Effect of Anti-Obesity Medications on Psoriasis in obese or overweight adult patients: A Systematic Literature Review

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Abstract

Background: Psoriasis is an inflammatory skin condition closely associated with obesity which increases its risk of development, worsens pre-existing disease and negatively affects treatment response. Weight loss through diet and exercise has been proven to reduce disease severity and improve quality of life of psoriasis patients. The objective of this review was to explore the effect of anti-obesity medications on psoriasis in obese or overweight adults.

Methods: A comprehensive search of Embase, Medline and Central databases, citations of included articles, conference abstracts, clinical trial registries, and ProQuest was conducted on Nov 18, 2025. Clinical trials and cohort studies on adult patients with psoriasis investigating effect of anti-obesity medications were included. Studies on pediatric, pregnant or breastfeeding patients, studies exploring other weight loss strategies or involving medications withdrawn from the market and other types of studies including reviews and meta-analyses were excluded. Primary study outcomes included changes in Psoriasis Area and Severity Index (PASI) scores, changes in body mass index (BMI) and changes in Dermatology Quality of Life Index (DLQI). Secondary outcomes included changes in the metabolic profiles, inflammatory markers or psychological state of patients. Quality of studies was assessed using Revised Cochrane Risk of Bias tool 2 (RoB2) for randomized studies and Newcastle-Ottawa Scale for non-randomized studies. Results of the review were presented in a narrative fashion.

Results: The search identified 2 clinical trials and 3 cohort studies investigating effect on semaglutide (1 trial and 1 cohort study) and liraglutide (1 trial and 2 cohort studies) on

psoriasis. Risk of bias was low in one clinical trial and high in the other which was an open-label study. The cohort studies were of medium quality as there were no comparator groups. Total participants were 151, more than 70% were male and had moderately severe psoriasis. Duration of follow up ranged from 8 weeks to 24 weeks. All studies reported significant decrease in PASI scores with decreases ranging from 1.8 to 11, significant decrease in DLQI scores with decreases ranging from 2.5 to 10 and significant reductions in BMI ranging from 2.3 kg/m^2 to 4.4 kg/m^2, except one clinical trial which found no significant changes.

Conclusion: Anti-obesity medications reduce disease severity, decrease levels of inflammation and improve quality of life in obese or overweight psoriasis patients. Further research could explore mechanism of action, drug interactions and long-term effectiveness of these medications in psoriasis.

Introduction

Psoriasis is an immune-mediated chronic inflammatory skin condition(1) commonly managed in primary care practice(2). About 1 million Canadians live with psoriasis (3) and annual cost of psoriasis was estimated to be 8000 CAD per person(4). Identifying risk factors for development of psoriasis and formulating effective treatment strategies are essential to counter the negative impact of psoriasis on the lives of patients and to mitigate the heavy burden of psoriasis on the national economy.

Obesity increases the risk of development, aggravates pre-existing disease(5) and affects treatment outcome of psoriasis(6). A recent study reports global prevalence of obesity to be 25% among patients with psoriasis(7). Therefore, treating obesity in psoriatic patients has the potential to prevent development, retard progression and increase treatment response.

Previous research has established the role of weight loss in the management of psoriasis (8). Multiple randomized controlled trials (RCT) and prospective studies have investigated impact of weight loss achieved through diet and exercise on psoriasis and found improvement in disease severity and quality of life (8). Furthermore, risk of developing psoriasis may be reduced following bariatric surgery, especially gastric bypass (9). To the best of available knowledge, no previous study has explored weight loss using medications, such as orlistat, phentermine, phentermine-topiramate or naltrexone-bupropion, in psoriasis patients with increased body mass index (BMI).

Anti-obesity medications, in particular glucagon-like peptide-1 receptor agonists (GLP-1 RA), have changed the landscape for weight management and are increasingly being used to

manage diseases linked with obesity including diabetes mellitus (10), cardiovascular diseases (11), hypertension, liver disease and other conditions(12). A recent cohort study reported lower risk of obesity associated cancers in diabetic patients treated with GLP-1 RA (13). Several systematic reviews have examined the effect of GLP-1 RA in psoriasis (14–16) and found an improvement in skin disease.

A thorough understanding of the interplay between obesity and Psoriasis, particularly regarding the impact of anti-obesity medications, is essential for developing personalized, multidisciplinary treatment plans. This review will highlight areas that require further investigation, especially concerning skin-related outcomes in prospective studies and update current knowledge.

Research Objective

The objective of this review is to investigate the effect of anti-obesity medications, especially GLP-1 RA, on severity of psoriasis in adult obese or overweight patients.

Methodology

This systematic literature review was conducted adhering to the Preferred Reporting Items for *Systematic reviews* and Meta-Analyses (PRISMA) guidelines.

