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THERAPY IN PRACTICE

Alcohol and Psoriasis for the Dermatologist: Know, Screen, Intervene

Niamh Kearney[1,2] · Brian Kirby[1,2,3]

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Abstract

Psoriasis patients are at increased risk of harmful alcohol use and alcohol dependency with many deleterious effects. Increasing alcohol use is associated with worsening psoriasis severity, is a risk factor for poor response to systemic treatments and may impact on comorbidities such as psoriatic arthritis, cardiovascular disease, cancer and liver disease. Harmful alcohol use and alcohol dependency can be defined by the updated ICD-11 coding system and screening can be completed using many tools including the Cut down, Annoyed, Guilty, Eye-Opener (CAGE), Alcohol Use Disorders Identification Test (AUDIT) and Michigan Alcohol Screening Test (MAST) questionnaires. Dermatologists may be able to complete brief interventions encouraging alcohol reduction in psoriasis patients. Psoriasis patients may respond to messages of gain with reduced psoriasis severity and loss with reduced cardiovascular risk. It is important for dermatologists to discuss alcohol with all psoriasis patients, to be aware of the impact of alcohol in psoriasis and to familiarise themselves with screening tools, brief intervention and local services available to patients who require specialist input for harmful alcohol use or alcohol dependency.

Key Points

Alcohol consumption in psoriasis is associated with more severe disease, reduced response to treatment and increased risk of other conditions such as cardiovascular disease, liver disease, cancer and arthritis.

There are multiple screening tools available to evaluate patients for alcohol misuse which can be used in psoriasis patients attending a dermatologist's clinic, with the AUDIT questionnaire possibly the most effective and least time consuming.

Dermatologists should be aware of the association of psoriasis with alcohol, screen for alcohol misuse, complete brief interventions and refer to local specialist services where needed.

✉ Brian Kirby
bkirby@svhg.ie

1 Department of Dermatology, St. Vincent's University Hospital Dublin, Dublin, Ireland

2 School of Medicine, University College Dublin, Dublin, Ireland

3 Charles Institute of Dermatology, University College Dublin, Dublin, Ireland

1 Introduction

The environmental triggers for psoriasis include stress, infections, smoking, obesity and alcohol misuse [1]. Psoriasis has a significant impact on psychosocial wellbeing with at least a similar if not greater impact on quality of life than other chronic conditions such as diabetes mellitus, coronary artery disease and chronic obstructive pulmonary disease [1]. John Updike described living with psoriasis prior to the advent of biologic treatment, writing "my torture is skin deep" describing himself as a "leper" who "should have been smashed at birth" [2]. Biologic treatments have revolutionised the care of psoriasis but given the psychosocial impact of disease, it is not surprising that patients may turn to unhealthy strategies to cope with their disease burden [1, 3]. Psoriasis patients consume more alcohol than the general population with increasing alcohol consumption associated with increased psoriasis risk and disease severity [1]. Alcohol can contribute to excess mortality in psoriasis and the many comorbidities experienced by our patients including psoriatic arthritis, cardiovascular disease, malignancies and liver disease [4–8]. Emerging evidence from long-term registry data suggests the impact of alcohol on treatment efficacy [9]. There are multiple screening questionnaires taking seconds to minutes to complete that are suitable for use in the dermatology clinic, with guidelines on brief intervention or referral to specialist services for patients in whom problem alcohol use is identified [10–13]. The aim of this

review is to summarise the existing and updated literature on psoriasis and alcohol to inform dermatologists on the importance of screening and to provide a framework with information on useful tools and interventions to identify and manage problematic alcohol consumption in a clinic setting.

2 Psoriasis is Associated with Increased Alcohol Consumption

The link between psoriasis and alcohol is well established. Alcohol use tends to be higher in patients with psoriasis and alcohol use also represents a risk factor for the development of psoriasis in genetically predisposed individuals, with worsening psoriasis severity in patients with pre-existing disease [1, 14]. Psychological distress in psoriasis could be a contributor to excess alcohol consumption [15].

