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ORIGINAL RESEARCH

Multidisciplinary Management in Psoriasis: A Structured Approach for Early Comorbidity Detection and Referral

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ABSTRACT

***Introduction*:** Psoriasis is a systemic disease with a high burden of underdiagnosed and undertreated comorbidities, partly due to fragmented care. These comorbidities significantly worsen outcomes and quality of life, highlighting the need for structured and coordinated multidisciplinary management to reduce diagnostic delays.

***Methods*:** This project aimed to develop screening algorithms and multidisciplinary referral criteria to promote early detection and coordinated management of psoriatic comorbidities. A three-phase methodology was applied: a literature review, focus groups and a nominal group session, all guided by a multidisciplinary scientific committee.

***Results*:** Five multidisciplinary algorithms were designed to optimise referral from dermatology

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to rheumatology, hepatology, gastroenterology, endocrinology and psychology specialists. These tools integrate clinical criteria, laboratory thresholds and referral guidance, summarising eligibility criteria, key screening parameters, and follow-up recommendations in a consistent visual format to facilitate real-world application. The model aims to standardise screening practices and support timely, accurate referral across specialties.

Conclusions: Incorporating structured decision-making algorithms into dermatology workflows may reduce diagnostic delays, enhance cross-specialty collaboration and promote more consistent and efficient comorbidity management in psoriasis. These tools provide a practical framework for early identification and coordinated care and may be applicable beyond the Spanish healthcare setting.

Keywords: Psoriasis; Referral pathways; Multidisciplinary management; Clinical decision-making; Comorbidities; Clinical algorithm

Key Summary Points

Psoriasis is a systemic inflammatory disease in which clinically relevant comorbidities remain frequently underdiagnosed and undertreated, partly due to fragmented care and unclear referral processes.

Delays in comorbidity recognition and specialist referral can worsen outcomes and quality of life, highlighting the need for practical tools that fit routine dermatology workflows.

This study asked whether a structured, multidisciplinary process could define harmonised screening criteria and referral thresholds for psoriasis-associated comorbidities.

Using a three-phase methodology (literature review, specialty focus groups and a nominal group consensus), five structured referral algorithms were developed to guide dermatologists in directing patients to rheumatology, gastroenterology, hepatology, endocrinology/internal medicine and psychological care services.

These multidisciplinary pathways provide clear, actionable decision support that can streamline cross-specialty coordination, reduce diagnostic delays, and strengthen comprehensive care for patients with psoriasis.

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INTRODUCTION

Psoriasis is a chronic, immune-mediated inflammatory disease primarily affecting the skin, with a pathogenesis triggered by both genetic and environmental factors [1]. Considered a dermatological condition, psoriasis is increasingly acknowledged as a multisystem disorder with implications that extend beyond the skin [2, 3]. In Spain, the prevalence is between 1.9% and 2.3%, with an annual increase of 7.2% in men and 8.3% in women [1, 4].

Although skin symptoms are often the most visible or only recognised sign, comprehensive management is key to improving outcomes [3, 5]. Thus, recent attention has focussed on psoriasis-related comorbidities (rheumatological, hepatic, gastrointestinal, endocrine and psychological) owing to their clinical relevance [6].

One of the most common comorbidities is psoriatic arthritis (PsA), affecting approximately 30% of patients with psoriasis. It is characterised by joint pain, stiffness and swelling, often leading to functional impairment [7, 8]. Inflammatory bowel disease (IBD) may develop after the onset of psoriasis [3], including ulcerative colitis (UC) and Crohn's disease (CD) [9]. Hepatic conditions, mainly metabolic dysfunction-associated steatotic liver disease (MASLD) and endocrine disorders such as metabolic syndrome, are also highly prevalent among patients with psoriasis, with rates ranging from 47% to 65.6% [10–12] and up to 45% [2], respectively.

Notably, depression affects approximately 25–30% of individuals with psoriasis [13], compared with a prevalence of 4% in the general population in Spain [14]. In all cases, early diagnosis and intervention are crucial in mitigating the impact of the disease [15–21].

These associations highlight the systemic inflammatory burden in psoriasis and the need for multidisciplinary care, with dermatologists playing a central role in diagnosing the condition, identifying comorbidities and facilitating timely referral [3, 22].

Although leading dermatology societies, such as the European Academy of Dermatology and Venereology (EADV), the Spanish Academy of Dermatology and Venereology (AEDV) and the American Academy of Dermatology (AAD), recognise the multisystem nature of psoriasis and its comorbid burden, current guidelines offer limited standardised approaches for cross-disciplinary screening and referral, resulting in delays in effective comorbidity management [3, 23, 24]. In particular, practical multidisciplinary referral pathways are not consistently integrated into routine dermatology care. Remarkably, one of the last interdisciplinary management review was published in 2012 [25], later complemented by an update published in 2018 [22], highlighting the need for an updated, structured framework.

The objective of this project was therefore to develop multidisciplinary care pathways for patients with psoriasis by defining patient profiles, associated symptoms, recommended investigations and laboratory tests, and by establishing clear and concise criteria for referral to the appropriate specialties.

METHODS

The project was structured into three main phases: (1) a literature review, (2) specialty-specific focus groups and (3) a final nominal group session (Table 1).