Databases and Search strategy

A search strategy was developed and a comprehensive search of EMBASE (Ovid), MEDLINE (Ovid) and CENTRAL (Wiley) databases were conducted to identify relevant studies published up to November 18, 2025. Additional articles were identified through forward and backward citation search of articles included in the review, and through search of clinical trial registries (clinicaltrials.gov and EU CTR). The search was supplemented through analyzing conference abstracts from conferences and symposia organized by the Canadian Dermatology Association, the American Academy of Dermatology and the European Academy of Dermatology and Venereology. For grey literature search, ProQuest was accessed to scrutinize reports, working papers, trade journals, dissertations and theses besides scholarly journal articles. The search was limited to studies published in English. The detailed search strategy for the above-mentioned databases, trial registries, conference abstracts and grey literature search through ProQuest is available in Appendix 1.

Study selection

Inclusion criteria for the studies were –

(i) Randomized controlled trials and cohort studies

(ii) Adult patients meeting diagnostic criteria of overweight or obesity and with a diagnosis of Psoriasis

(iii) Studies investigating effect of anti-obesity medications

(iv) Primary and/or secondary outcomes of changes in Psoriasis and body weight.

Exclusion criteria were –

(i) All other types of studies including reviews, meta-analyses, case control studies, case reports and case series

(ii) Studies on pediatric populations

(iii) Studies on other types of skin conditions, such as atopic dermatitis or hidradenitis suppurative

(iv) Studies that explored other weight loss strategies, such as dietary regimens, exercise programs, natural or herbal supplements, or surgery

(v) Studies on anti-obesity medications which have been withdrawn from the market due to adverse events. These include sibutramine, lorcaserin, cannabinoid receptor agonists (rimonabant, monlunabant, taranabant), efinopegdutide, danuglipron,

setmelanotide or Imcivree, and glucagon-like peptide-1 receptor agonists (GLP1 RA) and insulin combinations.

Data extraction

COVIDENCE was used to screen titles, abstracts and full texts and to extract data from included studies. Information was collected on –

(i) study characteristics including authors, country, setting and duration of the study,

(ii) experimental conditions including number of participants allocated to intervention and control groups, and comparison of their baseline characteristics, such as age, gender, BMI, alcohol, smoking,

(iii) study outcomes including changes in psoriasis reported in terms of PASI scores, changes in quality of life reported as DLQI scores, anthropometric changes reported as BMI, waist circumference or other measures, and biochemical changes reflected in lipid profile, HbA1c and inflammatory markers.

Risk of bias assessment

The quality of the included studies was evaluated using the Revised Cochrane risk-of-bias tool for randomized trials (RoB2) and the Newcastle-Ottawa scale (NOS) for non-randomized studies with the aim to synthesize the findings to elucidate trends, gaps, and key insights pertinent to the review objective.

Statistical analysis

The findings have been presented in a narrative form highlighting study characteristics and study outcomes. As the studies were heterogenous, the data was not pooled to assess treatment effects in a meta-analysis.

Results

Literature search

A total of 303 articles were identified through searching databases (Embase 231, CENTRAL 15, Medline 42), clinical trial registries (14 studies), and citation searching (1 study). A search of conference abstracts and ProQuest did not identify any relevant study. After removal of duplicate studies, 233 studies were screened by titles and abstracts, and 9 were included for full text review. Finally, 8 studies were included in the review, of which 3 are ongoing clinical trials. Database search and study selection is presented in Figure 1.

