

Role of Lifestyle Modifications in the Management of Hidradenitis Suppurativa in Adults

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Background & Significance

- ❖ Hidradenitis Suppurativa (HS) is a chronic inflammatory follicular skin condition.
- ❖ Follicular hyperkeratosis obstructs and dilates follicles of the apocrine and sebaceous glands leading to rupture, infection and scarring (Goldberg et al., 2020).
- ❖ HS causes an overly aggressive immune response and there is emerging evidence of relationships with other chronic inflammatory conditions, specifically metabolic syndrome (Alikhan et al., 2019).
- ❖ 0.1% of the total global population has HS (Alikhan et al., 2019).
- ❖ Incidence of HS is two-fold in women, particularly women of color (Alikhan et al., 2019).
- ❖ 75% of HS patients are clinically obese and three times more likely to have Type II Diabetes (Alikhan et al., 2019).
- ❖ Smoking doubled risk of HS development in a review of 3 million American medical records (Garg et. al, 2018).
- ❖ Hyperlipidemia, hypertension, and atherosclerotic disease are common co-morbidities (Alikhan et al., 2019).
- ❖ Depression (42.9%) and severe pain (97%) are reported by HS patients (Goldberg et al, 2020).
- ❖ Patients with HS are twice as likely to commit suicide than other chronic skin diseases (Goldberg et. al, 2020).
- ❖ Long term antibiotics and surgery are still mainstay therapy

Purpose

- ❖ Review and synthesize the available literature on the relative preventative value of lifestyle modification in HS disease management.

PICO

- ❖ In adult patients with HS, how do lifestyle modifications impact disease severity and/or recurrence?

Methods

- ❖ A systematic review of literature

- ❖ Databases utilized – CINAHL, PubMed, Medline, and Cochrane Library

- ❖ Search terms limited to combined Boolean phrases using modifiable risk factors (smoking, weight loss, diet, hygiene) and hidradenitis suppurativa

Inclusion Criteria

- ❖ Peer reviewed
- ❖ Full text
- ❖ English language publication
- ❖ Publication within last 5 years
- ❖ Cut off score of 7 on rapid critical appraisal

Exclusion Criteria

- ❖ Non-adult population
- ❖ Systematic reviews
- ❖ Individual case studies
- ❖ Expert opinion pieces

Results

Smoking

- ❖ Smoking appeared as either an independent risk factor or a modifier across all studies
- ❖ A 14.87- fold increase in HS incidence among smokers in an 80 person case control study (Akdogan et. al, 2018).
- ❖ Smokers with HS scored themselves the most negatively (- 8.81 points, p<0.01) on self evaluation of disease state and health in a cross -sectional study of 503 HS patients (Anderson et. al, 2017).
- ❖ In a retrospective post surgical intervention group, HS patients who were smokers had a 55% greater chance of recurrence (Nweze et. al, 2018).
- ❖ Tobacco cessation was associated with the greatest improvement in self reported Hurley staging (p<0.0001) in an 846 patient cross sectional survey (Macklis et. al, 2021).

Weight

- ❖ 66.7% of HS recurrence occurred among obese patients in the post surgical retrospective study (Nweze et. al, 2018).
- ❖ Weight loss greater than 50lbs. Improved Hurley staging by 0.6 (Macklis et. al, 2021).
- ❖ HS severity and number of affected anatomical sites both decreased by more than 50% (p<0.001) in patients that had undergone bariatric surgery (Canard et. al, 2021)
- ❖ For every 1 point increase in body mass index above 25, a - 0.65 point negative influence was noted on self evaluation of HS (Anderson et. al, 2017).



