

Kimberly Kluglein BS¹, Shannon South BS², Erjola Toska BS¹, Riley Nadolny BS¹, Alexis Yagoda BS¹

1. Nova Southeastern University Dr. Kiran C. Patel College of Osteopathic Medicine - Clearwater, FL

2. Lake Erie College of Osteopathic Medicine - Bradenton, FL

Introduction

- Seborrheic dermatitis (SD) is a chronic inflammatory skin condition, characterized by red patches and plaques with greasy scale and accompanying pruritis.
- Occurs commonly in areas that have a higher concentration of sebaceous glands, such as the scalp, face, anterior chest, axillae, back, and groin.
- Exact etiology is unclear - pathogenesis is thought to be multifactorial, including abnormal environmental, psychological, nutritional, hormonal and immune responses.
- Given the chronic nature of SD and theorized pathogenesis, the potential association of SD with various comorbidities has become an area of relevance.
- This review explores the potential comorbidities and lifestyle choices associated with SD, including osteoarthritis, Parkinson's disease, diabetes, hypertension, osteoporosis, metabolic syndrome, body composition, psychiatric disorders, HIV, and the influence of diet.

Methods

- EMBASE, Medline Industries, and PubMed databases were used to perform a literature search in August 2024.
- The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement by the Cochrane Collaboration was used and is depicted in Figure 1.
- Inclusion criteria: human patient population, primary study, clinical trial, cohort study, or cross-sectional trial, published between January 1, 2014, to August 17, 2024.
- Exclusion criteria: articles not written in English, review articles, case reports, articles only investigating cutaneous comorbidities, or studies conducted on animals
- Key terms used: seborrheic dermatitis, comorbidities, PCOS, polycystic ovary syndrome, insulin resistance, metabolic syndrome, hypertension, Parkinson's disease, obesity, diet, nutrition, acute coronary disease, and osteoarthritis
- 498 articles were screened, and 12 articles met criteria to be included in review

Results

Osteoarthritis

- Patients with SD had increased subjective bilateral knee pain compared to controls. No appreciable differences such as height, weight, occupation, or activity level existed that could serve as confounders
- Femoral cartilage thickness (FCT), a potential indicator of early osteoarthritis, was increased at 6 anatomical locations in the knee in patients with SD
- A positive correlation was found between SD disease severity and FCT

Diabetes and Hypertension

- Diabetes and hypertension were the most common comorbidities found in one cross-sectional study of patients with SD, however no statistically significant difference was found

Parkinson's Disease

- Close to half of patients with Parkinson's disease (PD) had SD (46%)
- A positive correlation was observed between motor symptom severity and presence of SD
- Patients with severe motor symptoms have 1.8 times risk for developing SD than patients with mild motor symptoms

Osteoporosis

- Incidence of osteoporosis was higher in patients with SD than in controls
- Risk for osteoporosis was around 6 times higher in SD compared to control after adjusting for age, gender, and other comorbidities
- Patients with SD developed osteoporosis at a faster rate of approximately 2 years versus approximately 9 years for controls

HIV

- There is a high prevalence of SD in patients with HIV, previously estimated at 40-80% in patients with HIV compared to 3% in non-HIV patients, however this number is outdated, and prevalence is decreasing
- 6% of patients with HIV had SD, consistent with recent literature that as antiretroviral therapy use is increasing, the incidence of SD in patients with HIV is decreasing

Metabolic Syndrome

- Negative correlation between plasma HDL levels and SD severity
- Triglyceride, LDL/HDL ratio, and cholesterol total/HDL ratio were positively associated with SD severity

Psychiatric Disorders

- In patients with major depressive disorder, bipolar disorder, schizophrenia and psychosis, approximately 16% of patients were found to have comorbid SD, however this was not statistically significant

Discussion

- Our analysis identified several statistically significant associations between SD and various comorbid conditions such as osteoarthritis, Parkinson's disease, metabolic syndrome, and osteoporosis.
- The relationship between SD and potential comorbidities may be due to a similar pathogenesis involving chronic inflammation and pro-inflammatory cytokines.
- Recognizing the associations between SD and comorbid conditions may facilitate early identification of at-risk populations, lowering the risk for development of SD and improving the patient's quality of life.
- Comprehensive patient evaluations should be conducted in at risk populations.
- Clinicians should seek to identify and manage any underlying systemic conditions that may exacerbate the disease, rather than just treating the cutaneous symptoms.

Conclusion

- Clinicians should focus not only on treating cutaneous symptoms of seborrheic dermatitis but also on identifying and managing any potential underlying systemic conditions that may exacerbate the disease.
- Screening and recognition of these associated conditions may lead to earlier diagnosis and better management.
- Patients with systemic conditions should consider establishing care with a dermatologist to identify possible dermatological manifestations like SD and begin early management to lessen the psychosocial impact of SD.
- More research needs to be performed to better understand the connection between seborrheic dermatitis and these comorbid conditions.

