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Targeted Literature Review on the Economic and Quality of Life Burden Caused By Acne

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OBJECTIVE

To analyze the economic and humanistic burden of acne in US and EU5, and to identify critical gaps.

INTRODUCTION

- Acne, a mild to severe common chronic inflammatory skin disorder.¹
- Progressive treatment: topical retinoids, benzoyl peroxide & antibiotics → systemic antibiotics → oral isotretinoin.^{2,3}
- Global prevalence & incidence (2019): 231 & 117 annual million cases.⁴
- Age-standardized prevalence (2019): 30.4/1,000 (USA) and 55.8/1,000 (EU5).⁴
- Highest incidence in adolescents and young adults (70% between 10 and 29 yo) in USA.⁵
- 1.3 times more prevalent in females than in males.⁶
- Frequent presence of psychological comorbidities and significant impact on the quality of life → profound quality of life (QoL) impact & substantial economic burden.

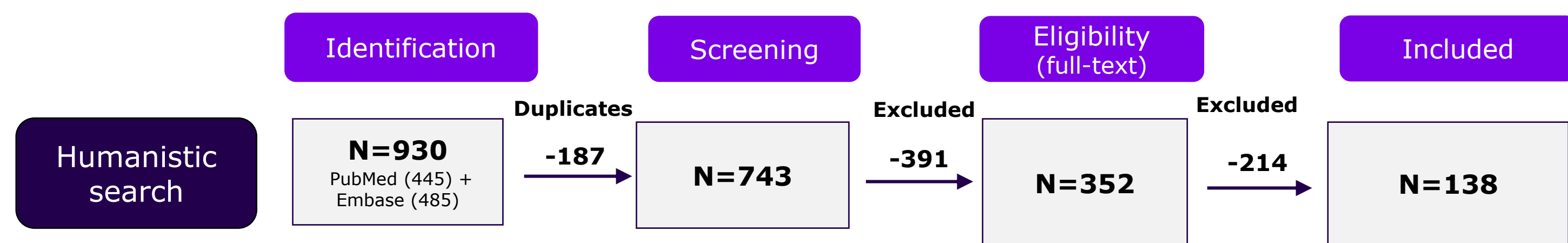
METHODS

- Two targeted search strategies (22nd December 2022 in PubMed and Embase) over the last 10 years.
- Search strings related to the burden of acne as MeSH/Emtree terms (+ related terms): “acne vulgaris”, “economics”, “quality of life”, “patient reported outcome” (PRO).
- Limits: English-written articles on US and/or EU5 acne.
- Results stratified by age, gender and severity level when possible.
- Economic outcomes of interest: direct medical costs, indirect costs, productivity losses, resources, economic model.
- Humanistic outcomes of interest: QoL, PROs, utilities, psychosocial (PS) aspects.

RESULTS

QoL & PS burden

Figure 1a: PRISMA diagram for QoL & PS search



Characteristics of the studies identified with the economic TLR

- Majority of the 138 records identified = full text of observational studies conducted in the US.
- Significant amount of publications on the QoL of acne patients.

Key findings from studies identified

- Disability-adjusted life years (DALYs): Reported DALYs are consistently higher in EU5 than in USA (**Figure 2**).⁷
- No gold standard tool to measure QoL of patients with acne (**Figure 3**).
- One study in EU (13 countries) reported patients with acne had significant higher anxiety and depression than controls: 40.6% very concerned about their skin disease and 12.3% had suicidal ideation.⁸
- Medication adherence to current treatment options is not satisfactory (**Figure 4**).⁹ Non-adherence can result in suboptimal treatment outcomes and increased psychological distress for patients.¹⁰