2.1 Do Psoriasis Patients Consume More Alcohol?

Almost one-third of patients with psoriasis report difficulties with alcohol while 15% of patients with alcoholic liver disease will have a comorbid diagnosis of psoriasis, compared with a population prevalence of 2% [16–20]. A previous systematic review found just one study that did not report an increase in alcohol consumption in psoriasis patients compared with healthy controls with the remaining studies identifying an odds ratio (OR) of 1.09–9.42 [21, 22]. Four parallel case-control studies spanning 21 years including 111,375 psoriasis patients identified an association with moderate alcohol use and this risk was shared with 7594 patients in the psoriatic arthritis cohort [23]. The OR in this study for alcohol use and psoriasis was 1.27 while it was higher for psoriatic arthritis at 1.67. There may be a difference between men and women, with one study identifying a lower risk of occasional drinking (OR 0.47) and moderate or habitual drinking (OR 0.19) for women compared with men [24]. In a study of patients with alcohol dependency, conversely, the hazard ratio (HR) for psoriasis was 4.3 for men while it was higher at 5.4 for women [25].

2.2 Does Consuming Alcohol Increase the Risk of Developing Psoriasis?

The same systematic review identified one study that did not report an increased risk of developing new-onset psoriasis with increasing alcohol consumption compared with an OR of 2.55–3.4 in multiple case-control studies [21]. The studies on alcohol are heterogenous but the largest was a prospective health study of 82,869 female nurses identifying a relative risk (RR) of psoriasis of 1.72 with consumption of just 2.3 alcoholic drinks per week [21, 26]. Since the publication of this review, one further study of psoriasis patients did not identify an increased risk of psoriasis development with alcohol use in Taiwan [27]. It is possible that ethnic differences in alcohol metabolism could explain this effect. Indeed, genetic differences have been identified in a Chinese population with MTHFR polymorphisms, particularly C677T, associated with increased risk of psoriasis with alcohol use [28].

2.3 Does Consuming Alcohol Impact Psoriasis Severity?

A number of studies have identified an increase in psoriasis severity in patients who consume alcohol. One study of 29 patients with chronic plaque psoriasis found an increased psoriasis area severity index (PASI) was related to increased alcohol consumption [29]. The study utilised phosphatidylethanol levels which are a biomarker of alcohol consumption in addition to two subjective measures of alcohol consumption in a lifetime drinking history and the AUDIT (alcohol use disorders identification test) questionnaire. A further study of 146 patients demonstrated an increased severity of psoriasis in patients with an AUDIT score > 8, denoting an increased risk of alcohol misuse [30]. In patients consuming alcohol weekly, an increased psoriasis severity was seen in a study examining patient psychological distress [14]. Conversely, among 338 patients in a cross-sectional study, there was no association with PASI and AUDIT scores, with a further study of 164 patients also finding no significant association between PASI and AUDIT scores [16, 31].

2.4 Why Do Psoriasis Patients Consume More Alcohol?

Among patients with other inflammatory skin diseases and compared with patients with skin lesions in a tertiary dermatology clinic, psoriasis was second only to eczema for the prevalence of alcohol use disorder (OR 1.65 vs 2) [19]. The risk of an alcohol use disorder was higher for patients with a dermatology life quality index (DLQI) value > 11, suggesting the impact of disease burden on disordered alcohol use [19]. Alexithymia has also been demonstrated in psoriasis patients, characterised by difficulty identifying and describing emotions with poor imaginative thinking and cognitive processes defined by the environment rather than emotions [15, 32]. In one multi-centre study, 24.8% of psoriasis patients screened positive for alexithymia, with higher alcohol consumption using the AUDIT questionnaire in the alexithymia-positive group [32]. Alexithymic patients had higher DLQI, PASI and hospital anxiety and depression scale values with greater work impairment than non-alexithymic patients. A further study demonstrated

increasing alcohol consumption in psoriasis patients to be associated with alexithymia, worry and anxiety but not depression [15]. It is unclear if psoriasis itself causes alexithymia or if having a chronic condition such as psoriasis exacerbates pre-existing poor coping and functioning [32]. It is noteworthy that an observational study has demonstrated reversal of alexithymia with treatment of psoriasis along with improvements in quality of life, anxiety and depression [33]. Despite the lack of knowledge on causation, alexithymia is a further risk factor for alcohol misuse in psoriasis which is further compounded by the association of alexithymia with low mood, increased anxiety and increased disease severity.