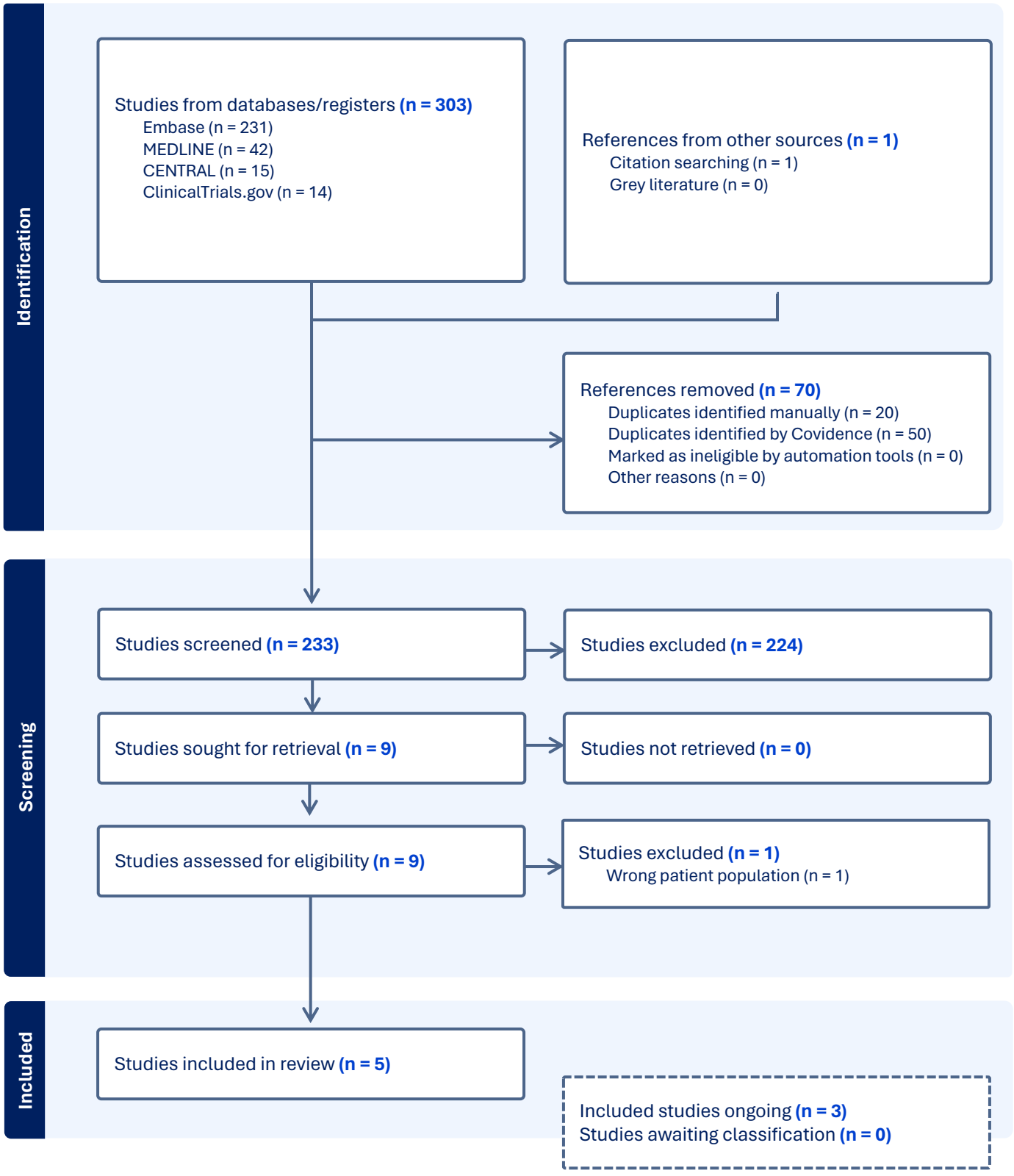

Figure 1. Flowchart for study selection

A detailed description of the studies, study populations, intervention and outcomes as well as an assessment of study quality is provided in the next few paragraphs. Table 1 provides a snapshot of the characteristics of the 5 studies included in this review.

Table 1. Characteristics of the included studies

Source	Journal	Country	Study type	Anti-obesity medication	No. of participants	Duration of follow up
Faurschou et al, 2015 (17)	JEADV	Denmark	RCT	Liraglutide	20	8 weeks
Petkovic-Dabic et al, 2025 (18)	Biomolecules	Bosnia	Open label RCT	Semaglutide	31	12 weeks
Ahern et al. 2013 (19)	JEADV	Ireland	Prospective Cohort study	Liraglutide	7	10 weeks
Nicolau et al, 2025 (20)	Medicina Clinica	Spain	Prospective cohort study	Liraglutide	50	24 weeks
Nicolau et al, 2025 (21)	Clinical and Experimental Dermatology	Spain	Prospective cohort study	Semaglutide	43	24 weeks

JEADV, Journal of the European Academy of Dermatology and Venerealogy; RCT, randomized controlled trial; PASI, Psoriasis Area Severity Index; DLQI, Dermatology Life Quality Index; BMI, body mass index

Title: Lack of effect of the glucagon-like peptide-1 receptor agonist liraglutide on psoriasis in glucose tolerant patients--a randomized placebo-controlled trial(17)

Authors: Faurschou A, Gyldenløve M, Rohde U, Thyssen JP, Zachariae C, Skov L, et al

This study was a randomized controlled trial published in the Journal of the European Academy of Dermatology and Venerealogy in 2015 (Table 1). The study was carried out in Denmark at a university hospital outpatient dermatology clinic from December 2011 to February 2013. The aim of this RCT was to investigate the effect of Liraglutide on psoriasis severity in obese glucose-tolerant patients. Overweight or obese patients with plaque psoriasis of moderate severity, on no treatment or stable treatment for psoriasis were included and patients with diabetes, psoriatic arthritis, heart failure, uremia or end-stage renal disease, liver disease, anemia, pancreatitis, gout or thyroid cancer, pregnancy or breastfeeding were excluded. Sample size calculations were not conducted as no previous study was available to draw standard deviations from. Therefore, the authors were unable to specify if the study was adequately powered. A total of 21 patients were included in the study, three-quarters were male, mean age was 51 and mean BMI 36 kg/m^2. Only one participant was excluded after randomization leaving 9 patients in the placebo and 11 patients in the treatment group. Liraglutide was administered once daily subcutaneously for 8 weeks.