A scientific committee of 13 multidisciplinary experts was established to guide and validate the process throughout all phases. The committee included professionals from dermatology ($n=8$), gastroenterology ($n=1$), psychology ($n=1$), rheumatology ($n=1$), endocrinology ($n=1$) and hepatology ($n=1$), all with recognised expertise in the management of psoriasis.

This combination of methods was selected to identify key challenges in clinical practice, integrate interdisciplinary expertise and establish structured management processes for patients with psoriasis.

This approach ensures that both scientific evidence and clinical experience inform the development of referral and screening pathways and allows expert deliberation, essential for defining referral criteria and workflows involving multiple specialties.

Table 1 Phases of the methodological process

Phase	Description	Outcome
Literature review	Systematic review of international and national literature to identify current pathways, unmet needs and referral criteria in psoriasis care	Evidence base for integrated care and key referral gaps identified
Focus groups	Specialty-specific discussions (four groups) involving dermatologists and one expert from each relevant specialty to define screening and referral criteria	Preliminary criteria and care pathway elements proposed for each specialty
Nominal group	Joint session with all experts to refine and validate algorithms using a modified nominal group technique and consensus approach	Consensus on five final referral algorithms, aligned with clinical evidence and expert agreement

Literature Review

A targeted literature review was conducted to inform the development of the multidisciplinary referral algorithms. Its aim was to identify key evidence, existing recommendations, validated screening tools, laboratory parameters and referral thresholds for psoriasis-associated comorbidities, providing the evidence base for the development of the algorithms.

The international database PubMed/MEDLINE was searched to identify relevant publications, using psoriasis and related terms as keywords, including comorbidity, mental health, inflammatory bowel disease, hepatology, endocrinology and multidisciplinary treatment, with the Boolean operators "OR" and "AND". The research was supplemented with manual searches of reference lists, the grey literature (Google Scholar), the Cochrane Database, clinical guidelines and national and international recommendations, including documents from the AEDV, the Spanish Working Group on Crohn's Disease and Ulcerative Colitis (GETECCU) and the Spanish Society of Rheumatology (SER).

Focus Group

To complement the literature review, interdisciplinary focus groups [26] were conducted with the scientific committee, with one group formed for each specialty. This methodology was selected to allow in-depth, specialty-specific discussion of screening and referral practices for each comorbidity, enabling the identification of key clinical variables and preliminary algorithm components within each discipline, and supporting the development of initial proposals within each specialty.

Four online focus groups were held, each corresponding to a clinical area (rheumatology, endocrinology, psychology and gastroenterology) and composed of members of the scientific committee. Each group included two dermatologists and one additional specialist from rheumatology, endocrinology or psychology. In the case of the gastroenterology group, two specialists were included: one gastroenterologist and one hepatologist. The sessions were moderated and structured around a pre-designed care pathway specific to the comorbidity discussed. This predesign was developed on the basis of the results of a pre-work exercise distributed to group members in advance, with the aim of collecting relevant information to inform the session content. Discussions were facilitated to define clear screening and referral criteria, including clinical variables, timing, diagnostic tests and potential referral thresholds.

Nominal Group

A nominal group session was conducted to integrate and harmonise the proposals generated

during the specialty-specific focus groups, ensuring consistency across the different algorithms. This approach allowed the alignment of specialty-specific proposals through multidisciplinary consensus. The meeting was conducted with all experts who had participated in the four focus groups, using a modified nominal group technique involving structured individual input, sequential sharing of ideas and facilitated group discussion. Key algorithm components (identification criteria, referral pathways and decision points) were presented and discussed. Participants provided structured feedback to refine definitions, harmonise formats and ensure internal consistency. A consensus approach was applied during the session, with collective revision and iterative input until full agreement was achieved. The algorithms were validated by the end of the session.

This study was conducted in accordance with applicable ethical standards. As it was based on a literature review and expert consensus methodology and did not involve human participants, patient data or experimental interventions, formal ethical approval and informed consent were not required.

RESULTS

Five algorithms were developed in order to address the various comorbidities discussed.

All the algorithms follow a standard visual code (Fig. 1), where the blue box indicates the starting point at the consultation with the dermatologist and specifies the patient profile eligible for assessment. The red box indicates the tests to be requested and evaluated; diamonds represent decision points based on clinical judgement; and the green box indicates the final action (referral). Additionally, the orange box specifies re-evaluation criteria and timing, while the yellow box denotes the recommended timeframe for referral.

A summary comparison of the five referral algorithms developed for each comorbidity is presented in Table 2. This table provides an overview of eligibility criteria, screening tools and thresholds, referral destinations, suggested timing, and re-evaluation recommendations. Each algorithm is described in the subsequent sections.