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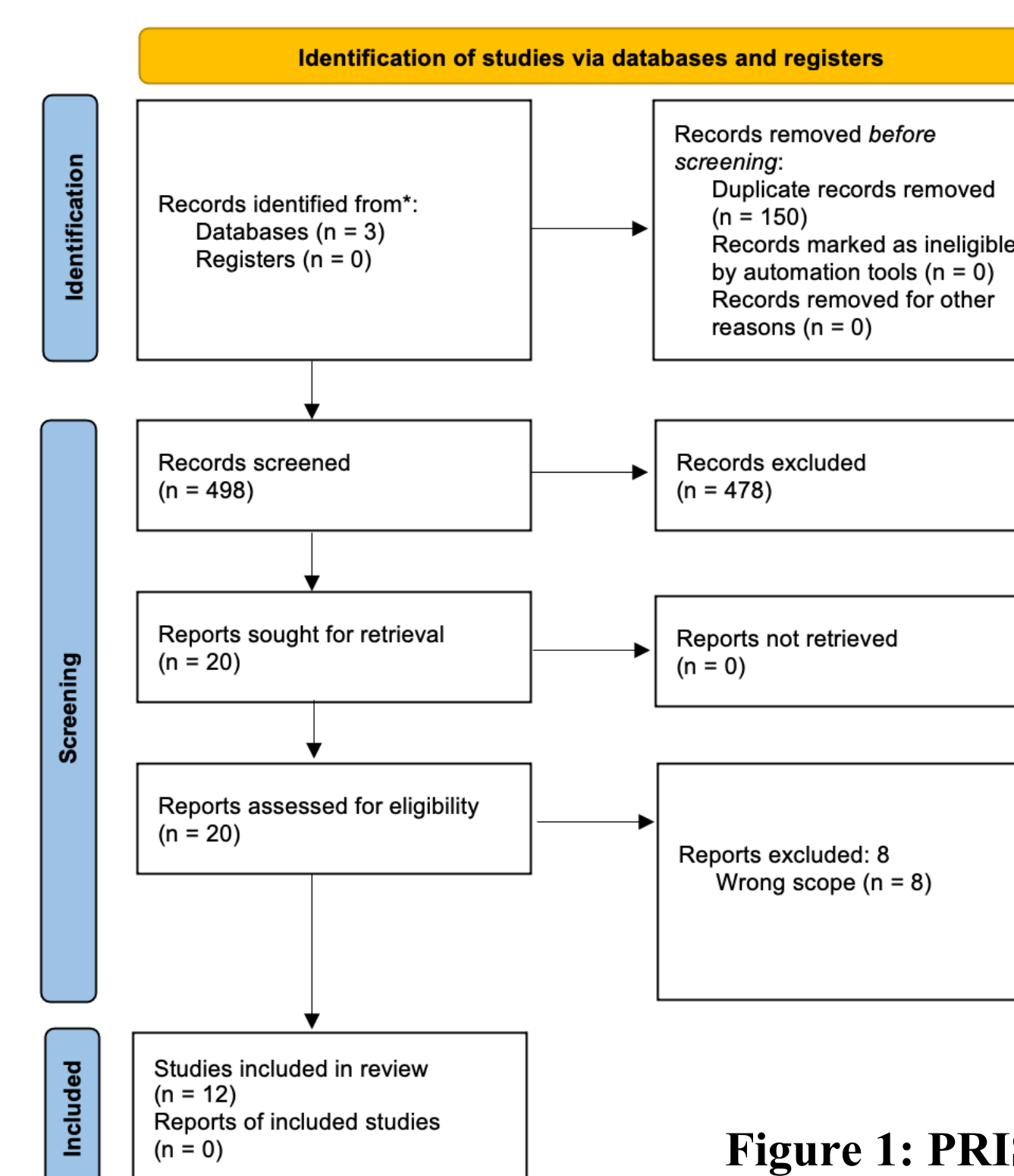


Figure 1: PRISMA Flow Diagram

Body Composition

- There was a positive correlation between Seborrheic Dermatitis Area and Severity Index (SADSI) and visceral protein levels and height
- No significant differences between parameters like fat percentage, muscle mass, total body water, and visceral protein were observed
- Obesity was found to be a common comorbidity amongst patients with SD, however this was not statistically significant

Diet

- Patients with diets high in simple carbohydrates, who used butter for frying food, consumed more vitamin D, or consumed less iron were significantly associated with increased SD
- Diets high in fruit had a decreased risk of developing SD