Patients were randomized 1:1 to treatment (liraglutide)or placebo. Baseline characteristics for treatment and placebo group were similar but p-values were not reported. No issues with treatment adherence were reported. Outcome data was available for almost all randomized participants, only 1 patient in placebo group discontinued after randomization due to

development of a rash. Both participants and assessors were blinded to the intervention making measurement bias unlikely. Results reported were pre-specified in the analysis. Therefore, overall risk of bias was low in this study (Table 2).

Primary study outcomes were PASI and DLQI whereas secondary outcomes included changes in bodyweight, cholesterol levels, inflammatory markers and adverse events. In this study, no significant change in PASI, DLQI, HbA1c or inflammatory markers (hsCRP) was reported after 8 weeks of treatment with Liraglutide (Table 4). On the other hand, patients in the treatment group had significant loss of weight of 4.7 kg compared to 1.5 kg in the placebo group. Change in cholesterol levels was significant as well – patients on liraglutide had a 0.58 mmol/L reduction in cholesterol whereas those on placebo had a reduction of 0.12 mmol/L. No serious adverse events were reported in either group, but patients in the treatment group had GI side effects – nausea, loss of appetite and constipation which was not observed in the placebo group.

Title: Effects of Semaglutide Treatment on Psoriatic Lesions in Obese Patients with Type 2 Diabetes Mellitus: An Open-Label, Randomized Clinical Trial(18)

Authors: Petković-Dabić (18)**J, Binić I, Carić B, Božić L, Umičević-Šipka S, Bednarčuk N, et al**

This open-label randomized controlled trial was published in Biomolecules in January 2025 (Table 1). The study was carried out at the clinic of Skin and Venereal Diseases at the University Clinical Centre of the Republic of Srpska (UCC) in Bosnia and Herzegovina from May 2023 to June 2024. The objective of this study was to examine the effect of semaglutide on clinical

course of psoriatic plaques, biochemical markers and quality of life of obese psoriatic patients with Type 2 diabetes mellitus (T2DM). Inclusion criteria were moderately severe to severe plaque psoriasis and a diagnosis of T2DM at least 6 months before trial participation and treated with metformin. Patients with psoriasis other than chronic plaque psoriasis, other chronic inflammatory diseases, patients on medications that worsened psoriasis, such as lithium, antimalarial drugs, or steroids, or on systemic medications for psoriasis, on GLP-1 RA other than semaglutide, SGLT2i, NSAIDs, photo UVB therapy and with a family history of medullary thyroid cancer were excluded. A total of 31 patients met inclusion criteria and randomization was done 1:1 enrolling 15 patients in the treatment group and 16 patients in the control group. Three patients were excluded due to side effects, such as nausea and vomiting, and due to exacerbation of disease but the article did not specify whether these patients were from the treatment or control group. About 80% of the patients were male, mean age was about 58 years and mean BMI about 35 kg/m^2. Semaglutide was administered once weekly subcutaneously for 12 weeks at a standard dose and control group did not receive any placebo.

Baseline characteristics were similar between the groups. No treatment adherence issues were reported and outcome data was available for all other patients. Both patients and assessors were aware of the intervention, increasing the risk for measurement bias, especially for patient-reported outcomes, such as DLQI. Outcome measures were pre-specified in the trial registration, but not in the published article. Therefore, risk of bias was high in this trial (Table 2).

Table 2. Quality assessment of included RCTs

Study	Risk of bias from randomization	Risk of bias due to deviations from the intended interventions	Missing outcome data	Risk of bias in measurement of outcome	Risk of bias in selection of the reported result	Overall risk of bias
Faurschou et al, 2015(17)	low	low	low	low	low	low
Petkovic-Dabic et al, 2025(18)	High	low	low	high	low	high

This study found significant improvement in psoriasis severity, biomarkers, quality of life and loss of weight after 12 weeks of treatment with semaglutide compared to the control group. Median PASI scores decreased from 21 to 10 in the treatment group whereas these scores decreased from about 20 to about 16 in the control group (Table 4). There was a significant decrease in LDL cholesterol levels and inflammatory markers (CRP and IL 6) in the treatment group compared to the control group. Improvement in quality of life measured as a decrease in

DLQI, weight loss and reduction in HbA1c was significant in both groups, however the magnitude of change was larger in the treatment group.