Hepatology Referral Algorithm

In patients with moderate-to-severe psoriasis, routine liver function tests (alanine aminotransferase [ALT], aspartate aminotransferase [AST], alkaline phosphatase [ALP], gamma-glutamyl transferase [GGT] and bilirubin) should be performed during dermatology consultations (Fig. 2). Persistent abnormal liver biochemistry results, defined as abnormalities in liver function tests in two consecutive determinations (not necessarily involving the same parameter),

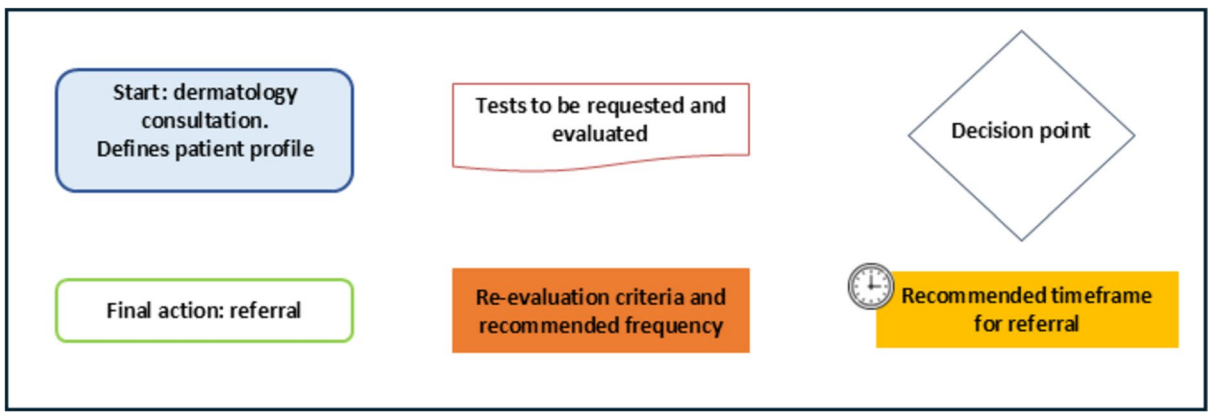

Fig. 1 Key to algorithm components

Table 2 Summary comparison of referral algorithms by comorbidity

Algorithm	Eligibility	Screening	Tools and thresholds	Referral to	Suggested timing	Re-evaluation
Hepatology	Moderate-to-severe psoriasis	Abnormal liver function or metabolic risk	FIB-4 ≥ 1.3 (< 65 years); FIB-4 ≥ 2.0 (≥ 65 years); APRI ≥ 0.5	Hepatology	< 1 year	Every 1–3 years (if no risk or low fibrosis risk)
Gastroenterology	Moderate-to-severe psoriasis	GI symptoms suggesting IBD risk	≥ 1 major or ≥ 2 minor PIIASER criteria	Gastroenterology	Priority referral if criteria met	PIIASER criteria: at every consultation Every 6–12 months (if asymptomatic)
Endocrinology	All psoriasis patients	Stratification by metabolic risk	BMI, WC, HbA1c, LDL, fasting glucose, TG. Threshold indicated in Table 4	Endocrinology or internal medicine (high risk)/primary care (moderate risk)	< 90 days (if high risk)	Based on comorbidities and treatment response
Rheumatology	All psoriasis patients	PsA risk	PURE-4 score ≥ 2	Rheumatology	< 3 months	Every year (if no PsA signs)
Psychology	All psoriasis patients	Psychological distress or suicidal ideation risk	HADS ≥ 11, GADS ≥ 2, C-SSRS positive	Psychology / Psychiatric emergency (if suicide risk)	< 24 h if suicide risk; otherwise, routine psychological referral	Every 6–12 months or as clinically indicated

APRI aspartate aminotransferase to platelet ratio index, *BMI* body mass index, *C-SSRS* Columbia–Suicide Severity Rating Scale, *FIB-4* Fibrosis-4 Index, *GI* gastrointestinal, *GADS* Generalized Anxiety Disorder Screening (2-item), *HADS* Hospital Anxiety and Depression Scale, *HbA1c* glycated haemoglobin, *IBD* inflammatory bowel disease, *LDL* low-density lipoprotein cholesterol, *PsA* psoriatic arthritis, *PURE-4* Psoriatic Arthritis Uncluttered Screening Evaluation (4-item), *PIIASER* major and minor indicators for suspected inflammatory bowel disease in psoriasis patients, *TG* triglycerides, *WC* waist circumference

should be considered an indication for referral to hepatology. No specific thresholds of alteration were predefined, and the clinical relevance of abnormalities should be interpreted by the dermatologist on the basis of clinical judgment. The interval between tests should be guided by the dermatologist's clinical judgment and tailored to the patient's specific circumstances, with a maximum interval of 1 year between determinations.

If liver biochemistry is within reference ranges, the presence of risk factors for metabolic syndrome (shown in Table 3) should be assessed.

When at least one of these risk factors is identified, liver fibrosis should be evaluated using non-invasive scoring systems, namely the Fibrosis-4 index (FIB-4) [27] or AST to platelet ratio index (APRI) [28]. In patients aged ≤ 35 years old, the APRI score should be used; in patients > 35 years old, either the FIB-4 or APRI may be used. Moderate-to-high risk of advanced liver fibrosis should be defined as FIB-4 ≥ 1.3 for individuals under 65 years, FIB-4 ≥ 2.0 for those aged ≥ 65 years, or APRI ≥ 0.5. If these thresholds are exceeded, the dermatologist should request transient elastography and refer the patient to hepatology when the test is available in their clinical settings; if not available, referral should be made directly without requesting transient elastography to avoid unnecessary delays.

In patients without metabolic syndrome, risk factors and low fibrosis risk (via FIB-4 or APRI) should be re-evaluated in dermatology every 1–3 years, on the basis of comorbidities and treatment.