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Results

Mediterranean Diet

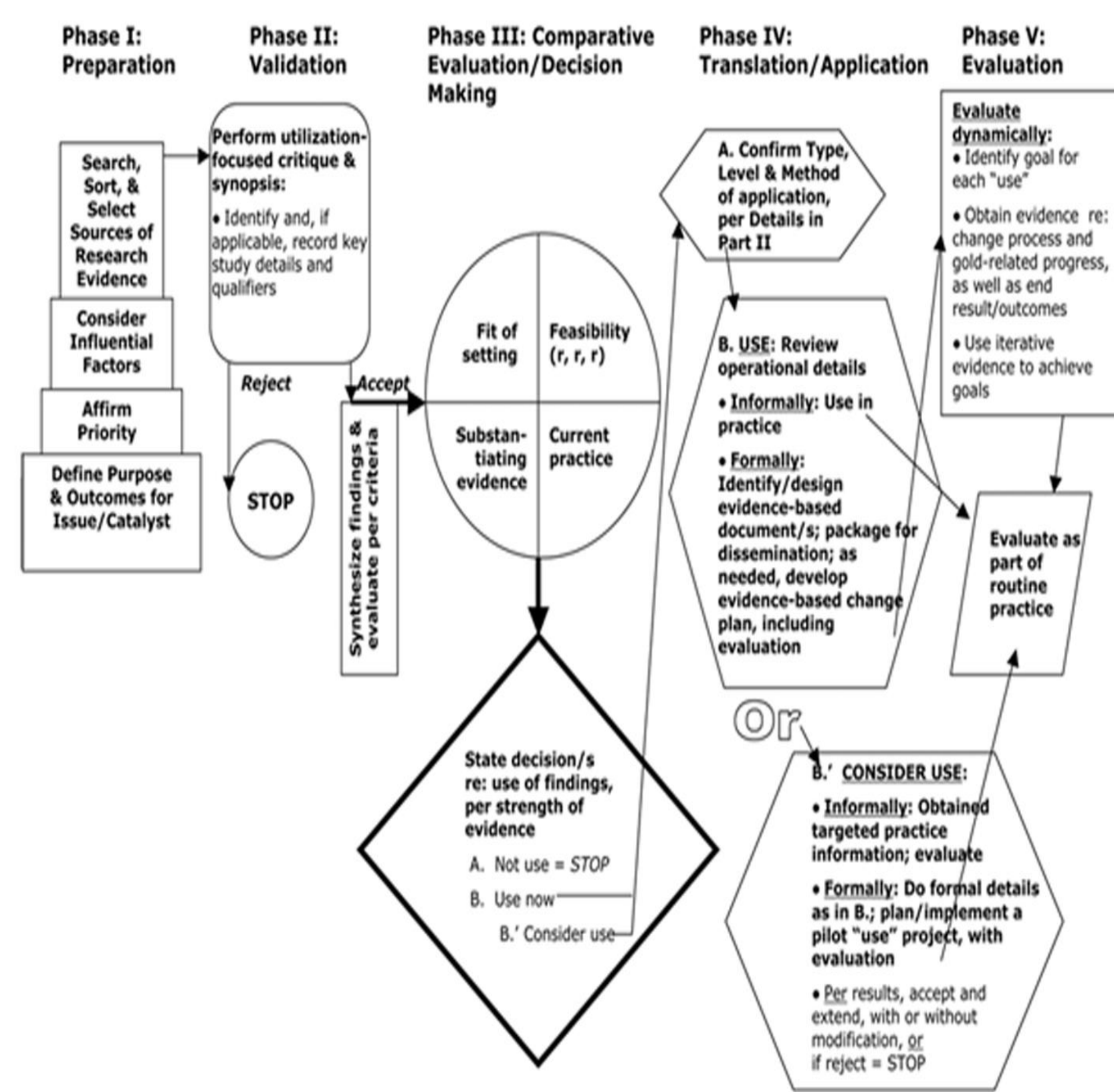
- ❖ Adherence to a Mediterranean diet (MD) and its impact on HS was featured in 3 cross sectional studies.
- ❖ Of patients seeing improvement from dietary modifications, highest improvement with MD (p<0.0001) (Macklis et. al, 2021)
- ❖ Lowest MD adherence was associated with highest HS severity scores (Barrea et. al, 2018).
- ❖ Severe HS patients were found to consume more simple sugars and more saturated fats (Barrea et. al, 2018).
- ❖ Another cross- sectional study of 221 adults found those with high adherence to MD had lower HS severity.

Hurley Staging

Stage I (Mild) – single or multiple inflamed nodule or abscess forms without sinus tracts or scarring, resolve with minimal or no treatment

Stage II (Moderate) – recurrent nodules and abscesses with sinus tract formation or scarring, single or clustered lesions are widely separated, often require antibiotics or local incision and drainage

Stage III (Severe) – recurrent, diffuse, with multiple interconnected sinus tracts, may require surgery, hospitalization for IV antibiotics



References available upon request

Implications for Practice

Recommendations for Advanced Practice Nurses

- ❖ Body Mass has an unequaled impact on disease course
- ❖ Discuss smoking cessation
- ❖ Discuss impact of pro-inflammatory states with obese HS patients
- ❖ Encourage MD in HS clients when not contraindicated

Recommendations for Future Research

- ❖ HS is still poorly understood pathologically
- ❖ Recommend controlled trials with two or fewer interventional variables
- ❖ Dermatology community should devise consensus on staging

Strengths

- ❖ Total of 1,965 subjects across studies
- ❖ 2-3 outstanding lifestyle modifications identified

Limitations

- ❖ Lack of true controls
- ❖ Self -reporting nature of cross- sectional studies

Conceptual Framework

The Stetler Model (Left) of Research Application assisted this project. It serves as fluid design for the researcher to quantify, reassess, apply, revise, and evaluate research and quality initiatives.

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