Title: Glucagon-like peptide-1 analogue therapy for psoriasis patients with obesity and type 2 diabetes: a prospective cohort study(19)

Authors: Ahern T, Tobin AM, Corrigan M, Hogan A, Sweeney C, Kirby B, et al

This prospective open-label cohort study was conducted in St Vincent's University Hospital and St Columcille's Hospital in Ireland between April 2010 and July 2011 and was published in the Journal of the European Academy of Dermatology and Venerealogy in 2013 (Table 1). The hypothesis under investigation was that GLP-1 analogues decreased severity of psoriasis and had immunomodulatory effects. Patients with diabetes, obesity and plaque psoriasis were included and those with severe heart, lung, kidney or liver disease, cancer, pregnancy or breastfeeding were excluded. A total of 7 patients were included in the study and they self-administered Liraglutide 0.6mg initially for 2 weeks and then 1.2mg daily subcutaneously for 10 weeks. More than 70% of patients were male, median age was 48 years and median BMI 48 kg/m^2. Most patients had mild psoriasis with a few patients in the moderate and severe categories. None of them were on topical or systemic therapy for psoriasis.

Patients in this study were somewhat representative of obese psoriatic patients in the community and all received liraglutide. There was no comparator group. Outcome was assessed after an adequate period of time and all patients were accounted for. Overall study quality was fair (Table 3).

Administration of liraglutide had a significant effect on psoriatic disease, quality of life and markers of inflammation. Median PASI scores dropped from 4.8 to 3.0 (p = 0.03) and median DLQI from 6 to 2 (p=0.03) (Table 4). Median weight loss was 5% and no serious adverse events were reported. Circulating monocytes producing TNFα were assessed in four patients and a median decrease of 53% was observed, but no changes in circulating T lymphocytes, B lymphocytes or natural killer cells was reported.

Table 3. Quality of non-randomized studies

Studies	**Selection**	**Comparability**	**Outcome**	**Overall quality**
Ahern et al (19)	Somewhat representative, no comparator, definite exposure to drug, outcome of interest at start of study – N/A	N/A	Independent assessment, adequate period of follow up, small number of subjects lost to follow up	Fair/Medium
Nicolau et al(20)	Somewhat representative, no comparator, definite exposure to drug, outcome of interest at start of study – N/A	N/A	Independent assessment, adequate period of follow up, no loss of subjects to follow up	Fair/Medium
Nicolau et al(21)	Somewhat representative, no comparator, definite exposure to drug, outcome of interest at start of study – N/A	N/A	Independent assessment, adequate period of follow up, no loss of subjects to follow up	Fair/Medium

Title: Effects of six months treatment with liraglutide among patients with psoriasis and obesity, beyond metabolic control? (20)

Authors: Nicolau J, Nadal A, Sanchís P, Pujol A, Tamayo MI, Nadal C, et al

This prospective open-label cohort study was conducted in a tertiary hospital in Palma de Majorca in Spain and was published in Medicina Clinica in June 2025 (Table 1). Aim of this study was to study the effects of a higher dose of liraglutide (3 mg) in patients with psoriasis and obesity in regards to weight and metabolism, body composition, inflammatory markers, skin disease and quality of life. Patients with Type 1, Type 2 or gestational DM, pregnancy or breastfeeding, patients with recent changes in their psoriasis treatment, patients on anti-obesity medications and patients unable to afford liraglutide were excluded. Liraglutide was administered by subcutaneous injection daily for 6 months. Other interventions included a tailored Mediterranean diet with an average of 500 kcal/day reduction from basal metabolic rate as well as minimum of 150 min of aerobic exercise per week with recommendations for at least 2 sessions of resistance exercise. A total of 50 patients were included with 2 patients withdrawing from the study for economic reasons. About 52% of patients were male, mean age was 48.7 years and mean BMI was about 38 kg/m^2. Patients had psoriasis of moderate severity and were treated with either phototherapy or biologics for psoriasis.

Participants in this study were somewhat representative of obese psoriatic patients. There was no comparator group. Outcome was assessed independently and length of follow up was adequate with outcome data for all patients. Overall study quality was fair (Table 3).

Treatment with liraglutide for 6 months resulted in a significant decrease in the severity of psoriasis with mean PASI scores decreasing from 12 to 4.3 ($p < 0.0001$) and a significant improvement in the quality of life evident by a decrease in DLQI from 11.9 to 4.8 ($p < 0.0001$)(Table 4). This was accompanied by a mean weight loss of 8.25% and a decrease in waist circumference by about 7 cm. Interestingly, improvement in psoriasis was independent of weight loss in multiple regression analysis. Biochemical markers showed important changes with reductions in BMI, hsCRP, homocysteine, plasma cortisol levels but no changes in lipid profile was observed. Furthermore, there was a significant decrease in depression. When considering body composition, this study reported a significant reduction in abdominal subcutaneous fat and preperitoneal fat without changes in the muscular compartment. No significant adverse events were noted.

