

Incidence and Prevalence of Psoriasis in the Newfoundland/Labrador Population: from 2001 to 2020

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INTRODUCTION

Newfoundland and Labrador (NL) is Canada’s most easterly province (Figure 1) and has a population of approximately 540,000 people. Newfoundland and Labrador’s founder population comprised of Irish Catholics and English Protestants which settled the island between 1780 and 1830.

Early observations and research conducted in the early 1990s in collaboration with Dr. Eugene Farber (Former Chief of Dermatology Stanford University) noted multigenerational familial psoriasis with documented rates of family history exceeding greater than 80%. Some of these initial observations were presented at the first Gene to Clinic meeting in December of 1996 ¹. We reported Increased rates of co morbidities (cardiovascular disease, diabetes, psoriatic arthritis, premature death, decreased longevity) and a prevalence of approximately 3%³.

This population has made multiple contributions also over the past 30-years including development novel psoriasis therapies, multi-national collaborative genetic studies with new susceptibility psoriasis genes and potential of novel drug targets identified^{2,4,5}.

This study further defines the incidence and prevalence rates within the population of NL including the prevalence rates in each of the communities that make up the province of NL.

The incidence and prevalence of psoriasis in the NL population have not been formally studied, although provincial dermatologists acknowledge an increased burden of psoriasis, compared to other regions in Canada.

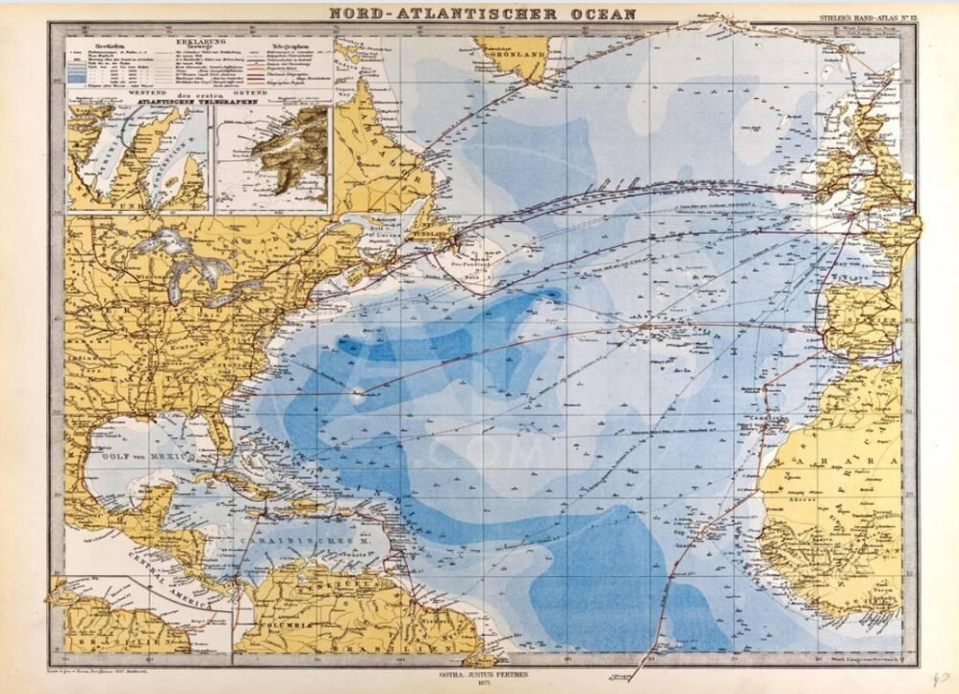


Figure 1

OBJECTIVE AND METHODS

The objective of the study was to examine the incidence and prevalence rates of psoriasis in Newfoundland and Labrador and the variation by age, gender, geographic region, and time.

Digital Health, Newfoundland and Labrador Health Services provided Provincial Electronic Health Records that were used to identify patients with psoriasis using International Classification of Diseases 9th revision (ICD-9) code 696 from 2001 to 2020.

Results

Psoriasis prevalence:

:6.89% (35,956 NL that are still alive from 2001 to 2020 / 521,359 NLers in 2020)

:6,830 per 100,000 people (3,801 women, 3,029 men)

Psoriasis Incidence

:Women 365.4 per 100,000 person-years [95% confidence interval (CI) 298.0-432.9]; 395.9 (329.5-462.2) per 100,000 person-years

:Men 334.2 (263.5-404.9) per 100,000 person-years (Figures 2,3,4)

: Peak age group for incident cases was 55-59 years (Figure 5)

Geographic variation in the prevalence of psoriasis:

:0-3% in the majority of communities. 9 communities with psoriasis prevalence over 30%(Figure 6, 7),

Discussion and Summary

Late onset of psoriasis is higher than in other populations.

A regional founder effects could account for the high prevalence in selected communities

Environmental influences cannot be discounted.

With these findings can we:

, Combine this data with finding from other research to explore gene to gene interactions, climate change, and social determinants health that may influence the onset and the natural history of psoriasis in this unique founder population of NL.

With scientific advances in genetic research, population data, and AI we will further understand the complexities of this intriguing disorder we call psoriasis.