2.5 Why Does Alcohol Increase the Risk of Psoriasis and Worsen Psoriasis Severity?

There is evidence in vitro and in mouse models of the impact of alcohol on the skin and cutaneous immune response, explaining how alcohol can worsen psoriasis severity and even induce psoriasis in a genetically predisposed individual. Ingested ethanol can be found in the skin following alcohol consumption and in vitro has been shown to promote keratinocyte proliferation [34]. Reactive oxygen species are generated in the skin in response to alcohol consumption, increasing pro-inflammatory signalling cascades including the JAK-STAT pathway with increases in the T-helper cell (Th)1/Th17 cytokines [34]. In imiquimod-induced psoriasis mouse models, ethanol consumption over 10 weeks resulted in increased epidermal thickening and Th17 cytokines [35]. Even in the absence of psoriasis, in control mice, ethanol consumption resulted in increased interleukin (IL)-17 expression and recruitment of Th17 cells to the skin.

3 Alcohol is Implicated in the Comorbidities Associated With Psoriasis

An increased risk of alcohol-related death is seen in psoriasis patients. Among 5687 hospitalised psoriasis patients, there was a high excess mortality directly related to alcohol use with a standardised mortality ratio (SMR) of 4.46 for men and 5.6 for women [4]. The HR for alcohol-related death was 1.58 in 55,537 psoriasis patients, compared with 854,314 controls, related to alcoholic liver disease in 65% of patients, liver fibrosis/cirrhosis in 23% and mental/behavioural disorders in 8% [8]. Psoriasis patients are also at increased risk of multiple systemic comorbidities which are impacted by alcohol consumption, including psoriatic arthritis (PsA), cardiovascular disease, cancer and liver disease [3].

3.1 Psoriatic Arthritis

Up to 40% of psoriasis patients develop psoriatic arthritis [1, 5]. A systematic review and meta-analysis of eight studies with 166,224 patients found that there was no increased risk of PsA with increasing alcohol consumption (OR 0.99) [5]. One of the included studies utilised a healthcare database identifying 90,189 cases of psoriasis, of whom 1409 developed PsA following their skin disease [5]. They report a significantly increased risk of developing PsA in moderate drinkers (1–3 units/day) only (OR 1.57) but not excessive drinkers (> 3 units/day; OR 0.94). Moderate alcohol consumption has been reported to be protective for autoimmune diseases such as rheumatoid arthritis (RA) [36]. It is possible that this study on PsA may be demonstrating such an effect as the cut-off of 3 units per day may be too low to distinguish true moderate alcohol consumption from excessive alcohol consumption.

3.2 Cardiovascular Disease

Alcohol use is associated with increased risk of cardiovascular disease and cardiovascular disease risk factors [37]. The increased cardiovascular risk generally follows a J-shaped dose-dependent relationship with lower risk with moderate consumption of two standard drinks per day [37, 38]. This J-shaped dose-dependent relationship can be seen in hypertension, dyslipidaemia, insulin resistance, myocardial infarction (MI), cerebrovascular accident (CVA) and atrial fibrillation (AF) [37, 38]. The risk of cardiovascular disease including major adverse cardiac events is increased for patients with severe psoriasis [7]. A systematic review and meta-analysis identified an OR of 1.27 in cohort studies and 1.57 in cross-sectional studies for MI [7]. The OR for CVA was 1.02 in cohort studies rising to 1.14 in cross-sectional studies. The risk appeared to be increased with worsening disease severity and younger age. This may be compounded by the increased risk of metabolic syndrome in psoriasis with considerable immunological overlap and systemic inflammation seen in both disorders [39]. Metabolic syndrome is associated with increased risk of major adverse cardiac events and the risk of metabolic syndrome is higher in patients who are heavy drinkers > 35 g/day (RR 1.86) [39, 40].