Title: Dermatologic and Metabolic Benefits of Semaglutide in Psoriasis with Obesity: A Six-Month Prospective Cohort Study(21)

Authors: Nicolau J, Nadal A, Sanchís P, Pujol A, Tamayo MI, Nadal C, et al

This prospective cohort study was published online ahead of print in Clinical and Experimental Dermatology in October 2025 (Table 1). The study was conducted in Spain and aimed to evaluate the effect of semaglutide on disease severity, metabolic, inflammatory and psychosocial aspects in obese patients with psoriasis. Patients with Type 1, Type 2 or gestational DM, pregnancy or breastfeeding, alcohol or substance abuse, with recent changes in their psoriasis treatment, with other uncontrolled medical conditions, patients on anti-obesity medications and patients unable to afford semaglutide were excluded. Semaglutide was administered by subcutaneous injection 2.4 mg weekly for 6 months. Other interventions

included a tailored Mediterranean diet with an average of 500 kcal/day reduction from basal metabolic rate as well as minimum of 150 min of aerobic exercise per week with at least 2 sessions of resistance exercise. A total of 43 patients were included of whom about 53% were male, mean age was 46.7 years and mean BMI was about 38 kg/m^2. Patients had psoriasis of moderate severity and the majority were treated with biologics.

The participant group was somewhat representative of obese psoriatic patients, and all participants received semaglutide. There was no comparator group. Outcome was assessed independently after adequate time with data for all patients. Study quality was therefore fair (Table 3).

Semaglutide improved disease severity, quality of life, depression and had significant effects on the metabolic profile and biochemical markers of inflammation. Mean PASI scores reduced from 10.6 to 5.5 ($p < 0.0001$) and mean DLQI from 11.7 to 5 ($p < 0.0001$) and these reductions were statistically significant (Table 4). Depressive symptoms were significantly reduced as well. Mean weight loss was 11.8% with waist circumference reducing by almost 10 cm. Significant reductions in HbA1c, total and LDL cholesterol were reported. Inflammatory markers including hsCRP and plasma cortisol were reduced significantly. Ultrasound of adipose tissue revealed significant reductions in preperitoneal fat, and superficial adipose tissue in the abdominal wall. Changes in PASI score was strongly correlated with superficial fat reduction.

Table 4. Study outcomes

Study outcomes (decreases)	**Faurschou et al (Liraglutide) - RCT**	**Petkovic-Dabic et al (Semaglutide) - RCT**	**Ahern et all (Liraglutide) – cohort**	**Nicolau et al (Liraglutide) – cohort**	**Nicolau et al (Semaglutide) - cohort**
PASI	2.6	11*	1.8*	7.7*	5.1*
DLQI	2.5	10*	4*	7.1*	6.7*
Weight (kg)	4.7*	N/A	7.7	7.6*	12.8*
BMI (kg/m^2)	N/A	2.3*	N/A	2.9*	4.4*
HbA1c (%)	0.15	1.2*	N/A	0.5*	0.2*
Total cholesterol (mmol/L)	0.58*	0.6	N/A	0.2**	0.13*
LDL-C (mmol/L)	N/A	0.8*	N/A	0.0075**	0.2*
CRP (mg/L)	N/A	1.9*	N/A	N/A	N/A
hsCRP (mg/L)	2.5	N/A	N/A	2.1*	1.9*

PASI, Psoriasis Area Severity Index; DLQI, Dermatology Life Quality Index; BMI, body mass index; HbA1c, hemoglobin A1c or glycated haemoglobin; LDL-C, low density lipoprotein-cholesterol; CRP, C-reactive protein; hsCRP, high sensitivity C-reactive protein

*Indicates statistically significant; **indicates increase which was not statistically significant

Discussion

This review found objective improvement in disease severity, inflammatory markers, and patient-reported outcomes of quality of life as well as greater reductions in weight with the use of anti-obesity medications (semaglutide and liraglutide) in obese and overweight patients with psoriasis. This conforms to several recent reviews (14–16,22,23) which report similar improvements in Psoriasis and quality of life with the use of different GLP-1 RAs. The only study which did not find any significant improvement in disease severity or quality of life was an RCT that followed patients for 8 weeks, a shorter duration of time compared to other studies, and differences might not have been evident by then.

Two ongoing multicentre randomized controlled trials in the US are investigating the effect of tirzepatide on obese patients with psoriasis treated with standard therapy and/or ixzekizumab (24,25). Another single centre open-label clinical trial in Hong Kong is currently investigating effect of semaglutide on psoriasis in obese patients (26). The results of these studies would shed further light on the effectiveness of anti-obesity medications in managing this complex immune-mediated disease.