Figure 2

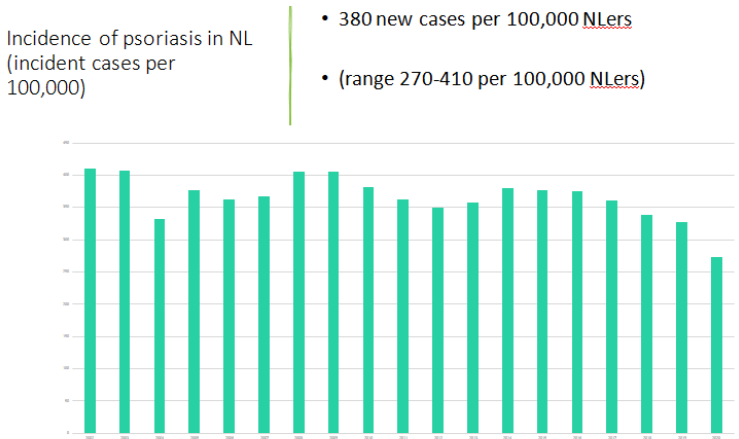


Figure 3 - Distribution of gender for newly diagnosed cases of psoriasis per year

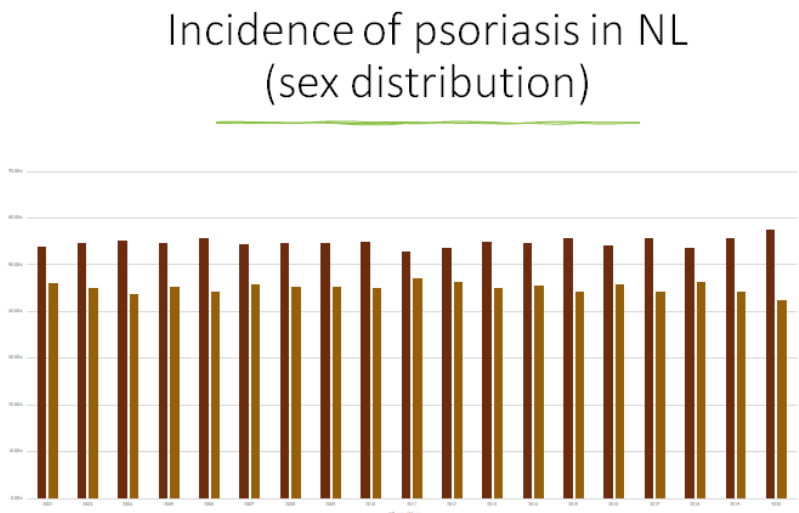


Figure 4

Age at Diagnosis of Psoriasis by sex

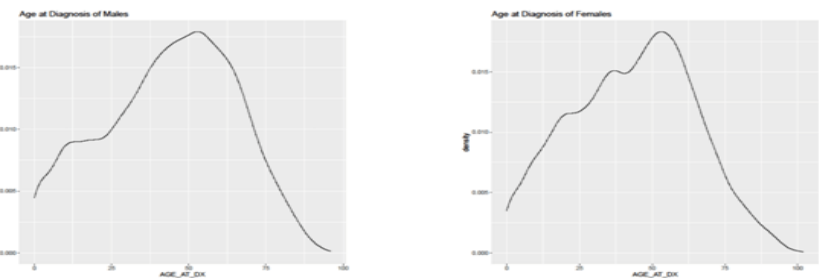


Figure 5

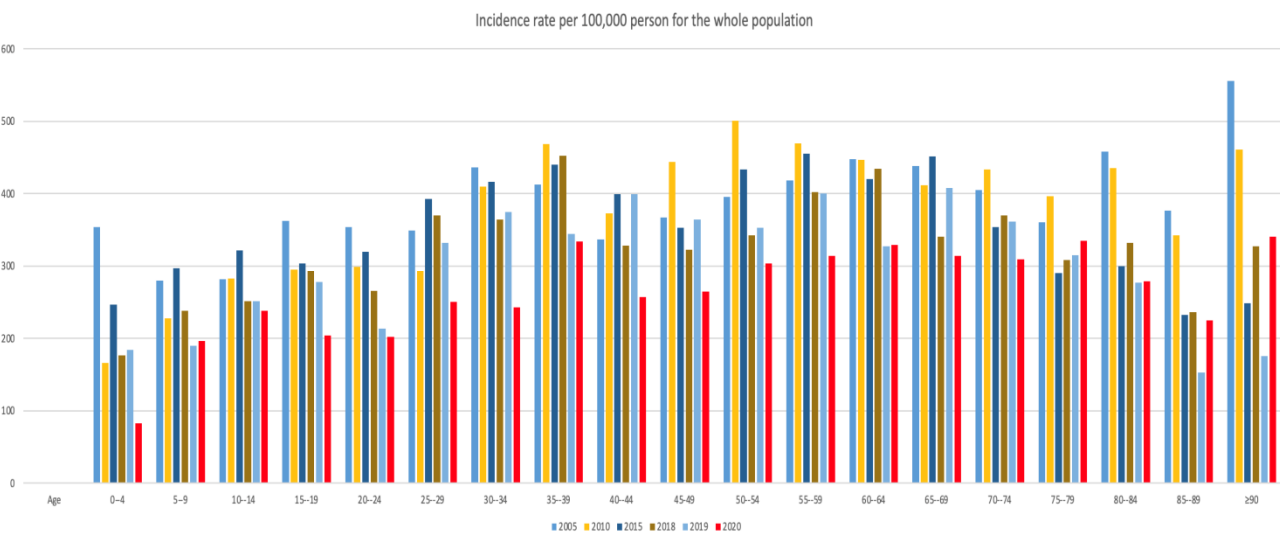