Psoriasis patients are also at increased risk of AF with an HR of 1.42 compared with controls [41]. The risk of AF is higher in patients with severe psoriasis (HR 1.44) with an increased risk of thromboembolic events (HR 1.26) [42]. AF is well established to be associated with excess alcohol intake [38]. It is of note that studies on cardiovascular disease and AF in psoriasis did not control for alcohol consumption. While moderate drinking may have a cardioprotective

effect, there is clear evidence that excess alcohol use should be discouraged in our psoriasis patients given the effect of both alcohol and severe psoriasis on cardiovascular risk [6].

3.3 Malignancy

Psoriasis patients are also at increased risk of cancers including non-cutaneous malignancies [4]. A systematic review of cancers potentially associated with alcohol and smoking found an increased risk in psoriasis patients compared with healthy controls [4]. The study did not stratify by smoking or alcohol and could not complete adjustments for body mass index. There was an increased risk of upper gastrointestinal and respiratory tract cancers (standardised incidence ratio [SIR] 3.05), liver cancer (SIR 1.9), lung cancer (SIR 1.52), pancreatic cancer (SIR 1.46) and bladder and urinary tract cancers (SIR 1.31). There is no recommendation for increased cancer screening in psoriasis patients but, similar to the general public, excess alcohol should be discouraged due to the risk of alcohol-related malignancy.

3.4 Liver Disease

Liver disease can be alcohol-related and psoriasis patients are at a significantly increased risk of both alcoholic and non-alcoholic fatty liver disease (NAFLD) [4, 7]. There is a significantly increased risk of in-hospital mortality related to alcohol in psoriasis patients with an SMR of 4.46 for men and 5.6 for women [4]. A recent systematic review and meta-analysis identified 15 studies with 249,933 psoriasis patients with an OR of 1.96 for NAFLD compared with 1,491,402 healthy controls [43]. This risk was higher in patients with severe psoriasis and psoriatic arthritis potentially due to a greater systemic inflammatory burden and altered metabolic parameters with increasing insulin resistance and obesity. Among patients with psoriasis, PsA and RA, the risk of liver disease is highest in psoriasis followed by PsA and lowest for RA [44]. Psoriasis patients had an increased risk of mild liver disease (HR 2.22), moderate/severe liver disease (HR 1.56), cirrhosis (HR 3.38) and cirrhosis-related hospitalisation (HR 2.25) compared with patients with RA. This risk was independent of alcohol use, methotrexate treatment and other comorbidities such as diabetes and dyslipidaemia. Elevated body mass index was adjusted for and accounted for just 8.2% of the excess risk. Standard liver function tests are of limited value in the detection of fibrosis and cirrhosis although calculation of the alanine aminotransferase/aspartate aminotransferase (ALT/AST) ratio may increase the index of suspicion for fibrosis and cirrhosis [45]. An ALT/AST ratio > 1 should prompt investigation for both alcohol-related and non-alcoholic liver disease. The AST/platelet ratio index (APRI) and Fibrosis-4 (FIB-4) scores (age, platelets, ALT and AST) have also been reported as a biomarker of hepatitis-related fibrosis and may have a role in screening for non-hepatitis–related fibrosis and cirrhosis, although this is yet to be confirmed [45]. In patients who are obese, the NAFLD fibrosis score and BARD score include body mass index and may be more accurate and particularly useful for psoriasis patients. Liver ultrasound (US) is useful to assess for steatosis but not fibrosis and cirrhosis where instead transient elastography (Fibroscan) is used with scores > 7 kPa suggestive of fibrosis and scores > 10 kPa suggestive of cirrhosis [45]. Routine assessment for liver disease in psoriasis patients is currently only recommended during methotrexate therapy. Psoriasis patients with abnormal liver function tests regardless of methotrexate therapy should be referred for specialist evaluation. Excess alcohol should be discouraged due to the additive impact of alcohol in psoriasis patients who are already at high risk of liver disease.