Gastroenterology Referral Algorithm

Patients with moderate-to-severe psoriasis should be assessed for gastrointestinal symptoms. This assessment should include a full blood count, biochemistry (including renal and liver function), albumin, serum iron and C-reactive protein (CRP), and evaluation of the PIIASER criteria [29] (Fig. 3).

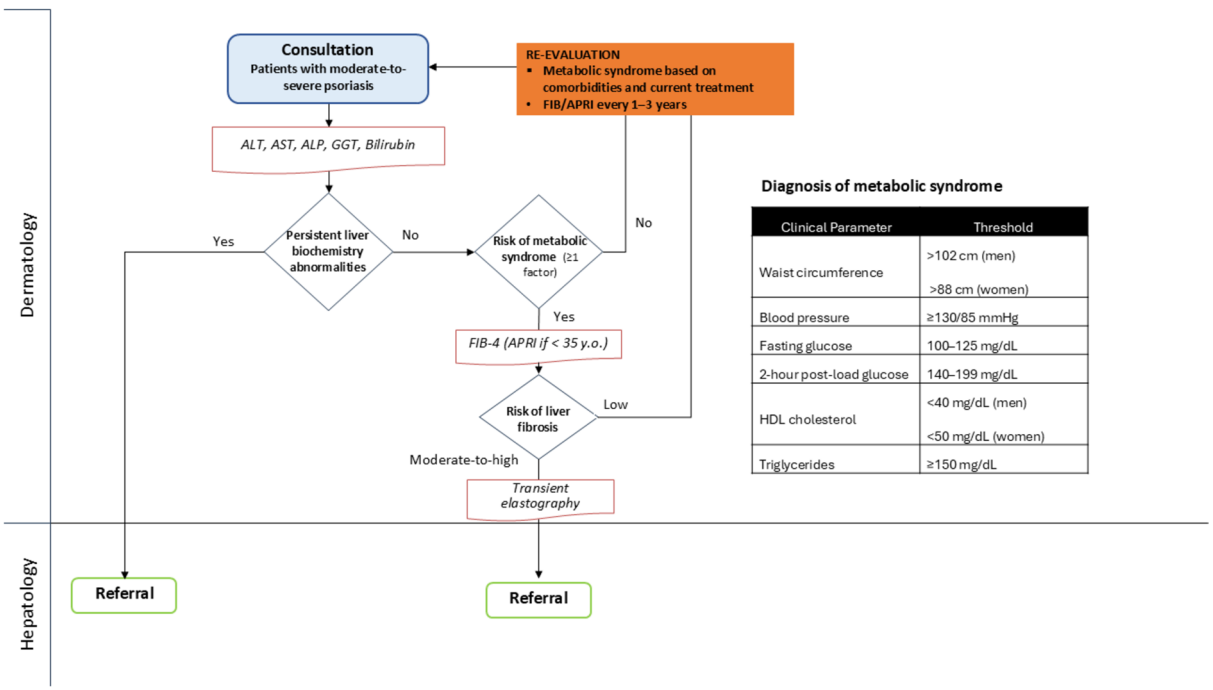

Fig. 2 Hepatology referral pathway. *ALT* alanine aminotransferase, *ALP* alkaline phosphatase, *APRI* AST to Platelet Ratio Index, *AST* aspartate aminotransferase, *BIL* bilirubin, *FIB-4* fibrosis-4 index, *GGT* gamma-glutamyl transferase, *HDL* high-density lipoprotein, *TG* triglycerides, *y.o.* years old

Table 3 Clinical parameters and thresholds for the diagnosis of metabolic syndrome

Clinical parameter	Threshold
Waist circumference	> 102 cm (men); > 88 cm (women)
Blood pressure	≥ 130/85 mmHg
Fasting glucose	100–125 mg/dL
2-h post-load glucose	140–199 mg/dL
HDL cholesterol	< 40 mg/dL (men); < 50 mg/dL (women)
Triglycerides	≥ 150 mg/dL

HDL high-density lipoprotein

The PIIASER criteria are divided into major and minor criteria. Major criteria include rectal bleeding, chronic diarrhoea (more than 4 weeks of reduced stool consistency, urgency, abdominal discomfort or increased stool frequency) and perianal disease, which may present as fissures, fistulas, abscesses, skin folds, maceration or even ulceration. Minor criteria include chronic abdominal pain (nocturnal awakening, or pain that disrupts sleep, accompanied by other red flags such as vomiting, fever, weight loss, anaemia, raised CRP and/or altered bowel habits), iron-deficiency anaemia or iron deficiency, extraintestinal manifestations (such as spondyloarthritis, uveitis, erythema nodosum, oral aphthae and cholangitis), unexplained weight loss, persistent low-grade fever without identifiable cause and family history of IBD.

If one primary criterion or two or more minor PIIASER criteria are present, the patient should be referred to gastroenterology on a priority basis. The dermatologist should also request a faecal calprotectin test to assess the likelihood of IBD when available and forward the result to gastroenterology; if the faecal calprotectin test is not available, the patient should be referred directly to gastroenterology for further evaluation.

If no PIIASER criteria are met, PIIASER criteria should be routinely followed up at every consultation and repeat blood testing conducted every 6–12 months.

