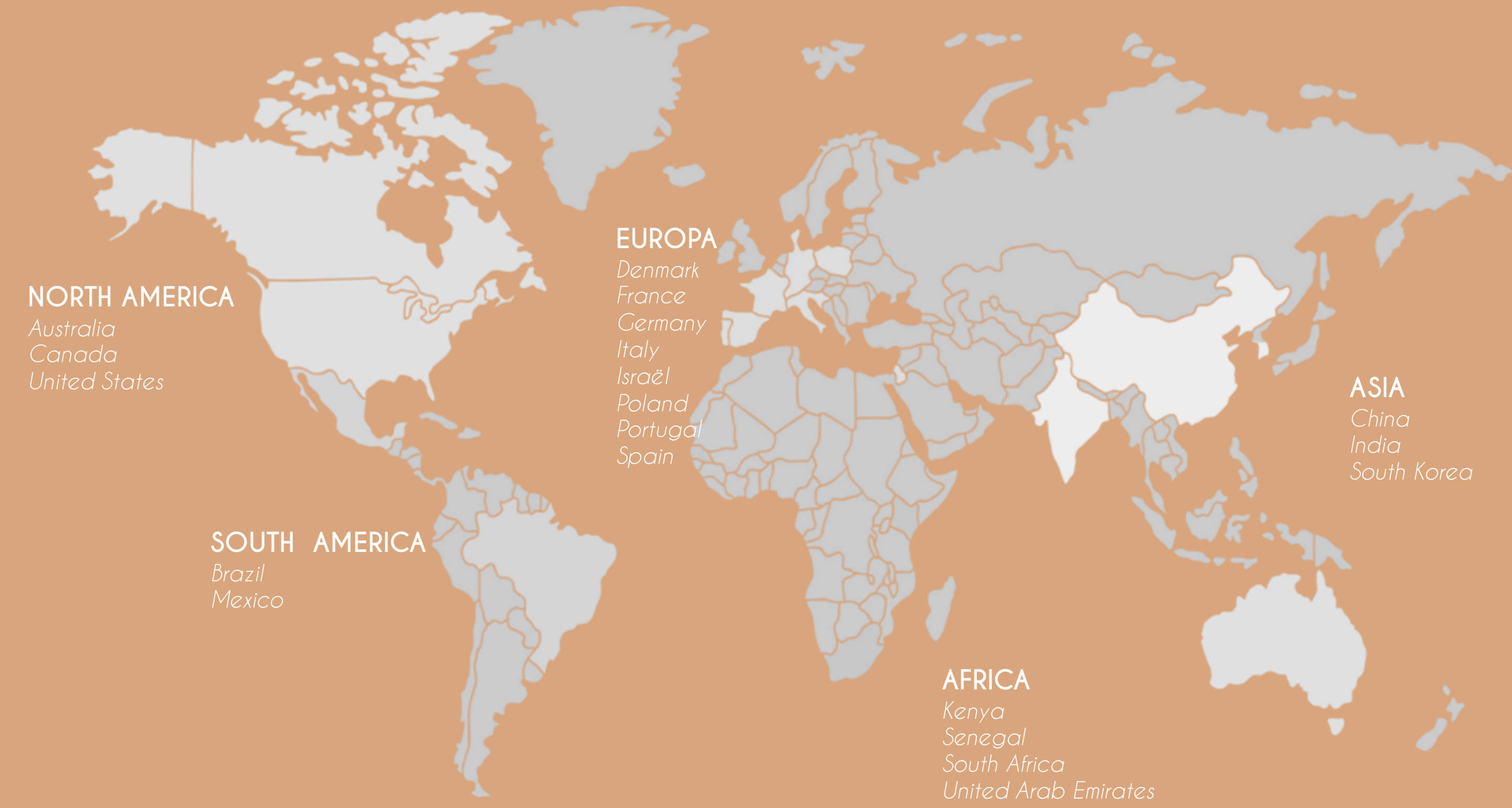
From the ALL database (50,552 individuals' representative of its 20 countries), we identified 2,874 patients who reported that they were undergoing (or had recently undergone) chemotherapy: the "exposed population". A group of 6,034 people who formally confirmed that they were not (or had not recently been) exposed were also identified as the "non-exposed population". Two recommendations were given priority: exposure during the hottest hours of the day and application of sunscreen every 2 hours