4 Excess Alcohol Consumption Reduces Treatment Efficacy

Previous reviews have identified scant evidence for the impact of alcohol on treatments for psoriasis but recently published registry data clearly associates alcohol misuse with poor response to systemic treatments. Among 266 patients on biologic and systemic treatments, 5.6% reported alcohol misuse with a Cut down, Annoyed, Guilty, Eye-opener (CAGE) score of ≥ 2 [9]. A higher CAGE score was associated with reduced response to treatment (regression coefficient 1.4). Interestingly, patient adherence to medication was not impacted by alcohol misuse in this study. In a further study of 180 patients on biologics, alcohol use was identified as a risk factor for biologic treatment failure (HR 13.75), although alcohol use was not quantified or stratified [46].

5 Alcohol Use and Dependence Disorders

5.1 Recommended Maximum Alcohol Intake

The Centre for Disease Control and Prevention recommend that adult men limit alcohol consumption to two standard drinks per day or less and adult women to one standard drink per day or less [47]. They also recommend that adults who do not drink should not start drinking for any reason, acknowledging that drinking less is always better for your health. One standard drink in the United States includes a 12-ounce 5% beer, 5-ounce 12% wine or 1.5-ounce 40% spirit with each of these equating to 14 g of alcohol or 1.4 units [47]. Alcohol guidelines are set out at an individual country level and it is important to be aware

of local guidelines. For example, in Ireland, a standard drink is less than in the United States, equating to 10 g of alcohol or one unit [48].

5.2 Disordered Alcohol Use

Disordered alcohol use can be classified in many ways using the International Disease Classification (ICD)-11 coding system [49]. There can be an isolated episode of harmful use, harmful pattern of use and alcohol dependence [49]. An episode of harmful use is defined as an episode causing damage to physical or mental health or behaviour causing harm to another person. Harmful pattern of alcohol use is a pattern causing damage to physical or mental health or resulting in harm to another person which can be episodic over 12 months or continuous over 1 month. Alcohol dependence arises from continuous or repeated use of alcohol over 12 months or 3 months if use takes place daily. It is characterised by a strong internal drive to drink, the inability to control consumption, priority given to consumption and persistent use despite negative consequences. Patients with alcohol dependency will often report cravings for alcohol and may display physical features of dependence, tolerance or withdrawal. A person can be determined to be in remission from alcohol dependence following 12 months of abstinence.

6 Screening and Interventions for the Dermatologist

There are multiple screening tools available for routine use including the CAGE, AUDIT and MAST (Michigan alcohol screening test) questionnaires which have been evaluated in psoriasis patients [10, 11, 12, 14–16, 18–20, 29–31, 50].

6.1 CAGE Questionnaire

The CAGE questionnaire involves four simple questions—have you ever felt the need to cut down your drinking, felt annoyed by criticism of your drinking, had guilty feelings about drinking and have you ever taken a morning eye-opener (Supplementary Table 1, see electronic supplementary material [ESM]) [10, 51]. This simple questionnaire has a sensitivity of 93% and specificity of 76% with scores of ≥ 2 for problem alcohol use. Use of the CAGE questionnaire in a dermatology outpatient clinic identified 13.5% of patients had probable or definite alcohol dependence, defined as a score of ≥ 2 and a score of 4, respectively [20]. A further study using CAGE identified a 30% prevalence of problem drinking in a psoriasis clinic [14]. In the most up-to-date publication from the British Association of Dermatologists Biologic Interventions Register (BADBIR) this was lower, with just 5.6% of patients reporting alcohol misuse using CAGE [9]. There are a number of possible explanations for this lower rate, including reducing alcohol consumption over the last 10–15 years in the United Kingdom (UK) [52]. Patients enrolled in BADBIR are on a conventional systemic or biologic treatment for their psoriasis, reducing their burden of disease [9]. The patients in BADBIR also report a lower frequency of depression and anxiety using the Hospital Anxiety and Depression Scale (HADS) when compared with the study from Kirby et al. [9, 14].