Even though the markers of inflammation were different between the studies, there was significant decrease in inflammation as measured by at least one marker in each study. Lin et al conducted an RCT investigating the effect of liraglutide on psoriasis patients with Type 2 diabetes (27). The patients were not obese and overweight, and still had significant improvement in PASI and DLQI scores compared to control group. Interestingly, there was a

significant decrease in the number of epidermal cell layers, and in the expression of IL 23 and IL 17 in the treatment group compared with the control group. This finding highlights the possible direct effect of GLP-1 RA on reducing inflammation on psoriatic skin lesions. Further research may uncover mechanism of action of GLP-1 RA in immune-mediated inflammatory conditions beyond weight reduction.

The limitations of this review include small number of heterogenous studies with small sample sizes. Each study was conducted in a single centre, which limits its generalizability. The cohort studies did not include a comparator group and one RCT was open-label which raised the risk of bias significantly. Strengths of this review include methodological rigor and a comprehensive search of relevant databases.

Conclusion

With the advance of modern science, anti-obesity medications are increasingly being used in a plethora of chronic conditions associated with obesity and can perhaps be an important adjunct in the management of Psoriasis. This review explored the impact of anti-obesity medications on obese or overweight psoriasis patients in randomized controlled trials and prospective cohort studies, and found a significant reduction in severity of disease as well as improved quality of life along with significant weight reduction. Further research should be undertaken to uncover mechanism of action of these medications in chronic immune-mediated conditions as their effects could be related directly to the inflammatory pathways besides weight loss. Studies to outline interaction with medications commonly used for management of Psoriasis and to compare efficacy of different drugs and formulations in the same medication class can guide optimization of therapy in different patient populations. Finally, long term efficacy of GLP-1 RAs and newer anti-obesity medications should be explored in Psoriasis before they become part of our pharmaceutical arsenal.

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Appendix 1. Search Strategy

Medline Search

	Searches	Results
16	limit 15 to english language	42
15	14 not 13	42
14	8 and 11 and 12	42
13	(exp infant/ or exp child/ or exp adolescent/) not exp adult/	2286192
12	exp obesity/ or exp overweight/ or (obese* or overweight or obesity).ti,kf,ab.	523621
11	or/9-10	71418
10	(PsO or psoria* skin disease or psoria* skin condition).ti,kf,ab.	58547
9	exp PsO/	52897
8	or/1-7	39351
7	(orforglipron or cagrilintide or cagrisema or retatrutide or maridebart cafraglutide or MariTide or amycretin or bimagrumab or mazdutide or survodutide or pemvidutide or dapiglutide).ti,kf,ab.	300
6	(semaglutide or Rybelsus or Ozempic or Wegovy or liraglutide or Victoza or Saxenda or dulaglutide or Trulicity or exenatide or Byetta or Bydureon or lixisenatide or Adlyxin or tirzepatide or Mounjaro or Zepbound).ti,kf,ab.	11132
5	(orlistat or Xenical or Alli or naltrexone*bupropion or Contrave or phentermine*topiramate or Qsymia or phentermine or Adipex-P or Lomaira).ti,kf,ab.	3274
4	Glucagon Like Peptide* Receptor.ti,kf,ab.	178
3	((weight loss or anti obesity) adj2 (medication* or agent* or therap* or treatment* or drug*)).ti,kf,ab.	6837
2	exp Glucagon-Like Peptide-1 Receptor Agonists/	9364
1	exp Anti-Obesity Agents/	22129

Embase search

No.	Query	Results
#13	#11 NOT #12 AND [english]/lim	231
#12	('infant'/exp OR 'child'/exp OR 'adolescent'/exp) NOT 'adult'/exp	3016680
#11	#8 AND #9 AND #10	240
#10	'obesity'/exp OR 'overweight'/exp OR obese*:ti,kw,ab OR overweight:ti,kw,ab OR obesity:ti,kw,ab	958019
#9	'PsO'/exp OR PsO:ti,kw,ab OR 'psoria* skin':ti,kw,ab	145480
#8	#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7	102334
#7	orforglipron OR cagrilintide OR cagrisema OR retatrutide OR maridebart OR cafraglutide OR maritide OR amycretin OR bimagrumab OR mazdutide OR survodutide OR pemvidutide OR dapiglutide:ti,kw,ab	1119
#6	semaglutide OR rybelsus OR ozempic OR wegovy OR liraglutide OR victoza OR saxenda OR dulaglutide OR trulicity OR exenatide OR byetta OR bydureon OR lixisenatide OR adlyxin OR tirzepatide OR mounjaro OR zepbound:ti,kw,ab	31279
#5	orlistat OR xenical OR alli OR 'naltrexone bupropion' OR contrave OR 'phentermine topiramate' OR qsymia OR phentermine OR 'adipex p' OR lomaira:ti,kw,ab	14559
#4	('weight loss' NEAR/2 (medication* OR drug* OR agent* OR therap* OR treatment*)):ti,kw,ab	7497
#3	('anti obesity' NEAR/2 (medication* OR drug* OR agent* OR therap* OR treatment*)):ti,kw,ab	3753
#2	'glucagon like peptide receptor agonist'/exp OR 'glucagon like peptide receptor agonist'	70593
#1	'antiobesity agent'/exp OR 'antiobesity agent'	47510