OBJECTIVE

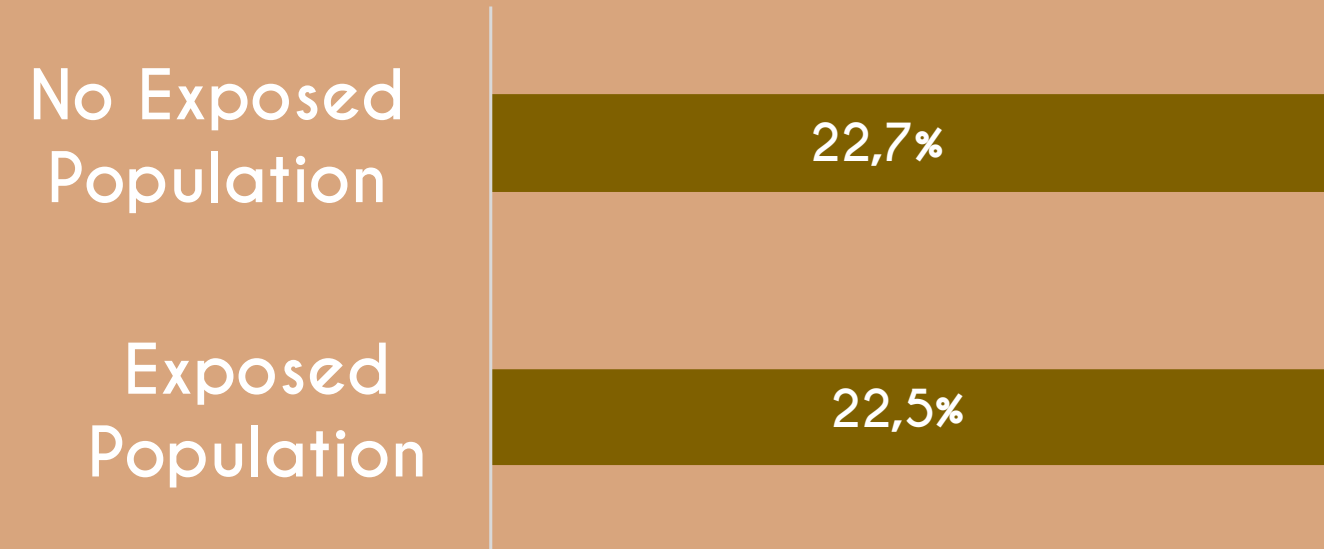
Our main objective was to determine whether undergoing chemotherapy leads to increased vigilance with regard to sun exposure, particularly in terms of adopting preventive behaviors such as avoiding exposure to the sun between midday and 4 pm and applying sunscreen regularly.

RESULTATS

The population of each group is described in the table below. The exposed population is significantly more female and younger. Significantly fewer individuals in the exposed population group reported being exposed between 11 am and 4pm than in the unexposed population [58.2% vs 63.4%, P value <0.0001]. Significantly more of the exposed population reported using sunscreen every 2 hours than the unexposed population [42.5% vs 27.9%, P value <0.001]. They were also significantly less likely to report not using sunscreen [13.3% vs 22.4%, P value <0.001]. These data are consistent with knowledge of public health recommendations. Significantly more of them reported being aware of the recommendation compared to the unexposed population [86% vs 83%, P value <0.001]. Among those who expose themselves to the sun during these high-risk hours, the reasons given include convenience related to their activities and the times they are available. There was no difference between the 2 groups for these reasons. It is interesting to note that significantly more patients undergoing chemotherapy did not believe the prevention messages [10% vs. 3.2%, p-value: <0.0001]. The results regarding the use of sunscreen as a means of preventing the risk of skin cancer show that there is no significant difference between the two groups. The data show a significant difference in the perceived usefulness of sun protection between those who had undergone chemotherapy and those who had not. A greater percentage of participants who had undergone chemotherapy (30.5%) felt that the use of sunscreen was not useful compared to those who had not undergone chemotherapy (25.6%), with a p-value of 0.00058.. We used logistic regression to check whether these two characteristics influenced the behavior of this group. The logistic regression confirmed that the "chemo" criterion (coefficient 0.62) was the most influential, compared with sex (coefficient -0.37) and age (coefficient 0.0004).



Report having dark skin (phototype IV, V and VI)



DISCUSSION

Our study showed that people who had undergone chemotherapy were more aware of sun protection measures and were better at applying them. They were more likely to avoid exposure to the sun during the hottest hours and to apply sunscreen regularly every two hours. These behaviors undoubtedly reflect an awareness of the increased risks they face as a result of their treatment. However, the significant proportion of chemotherapy patients who do not believe the prevention messages is worrying and suggests that further efforts in education and communication about the benefits of sun protection are needed...