6.2 AUDIT Questionnaire

The AUDIT questionnaire encompasses a short AUDIT-Concise (AUDIT-C) questionnaire with each question scoring 0–4 (Supplementary Table 2, see ESM) [11]. If a patient scores ≥ 5 then they should proceed to the longer version of the AUDIT tool (Supplementary Table 3, see ESM) [50]. A score of 0–7 indicates a lower risk of alcohol dependence, suggesting positive reinforcement of recommendations on alcohol consumption. If a patient has a score of 8–15, this suggests increasing risk requiring a brief intervention and strategies to reduce alcohol consumption. A score of 16–19 on the AUDIT questionnaire puts a patient at higher risk, requiring an extended intervention and referral to counselling. If a patient scores ≥ 20, this suggests alcohol dependency requiring referral to specialist addiction services. Of patients attending a specialty psoriasis clinic, 32% had an AUDIT score of ≥ 8 and this was associated with elevated carbohydrate-deficient transferrin (CDT), which is a biomarker of excess alcohol consumption [16].

6.3 MAST Questionnaire

The MAST questionnaire includes 25 questions with variable scores depending on the answers [12]. There are four questions with scores of 5 for "alcoholic answers" as these are diagnostic of alcohol dependency including attendance at Alcoholics Anonymous meetings, previous episodes of delirium tremens, previous help-seeking for drinking and previous hospitalisation due to drinking. A score of ≥ 6 suggests alcohol misuse with a score of ≥ 8 suggestive of alcohol dependency [12, 14]. In a cohort of psoriasis patients, 17% reported a MAST score of ≥ 6 compared with 30% of patients with a CAGE score of ≥ 2 [14].

6.4 Comparison of Screening Questionnaires

While these three screening tools have been evaluated in psoriasis patients, there have been no studies completed comparing these tools in the psoriasis population. Studies

have been completed in other patient groups. In patients being admitted to hospital, the AUDIT questionnaire was found to have the highest reliability with a sensitivity of 93% and specificity of 94% for consumption of alcohol beyond recommended weekly limits [53]. CAGE had a lower sensitivity of 79% and specificity of 86% while MAST had a high specificity of 97% and a low sensitivity of 35%. A systematic review of studies in primary care comparing AUDIT and CAGE again demonstrated superiority of the AUDIT questionnaire for identifying harmful alcohol use while CAGE was more specific and sensitive for alcohol dependency [54]. The MAST questionnaire is lengthy and with a significantly lower sensitivity than CAGE and AUDIT it may not be appropriate in a dermatology outpatient setting. The AUDIT questionnaire is recommended by the World Health Organisation [55].

6.5 Current Guidelines for Screening for Alcohol Misuse in Psoriasis

Screening for alcohol misuse is recommended in the North American and European psoriasis guidelines [22, 56]. The American Academy of Dermatology recommend that psoriasis patients should be counselled to limit alcohol intake and physicians should consider alcohol use in patients and refer patients with dependency for expert assistance [22]. The European Academy of Dermatology and Venereology psoriasis guidelines recommend enquiring regarding alcohol consumption in all psoriasis patients and screening with the CAGE questionnaire for patients who consume alcohol daily or those starting a hepatotoxic agent such as methotrexate [56]. There are no specific guidelines from the British Association of Dermatologists regarding comorbidity screening.

6.6 Physician Attitudes and Beliefs on Screening

A survey of American dermatologists and residents showed high belief and understanding of the impact of alcohol on psoriasis but less than half of those surveyed said they would counsel psoriasis patients regarding alcohol use with poor confidence in counselling for alcohol use compared with interventions for smoking and obesity [57]. In this survey, while almost 90% of dermatologists felt responsible for screening, only 55% felt they were responsible for counselling. There was a strong desire amongst respondents to improve their knowledge on motivational interventions, online resources and collaboration with primary care to provide a patient-centred approach. In the UK, a qualitative analysis of the beliefs of dermatologists, dermatology nurse specialists and primary care doctors with a dermatology special interest identified a common theme of "in someone's clinic but not mine" with regards to interventions for lifestyle behaviour changes [58]. This analysis reports a similar feeling among UK physicians as that seen in the survey of American physicians of responsibility for screening but not for change.