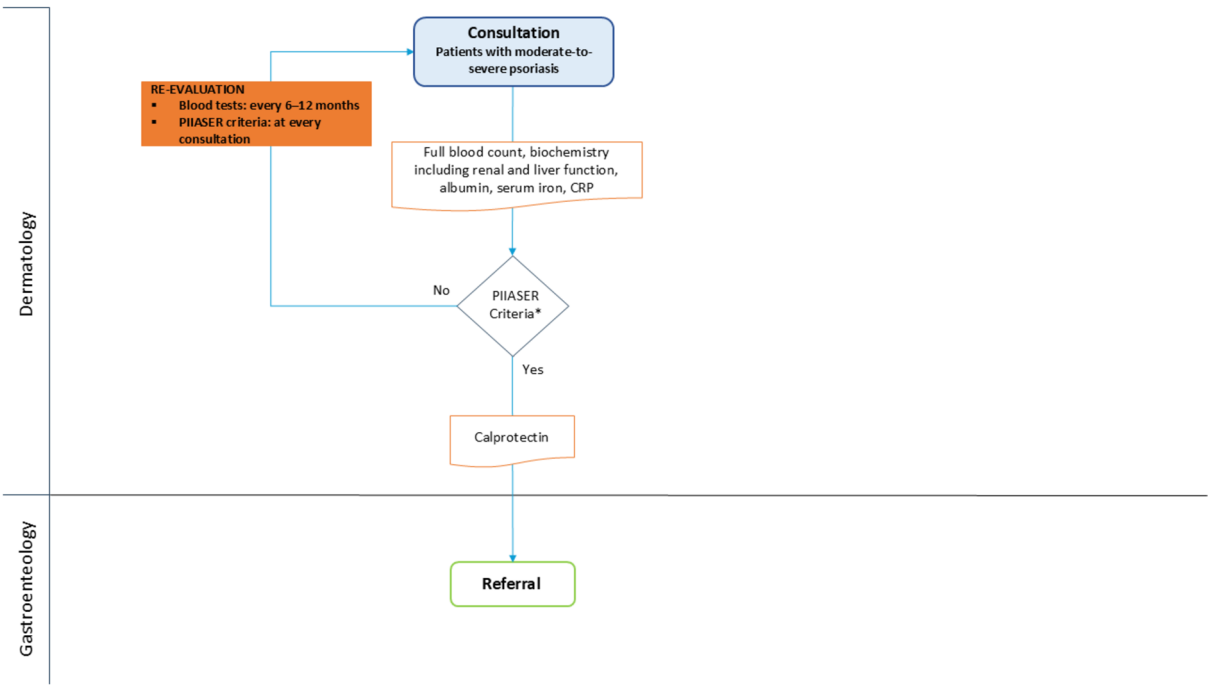

Fig. 3 Gastroenterology referral pathway. Calprotectin, faecal calprotectin; PIIASER: major and minor indicators for suspected inflammatory bowel disease in patients with psoriasis

Endocrinology Referral Algorithm

The algorithm presented in Fig. 4 provides a structured approach for identifying metabolic risk in all patients with psoriasis during dermatology consultations. Initial assessment should include body mass index (BMI), waist circumference and the Psoriasis Area and Severity Index (PASI), along with blood tests including a lipid profile and glycated haemoglobin (HbA1c).

Patients should be stratified into two categories according to metabolic risk (moderate or high), partially on the basis of the criteria established by the National Cholesterol Education Program Adult Treatment Panel (NCEP ATP) III [30], presented in Table 4. Patients who do not present any of these criteria should be considered low risk.

All patients with moderate or high metabolic risk should receive lifestyle modification advice, including adherence to a low-fat Mediterranean diet, based on Harvard's Healthy Eating Plate© method, and the elimination of tobacco and alcohol. In high-risk patients, referral to endocrinology or internal medicine should be initiated without delay, within a suggested timeframe of 60–90 days. Moderate-risk patients should be referred to primary care. Patients with absent or low metabolic risk may continue under dermatology care, with reassessment based on comorbidities and treatment response.

Rheumatology Referral Algorithm

PsA risk should be assessed in all patients using the PURE-4 screening tool [31, 32], which identifies PsA risk when at least two of the following four criteria are met: dactylitis, enthesitis (particularly involving the Achilles tendon or plantar fascia, inflammatory or nighttime pain in the axial skeleton (the spine and sacroiliac joints)) and/or peripheral joint pain.

If PsA risk is identified, additional tests such as HLA-B27 testing (optional), CRP and rheumatoid factor (RF) should be requested to support the diagnostic process. Patients with suspected

