**Materials and Methods**

*Study Design*

This study was performed as a retrospective cross-sectional study on data from the Clalit Health Services (CHS) database in January 2019. The CHS is one of the largest healthcare providers in Israel, providing medical care for approximately 4.8 million Israelis in 2017 [20]. It is a comprehensive database containing all administrative and medical information from any healthcare setting including hospitals, drugstores, clinics, or primary care facilities. The database receives continuous real-time updates. It is methodologically validated through both constant system logistic tests and manually by treating physicians and healthcare personnel. The database was assessed as highly valid in a previous authentication study [19, 20],and psychiatric diagnoses within this database have been previously utilized and validated [21, 22]. This study was approved by the ethics board of CHS. The data mining utilized anonymous and nonidentifiable data only; thus, consent forms were not necessary.

*Study Population*

 The study was performed on 26,502 CHS enrollees. After excluding patients under the age of 18 and over 90, the study included 4,191 hidradenitis suppurativa (HS) patients and 20,941 age- and gender-matched controls (Fig 1). Matched controlled patients were CHS enrollees with no HS diagnosis in their medical records, who might or might not have had other medical conditions (as all CHS insured patients are part of the registry). HS cases were defined as patients with an HS diagnosis in their medical records. The validity of the HS diagnosis was established by restricting the dataset to include only patients diagnosed by a dermatologist in the community, or a diagnosis made after discharge from hospitalization in a dermatology inpatient unit. Five randomly selected CHS enrollees without HS, who were age- and gender-matched, were controls for each patient. The diagnosis of bipolar disorder was defined using the following ICD-9 codes [23]: manic bipolar affective disorder (296.0- 296.06, 296.1, 296.10-296.16, 296.4-296.6, 296.7); other and unspecified bipolar disorders (296.8) including atypical manic disorder (296.81) and atypical depressive disorder (296.82); bipolar affective disorder depressed (296.5, 296.51-296.56); bipolar affective disorder mixed (296.6, 296.60-296.66); bipolar disease (296.8, 296.89); other and unspecified episodic mood disorder (296.9) including affective psychosis (296.90, 296.99) and manic-depressive psychosis unspecified (296.80); and personal history of affective disorders (V11.1). Additionally, the following codes were utilized from the ICD-10 [24]: manic episode (F30) including hypomania, mania with and without psychotic symptoms, other manic episodes, and manic episode unspecified (F30.0, F30.1, F30.2, F30.8, F30.9); and bipolar affective disorder (F31) including bipolar affective disorder, current episode hypomanic, manic, with or without psychotic symptoms, current depressive episode mild to severe, current episode mixed, bipolar affective disorder, and unspecified (F31.0-F31.9). The status of active smoking was registered by the primary physician. Additional data extracted from the CHS database included age, gender, and diagnosed chronic diseases.

*Statistical Analyses*

Differences in demographic characteristics between HS patients and controls were compared using χ2 tests for categorical variables, while age was compared with a *t* test. Univariate analysis assessing the association between HS and bipolar disorders, stratified by age, gender, body mass index (BMI), and smoking status, was calculated using univariate binary logistic regressions. Odds ratios are presented with 95% confidence intervals. *p* values were considered significant under the 0.05 threshold. In cases where multiple comparisons were needed, *p* values were considered significant under the 0.01 threshold. Multiple logistic regressions were performed to assess the association between HS and bipolar disease while adjusting for age, gender, BMI, and smoking status in a multivariate analysis. All statistical analyses were performed using SPSS software, version 25 (SPSS, Chicago, IL, USA).