6.7 Brief Interventions for Alcohol Misuse

There have been no direct alcohol reduction intervention studies in psoriasis but one option which is possible to complete in a short time in an outpatient setting is a brief intervention (BI) [13]. A Cochrane review has highlighted the positive impact of BI for alcohol reduction with moderate quality evidence for reduction in number of drinks consumed weekly in hazardous or harmful drinkers [59]. The BI is included in the public health framework policy of Screening, Brief Intervention and Referral to Treatment (SBIRT) [13]. A brief intervention can take as little as a minute of extra time with advice regarding the dangers of alcohol use and potential consequences. It is recommended that patients with alcohol dependency are referred directly for specialist intervention instead of completing a BI. Patients with a harmful pattern of alcohol use who receive a BI are more likely to enter into treatment for substance misuse in the following 12 months than patients who do not receive a BI.

Following screening, there is opportunity for dermatologists to play a role in helping our patients to enact change with alcohol reduction. While the intervention itself has not been studied in psoriasis, message framing has been evaluated to assess how patients respond to discussion around reduction of harmful behaviours such as excess alcohol consumption [60]. When discussing disease severity, patients may respond better to discussion around the gain of alcohol reduction with an increased likelihood of less severe psoriasis. When discussing cardiovascular risk, patients may respond better to discussion of loss with alcohol reduction and reduced cardiovascular risk.

6.8 A Practical Framework for the Dermatology Clinic

Many dermatologists feel they have a role in screening for alcohol use but no role in intervention. Even in the setting of a busy dermatology clinic, we believe that there is opportunity for intervention. Knowledge is paramount as a noteworthy study in primary care identified that continued medical education on alcohol-related issues positively correlated with screening and intervention by general practitioners [61]. In addition to understanding the harmful effects of alcohol for our psoriasis patients, dermatologists should familiarise themselves with the options available to patients to reduce their alcohol consumption. This may include local groups such as Alcoholics Anonymous, consultation with their family physician, referral to psychology or psychiatry services and in-patient alcohol dependency treatment

facilities. Brief interventions in lifestyle behaviour changes in psoriasis with discussion of the harms of alcohol may have profound effects on harm reduction for our patients. Given the many deleterious effects of alcohol for our psoriasis patients outlined in this review, it is important for dermatologists to take the opportunity to intervene in their clinics.

A simple approach in a dermatology consultation would be to assess patient alcohol intake with comparison to recommended limits (Fig. 1). Minimisation of consumption should be encouraged for all patients who consume alcohol given its impact on psoriasis severity, treatments and comorbidities. If a patient is consuming more alcohol than recommended, the AUDIT-C questionnaire should be administered consisting of just three screening questions. The longer form AUDIT questionnaire is then required only if a patient scores ≥ 5. For patients scoring 8–15, a brief intervention should be completed, adding just one minute to the consultation, outlining the harms of alcohol intake and benefits of alcohol reduction. Dermatologists should consider referral to local specialist services for patients scoring ≥ 16 with ≥ 20 suggesting alcohol dependency.

7 Conclusion

Psoriasis patients are at increased risk of harmful alcohol use and dependency which may be related to the psychological distress seen in our patients. Increasing alcohol use