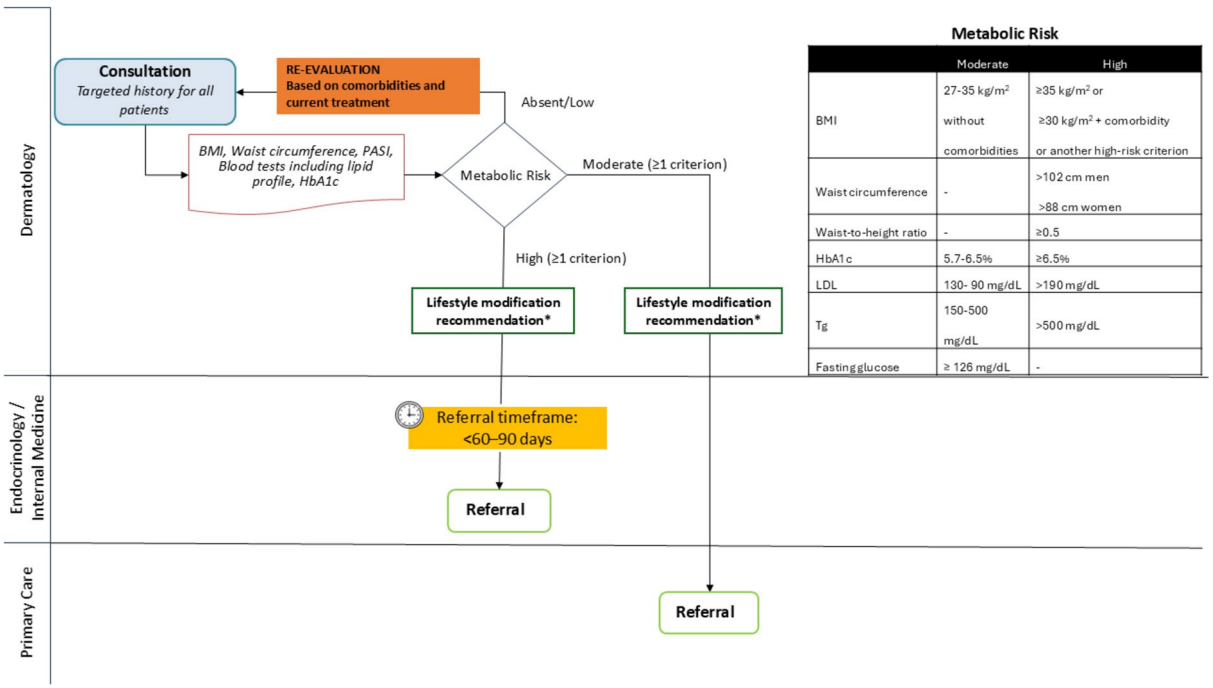

Fig. 4 Endocrinology referral pathway. *BMI* body mass index, *HbA1c* glycated haemoglobin (A1c), *PASI* Psoriasis Area and Severity Index

Table 4 Definition of moderate and high metabolic risk for endocrinology referral

	Metabolic risk	
	Moderate	**High**
BMI	27–35 kg/m^2 without comorbidities	≥ 35 kg/m^2 or ≥ 30 kg/m^2 + comorbidity or another high-risk criterion
Waist circumference	–	> 102 cm men, > 88 cm women
Waist-to-height ratio	–	≥ 0.5
HbA1c	5.7–6.5%	≥ 6.5%
LDL	130–190 mg/dL	> 190 mg/dL
TG	150–500 mg/dL	> 500 mg/dL
Fasting glucose	≥ 126 mg/dL	–

BMI body mass index, *HbA1c* glycated haemoglobin, *LDL* low-density lipoprotein cholesterol, *TG* triglycerides

PsA should be referred to rheumatology, ideally within a timeframe of 1–3 months (Fig. 5).

Patients without PsA risk should be re-evaluated annually with PURE-4, either in dermatology or, if referred, in primary care after 12 months.

Psychology Referral Algorithm

During dermatology consultations, a targeted psychosocial history should be taken, and mental health screening should be performed using validated tools such as the Hospital Anxiety and Depression Scale (HADS) [33] or the Goldberg Anxiety and Depression Scale (GADS) [34] at the time of diagnosis, treatment initiation or when signs suggestive of anxiety, depression or suicidal behaviour are present. The Columbia–Suicide Severity Rating Scale (C-SSRS) [35] should be used upon initiation of biological therapy or when psychosocial risk factors such as unemployment, bereavement or other significant life circumstances are identified (Fig. 6).

If the patient presents suicidal ideation, a recent suicide plan or a recent suicide attempt, an urgent referral to emergency services should be made.

If no suicidal ideation is identified but the screening indicates a risk of depression or anxiety (defined as HADS ≥ 11 or GADS ≥ 2), referral should be arranged to public or private psychological services, preferably involving a clinical psychologist for initial assessment and management. Psychiatric evaluation should be considered in cases of severe symptoms or suicidal risk.

If neither condition is present, the patient should continue dermatological follow-up. However, reassessment should be performed in case of a change in treatment, marked mood changes or the suspected onset of anxiety, depression or suicidal ideation. Routine reassessment every 6–12 months is recommended for patients without such indicators.

DISCUSSION

The algorithms presented herein aim to improve early detection of comorbidities, standardise care and guide dermatologists in timely, efficient referrals.

The added value of this structured model lies in its alignment with emerging care coordination frameworks proposed in recent literature and its consistency with the need for integrated, multidisciplinary management to optimise comorbidity care in psoriasis, as highlighted in both national and international guidelines [3, 16, 22, 36, 37].