Figure 6

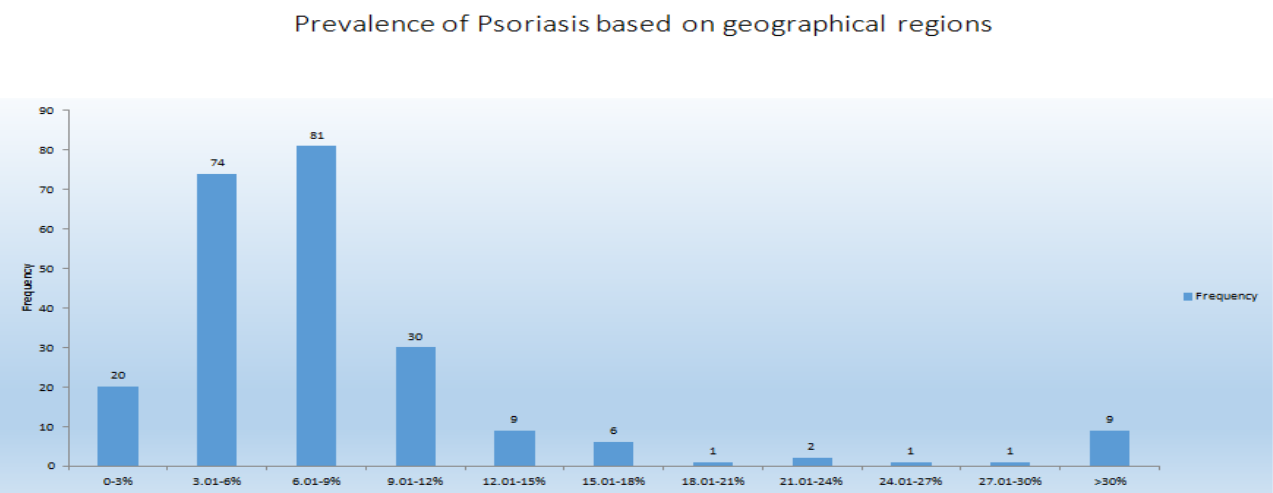
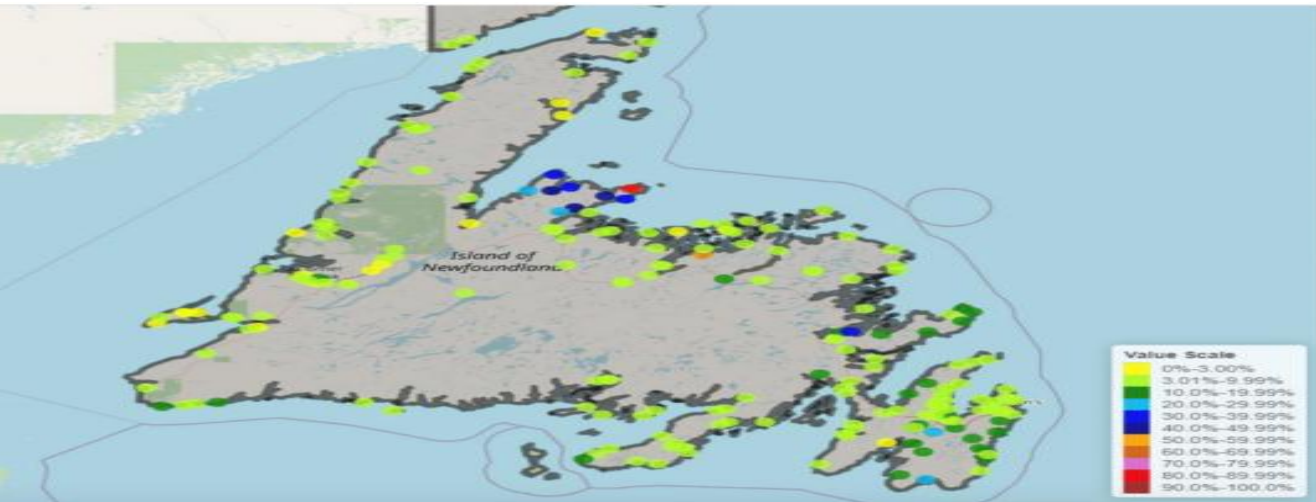


Figure 7



CONCLUSION

The Newfoundland and Labrador population has a high incidence and prevalence of psoriasis with significant regional variation in prevalence

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