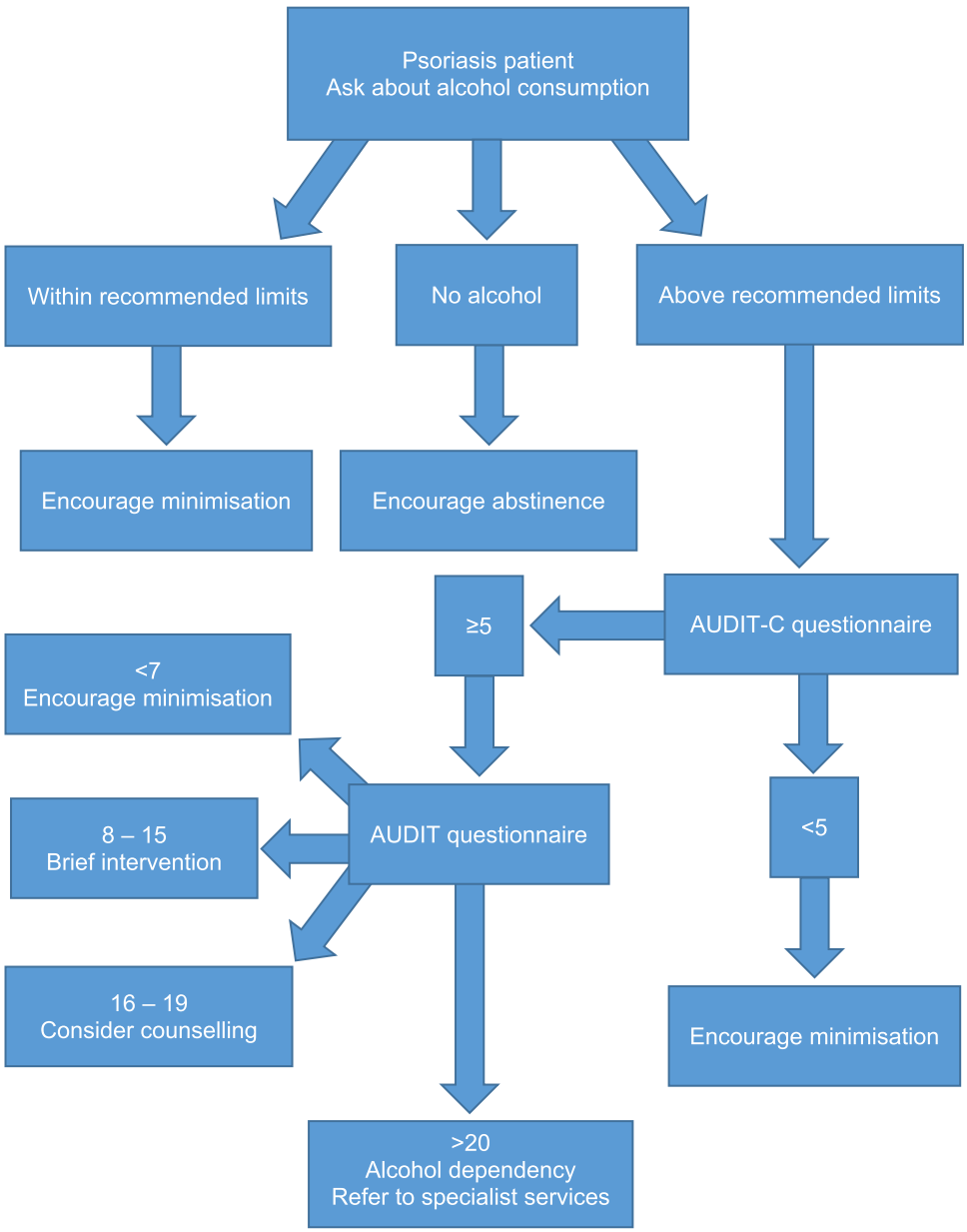

Fig. 1 Practical framework for approaching alcohol consumption in psoriasis patients attending a dermatology clinic (numbers representative of total scores on the respective questionnaires)

is associated with worsening psoriasis severity and is a risk factor for the development of psoriasis. Excessive alcohol use is associated with reduced response to conventional systemic treatments and biologic agents. In addition, harmful alcohol use may impact on comorbidities such as psoriatic arthritis, cardiovascular disease, cancer and liver disease. Thus, alcohol can impact our psoriasis patients in multiple ways. Many dermatologists feel they have a role in screening for alcohol use but no role in intervention. While multiple screening tools are reported, the simple screening tool AUDIT-C takes only moments of time from a consultation. Dermatologists should be able to complete a BI taking just an additional minute during an outpatient consultation to encourage alcohol reduction. It is important for dermatologists to discuss alcohol with all psoriasis patients, to be aware of the impact of alcohol in psoriasis and to familiarise themselves with screening tools, brief intervention and local services available to patients who require specialist input for harmful alcohol use or alcohol dependency.

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