CENTRAL Search

ID	Search	Hits
#1	MeSH descriptor: [Anti-Obesity Agents] explode all trees	1084
#2	MeSH descriptor: [Glucagon-Like Peptide-1 Receptor Agonists] explode all trees	357
#3	(glucagon like peptide receptor agonist*):ti,kw,ab	1910
#4	(anti obesity) next (medication* or agent* or agonist* or therap* or treatment*):ti,kw,ab	3905
#5	(weight loss) near/2 (medication* or agent* or agonist* or therap* or treatment*):ti,kw,ab	7319
#6	orlistat or Xenical or Alli or (naltrexonen bupropion) or Contrave or (phentermine topiramate) or Qsymia or phentermine or (Adipex-P) or Lomaira:ti,kw,ab	984
#7	semaglutide or Rybelsus or Ozempic or Wegovy or Liraglutide or Victoza or Saxenda or dulaglutide or Trulicity or exenatide or Byetta or Bydureon or lixisenatide or Adlyxin or tirzepatide or Mounjaro or Zepbound:ti,kw,ab	6497
#8	orforglipron or cagrilintide or cagrisema or retatrutide or maridebart cafraglutide or MariTide or amycretin or bimagrumab or mazdutide or survodutide or pemvidutide or dapiglutide:ti,kw,ab	285
#9	{OR #1-#8}	18322
#10	MeSH descriptor: [PsO] explode all trees	4811
#11	PsO or psoria*:ti,kw,ab	12437
#12	#10 OR #11	12437
#13	MeSH descriptor: [Overweight] explode all trees	26334
#14	overweight or obese or obesity:ti,kw,ab	67050
#15	#13 or #14	67154
#16	#9 AND #12 AND #15	18
#17	MeSH descriptor: [Infant] explode all trees	46403
#18	MeSH descriptor: [Child] explode all trees	83695
#19	MeSH descriptor: [Adolescent] explode all trees	138990
#20	infant* or child* or adolescent* or pediatric*:ti,kw,ab	391606
#21	{OR #17-#20}	391606
#22	#16 not #21	15
#23	English:la	2206465
#24	#22 and #23	15

Supplemental Search

A. Clinical trial registry:

Date of search: Oct 10, 2025

Search Terms:

'PsO' with 'anti-obesity medications'

'PsO' with 'glucagon like peptide 1 receptor agonists'

'PsO' with individual anti-obesity medications

List of anti-obesity medications: orlistat or naltrexone-bupropion or phentermine-topiramate or phentermine or semaglutide or Liraglutide or dulaglutide or exenatide or lixisenatide or tirzepatide or orforglipron or cagrilintide or retatrutide or maridebart or cafraglutide or amycretin or bimagrumab or mazdutide or survodutide or pemvidutide or dapiglutide

Clinicaltrials.gov – total trials: 14, relevant trials: 6 (all duplicate)

clinicaltrialsregister.eu – total trials: 1, relevant trials: 1 (duplicate)

B. Conference Abstract:

Date of search: Oct 12, 2025

1. American Academy of Dermatology (Science Direct) – We combined the following search terms –
   'PsO' with 'anti-obesity medications'
   'PsO' with 'glucagon like peptide 1 receptor agonists'
   'PsO' with individual anti-obesity medications
   List of anti-obesity medications: (as above)
   Total conference abstracts: 12, relevant: 0
2. EADV conference abstracts 2022-2025 (congress and symposium) available through Abstract Books on the website – manual search
   Relevant abstracts: 0
3. Canadian Dermatology Association conference abstracts 2023 - 2025 available through Fourwaves – manual search
   Relevant abstracts: 0

C. PROQUEST search:

Date of search: Oct 12, 2025

Search terms: Title (PsO) AND (obesity OR overweight OR obese) AND Summary ((anti-obesity drug) OR (glucagon-like peptide-1 receptor agonist) OR semaglutide OR liraglutide OR dulaglutide OR exenatide OR lixisenatide OR tirzepatide OR orlistat OR phentermine OR (phentermine-topiramate) OR (naltrexone-bupropion) OR orforglipron or cagrilintide or retatrutide or maridebart or cafraglutide or amycretin or bimagrumab or mazdutide or survodutide or pemvidutide or dapiglutide) AND (randomized controlled trial)

Total number of articles: 6 (scholarly journals 3, trade journals 2 and dissertation and thesis 1)

Relevant articles: 0