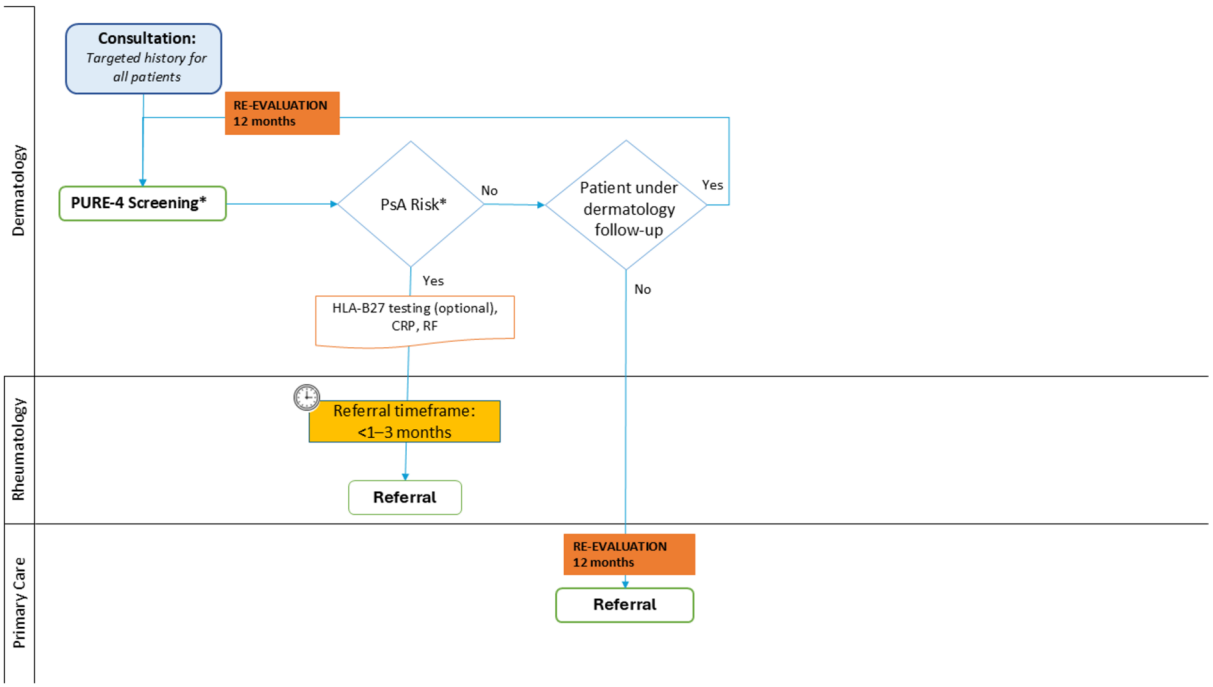

Fig. 5 Rheumatology referral pathway. *CRP* C-reactive protein, *HLA-B27* human leucocyte antigen B27, *PsA* psoriatic arthritis, *PURE-4* set of four criteria to identify psoriatic arthritis, *RF* rheumatoid factor

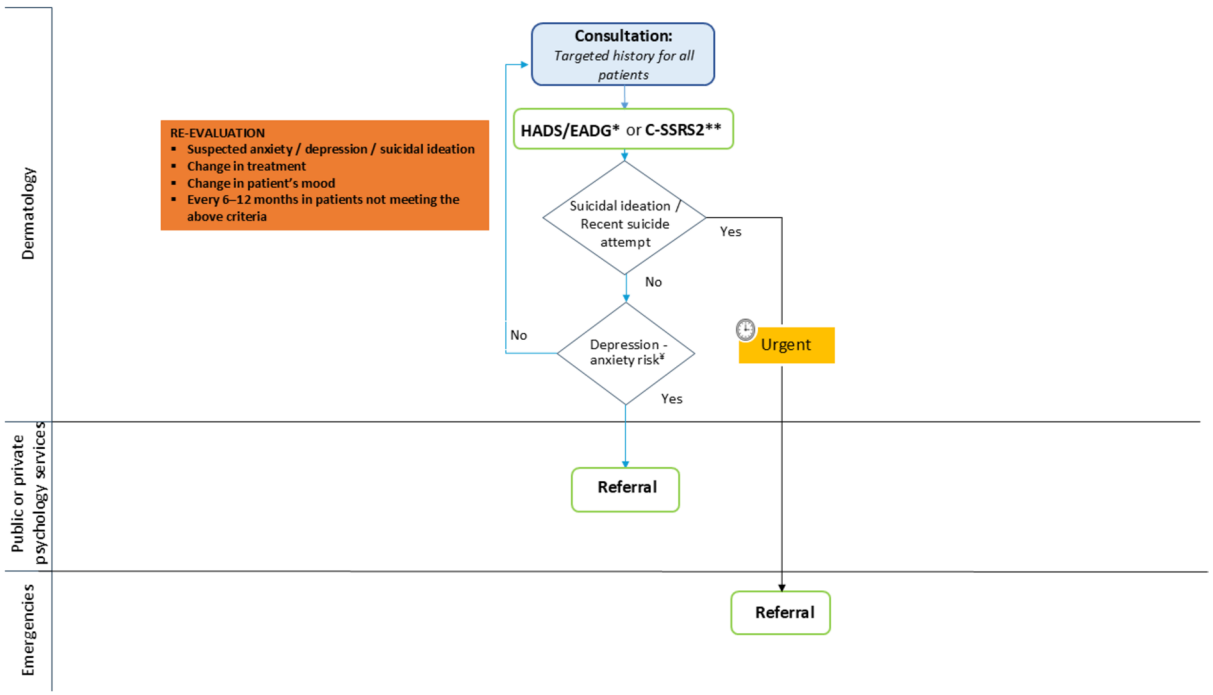

Fig. 6 Psychology referral pathway. *C-SSRS* Columbia–Suicide Severity Rating Scale, *GADS* Goldberg Anxiety and Depression Scale, *HADS* Hospital Anxiety and Depression Scale