Although the results of our study indicate that chemotherapy patients are generally more vigilant about sun protection, a significant proportion of this population remains sceptical about the effectiveness of such preventive measures. This highlights the importance of personalized and repeated communication about the importance of sun protection, taking into account individual beliefs and perceptions. It is vital that healthcare professionals redouble their efforts to dispel myths and increase understanding of the benefits of sun protection, particularly among those who are already vulnerable due to exposure to aggressive treatments such as chemotherapy.

* Not statistically significant	Exposed population N=2449		No exposed population N= 4857	
	N	%	N	%
TIME OF EXPOSURE REPORTED				
Before 11 am	1154	47,1%	2148	44,2%
Between 11 am and 4pm	1426	58,2%	3028	62,3%
After 4 pm	718	29,3%	1695	34,9%
PREVALENCE OF THOSE HAVING HEARD OF THE RECOMMENDATION	N	%	N	%
	2107	86,0%	4026	82,9%
AMONG THOSE WHO SAY THEY EXPOSE THEMSELVES BETWEEN 11.00 AND 16.00, THE REASONS ARE :	N	%	N	%
I didn't understand	121	8,5%	76	2,5%
*These are the most practical hours, given my activities.	528	37,0%	1030	34,0%
These are the most pleasant hours of the day	327	22,9%	484	16,0%
