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Comorbidities Associated With Vitiligo: A Retrospective Real-World Data Analysis

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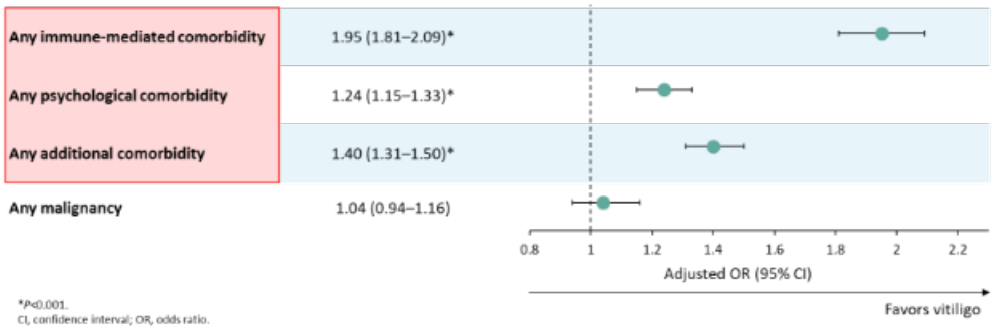
Introduction & Objectives: Current understanding of the holistic burden of vitiligo remains limited. It is frequently seen as a cosmetic condition, with underappreciation of the comorbid and psychosocial impact of the disease for patients. The objective of this analysis was to describe real-world comorbidities in patients with vitiligo in Israel.

Materials & Methods: A cross-sectional retrospective cohort analysis was conducted using the database of a large health services organization. Patients diagnosed with vitiligo (based on International Classification of Diseases, Ninth Revision, Clinical Modification [ICD-9] codes) and non-vitiligo controls from the general population were matched for age group, sex, and socioeconomic status in a 1:1 ratio. Disease severity was categorized by treatment received (mild received only topical treatment vs moderate-to-severe received systemic treatments, including phototherapy). Data are reported as the proportion of patients and standardized mean difference (SMD) and *P*-value; $P<0.05$ was considered statistically significant, and an SMD >0.1 was defined as a notable difference. Odds ratios were derived from logistic regression with adjustment of age, sex, socioeconomic status, birth country, sector, smoking status, and body mass index.

Results: A total of 11,412 patients with vitiligo were matched with 11,412 non-vitiligo controls. The mean (SD) age was 42 (21) years, with 51.1% of patients being female. Patients with vitiligo were significantly more likely to have any immune-mediated disease vs the general population (29.7% vs 18.4% [SMD: 0.27]; $P<0.001$), with the most common being atopic dermatitis (12.5%), psoriasis (5.8%), Hashimoto thyroiditis (2.9%), alopecia areata (2.2%), and prurigo nodularis (2.2%). Immune-mediated comorbidities were more common in females (33.7% vs 25.6% [$P<0.001$; SMD: 0.18]), younger age groups (<12 years, 34.2% and 12–<18 years, 36.9% vs ≥18 years, 28.1% [$P<0.001$; SMD: 0.13]), and in those with moderate-to-severe disease (37.0% vs mild, 29.7% [$P<0.001$; SMD: 0.26]). A higher proportion of patients with vitiligo also had any psychological comorbidity compared with the general population (18.7% vs 15.9% [$P<0.001$; SMD: 0.07]), most commonly depression (10.8%), sleep disorder/insomnia (5.9%), and anxiety (3.7%). Psychological comorbidities were more common in females (19.7% vs 17.5% [$P=0.003$; SMD: 0.06]), adults (≥18 years, 21.8% vs 12–<18 years, 7.7% and <12 years, 4.6% [$P<0.001$; SMD: 0.35]), and in those with moderate-to-severe disease (24.8% vs mild, 15.9% [$P<0.001$; SMD: 0.17]). Sexual dysfunction was more common in males (0.6% vs 0.0% [$P<0.001$; SMD: 0.11]). Among additional comorbidities, anemia (22.5% vs 17.5% [$P<0.001$; SMD: 0.14]) was more common in patients with vitiligo. In adult patients with vitiligo, the odds of immune-mediated, psychological, and additional comorbidities were higher vs the general population, but the odds of malignancy were not higher (**Figure 1**).

Conclusion: These findings demonstrate that patients with vitiligo were more likely to suffer from a variety of immune-mediated as well as psychological comorbidities compared with the general population, providing insight into the significant patient burden of this disease.

Figure 1. Comorbidities Among Adult Vitiligo Population and General Population



*P<0.001.
CI, confidence interval; OR, odds ratio.