Among the comorbidities associated with psoriasis, PsA is particularly notable owing to its potential to significantly alter the disease course and patient quality of life [5]. Its varied presentation may delay diagnosis and treatment initiation, leading to persistent pain, stiffness, progressive joint damage and an increased risk of associated comorbidities and mortality [38]. Early detection is essential, as prompt intervention improves outcomes [39–41]. Notably, 16–29% of European patients with psoriasis may have undiagnosed PsA [42–44]. Integrating the PURE-4 tool (four basic clinical questions) into dermatology consultations supports the recognition of early symptoms [16] and timely referral to rheumatology. Given that PsA may emerge years after the initial dermatological symptoms [3, 45], annual reassessment in dermatology or primary care is recommended even in the absence of joint symptoms, in line with expert guidelines [16, 46].

Similarly, patients with psoriasis show a higher prevalence of MASLD [12], a condition with a worse prognosis [47] that can lead to liver fibrosis and irreversible damage [3]. The hepatology algorithm incorporates routine liver function tests and fibrosis indices (FIB-4 and APRI) to stratify risk and coordinate referral, supporting recent guidelines [3, 22] that advocate proactive hepatic monitoring in this population. The standardised use of these markers, already available in routine practice, supports early referral and reduces variability in the criteria used across centres.

Gastrointestinal comorbidities, such as IBD, are also of increasing concern. The PIIASER criteria, originally developed to facilitate early identification and referral of patients with IBD in the context of spondyloarthritis and vice versa, were established through expert consensus using a Delphi methodology [48]. In this project, their use has been extrapolated to patients with psoriasis, given the clinical overlap and shared comorbidity burden. These criteria are consistent with those used in referral protocols developed by GETECCU and the Spanish Society of Primary Care Physicians (SEMERGEN), aimed at reducing diagnostic delays in patients with IBD [49].

Requesting faecal calprotectin prior to gastroenterology referral ensures that the patient arrives with valuable diagnostic information already available, facilitating faster and more effective assessment.

Additionally, psoriasis severity has been associated with metabolic syndrome in a dose-dependent relationship, with higher rates observed in patients with moderate-to-severe disease [50–52]. The endocrinology referral algorithm uses anthropometric and biochemical parameters to stratify metabolic risk, enabling tailored management and timely referral, in line with recently published proposals supporting structured approaches to obesity management in psoriasis care [53]. Early action is essential, as metabolic syndrome is associated with more severe psoriasis and poorer response to treatment [24, 52]. High-risk patients are referred to endocrinology or internal medicine, while moderate-risk cases may be managed in primary care. This stratification supports early intervention and reduces the long-term cardiovascular burden [22].

Finally, psychological comorbidities, including anxiety, depression and suicidality, are common and often undiagnosed. Up to 30% of patients may experience depressive symptoms, and the risk of suicide is significantly increased [45]. The inclusion of standardised tools (HADS and C-SSRS) is crucial and ensures that mental health assessment becomes a routine part of dermatology consultations, in accordance with the EuroGuiDerm guideline and recommendations [37]. Notably, the algorithm recommends urgent referral to psychiatric emergency services when suicidal ideation is detected, being a key action [22].

In this model, dermatology acts as the main coordinating specialty for the identification of comorbidities and initiation of referrals. However, primary care plays a key role in the longitudinal follow-up of patients, particularly in the periodic monitoring of comorbidities and risk factors once patients are clinically stable or no longer require specialised dermatology care.

Overall, this coordinated approach supports the implementation of structured referral pathways across different levels of care. These algorithms promote early recognition and management of comorbidities by operationalising the screening and referral criteria into simple, decision-oriented

algorithms, enhancing communication and continuity across specialties. This study has some limitations, including the expert-panel nature of the methodology, the absence of external validation and potential variability in healthcare access across regions. Nevertheless, its structured, evidence-based methodology and multidisciplinary oversight support the clinical relevance of the proposed pathways.

Potential barriers to implementation include limited consultation time, lack of familiarity with the algorithms and regional variability in access to specialist care. These challenges highlight the need for streamlined integration into clinical workflows and institutional support.

Moreover, the findings underscore the importance of cross-specialty training in comorbidities for dermatologists, particularly regarding early risk identification and referral criteria.

Future efforts should focus on real-world validation, as well as the development of digital tools to support clinical decision-making and broaden adoption across diverse healthcare settings.

CONCLUSIONS

These structured algorithms offer a practical framework for the early identification and comprehensive management of psoriatic comorbidities. By integrating standardised assessment tools and evidence-based thresholds into dermatological practice, diagnostic accuracy, referral efficiency and patient outcomes may be improved. Their successful implementation will require clinical integration, interdisciplinary collaboration and dedicated training in comorbidity management. As such, these tools should be considered a key component of comprehensive and multidisciplinary psoriasis care.

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Declarations

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