*These are the hours when I am available	515	36,1%	920	30,4%
I don't believe in prevention messages	142	10,0%	97	3,2%
*I don't know why I do it anyway	34	2,4%	97	3,2%
*I'm not worried because my skin tolerates the sun very well.	42	3,0%	73	2,4%
DO YOU USE SUNSCREEN ?	N	%	N	%
Yes, every two hours	1041	42,5%	1357	27,9%
Yes, but irregularly or less often	1081	44,1%	2411	49,6%
Not at all	327	13,4%	1089	22,4%
AMONG THOSE WHO USE SUNSCREEN EVERY 2 HOURS, THE MOTIVES ARE AS FOLLOWS	N	%	N	%
To avoid sunburn	1329	62,6%	2695	71,5%
To spend more time in the sun	600	28,3%	874	23,2%
Because of a history of sunburn	575	27,1%	921	24,4%
To protect against accelerated skin ageing	1103	52,0%	2171	57,6%
*To protect against the risk of skin cancer	1021	48,1%	1811	48,1%
AMONG THOSE WHO DO NOT USE SUNSCREEN, THE FOLLOWING REASONS ARE GIVEN	N	%	N	%
*The products are too expensive	49	3,5%	107	3,1%
I don't think about it	429	30,5%	896	25,6%
*I don't see the point	523	37,1%	1356	38,7%
It's too much trouble	268	19,0%	501	14,3%
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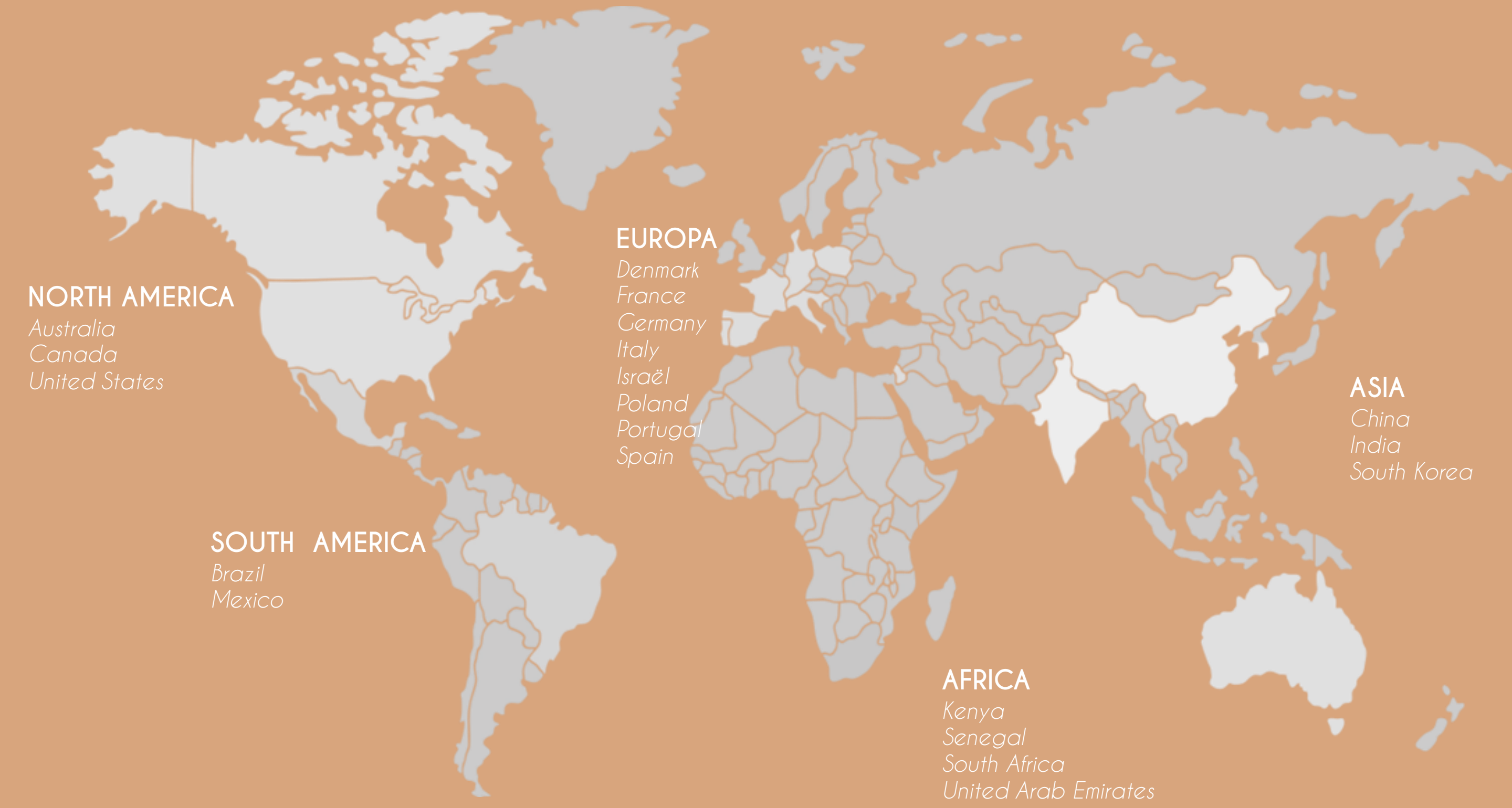
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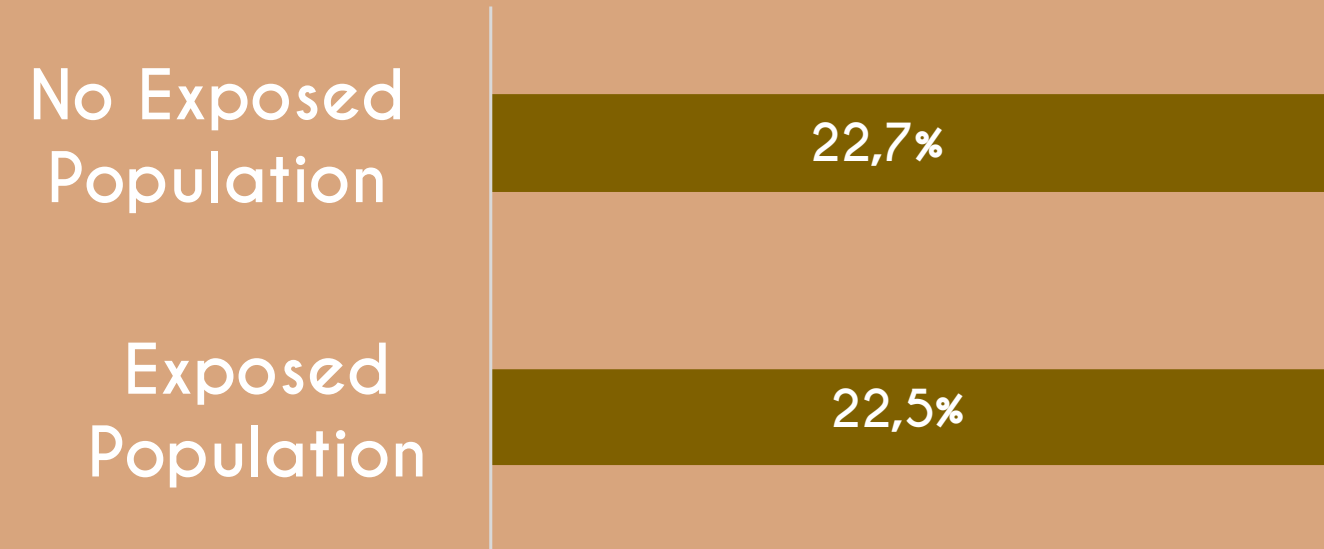
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