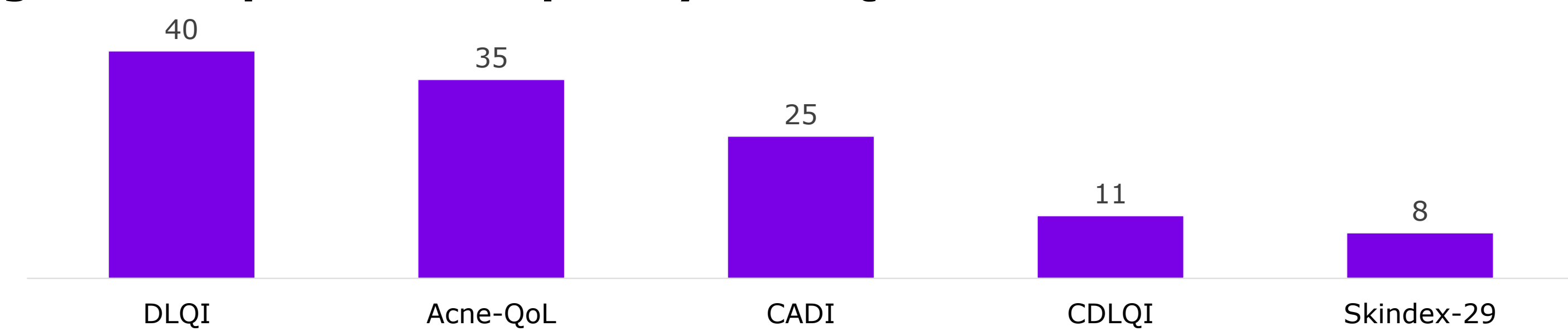
Gaps:

- Scarce real-world evidence on how acne affects psychological well-being.
- Lack of objective measurement in PRO and QoL evaluation; standardized use could improve comparability of research findings.

Figure 2: Acne burden of disease on different countries (2019)

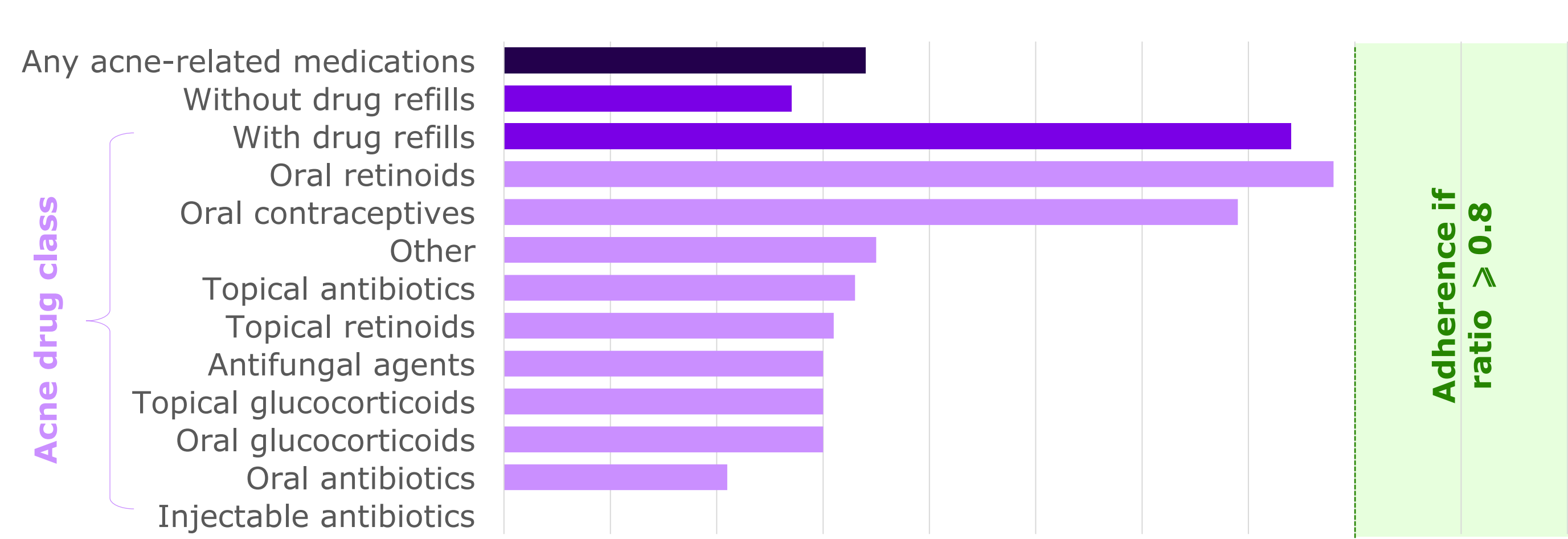


Figure 3: Top 5 most frequently used QoL instruments



Acne-QoL, Acne-Specific Quality of Life; CADI, Children's Acne Dermatology Index; CDLQI, Children's Dermatology Life Quality Index; DLQI, Dermatology Life Quality Index

Figure 4: Mean medication possession ratio (n= 24,438)



Adapted from Tan et al. 2013⁹

CONCLUSION

Acne imposes a significant economic and QoL burden on patients, healthcare systems, and societies. However, knowledge gaps persist and standardized tools to measure its impact are needed.

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