Background

Psoriasis is a protracted inflammatory skin syndrome that affects more than 125 million people globally (World Health Organisation 2016). WHO (2016) noted that the condition is linkable to multi-morbidity and mortality of people. The inception of surplus biologic drugs has changed the outcome of patients. The development in this field has made skin clearance possible to realise as a treatment goal, as demonstrated by Mahil and Smith (2019). Psoriasis biologic drugs have been acknowledged to target tumour necrosis factor α (etanercept, adalimumab, infliximab, and certolizumab), the p40 subunit of interleukin (IL)-12 and IL-23 (ustekinumab), IL-17 (secukinumab [IL-17A], ixekizumab [IL-17A], and brodalumab [IL-17RA]), and the p19 subunit of IL-23 (IL-23p19; guselkumab, tildrakizumab, and risankizumab) (NICE 2012; Menter et al. 2019).

Biologics are medicines produced from constituents found in living things. According to the National Psoriasis Foundation (2020), biologics are not similar to the customary systematic medicines known to impact the whole immune system. These drugs ultimately target a particular part of the immune system, which makes them more effective than the traditional medicines in treating psoriasis.

*Rationale*

Before the inception of biologics, systematic treatments such as cyclosporine, methotrexate, mycophenolate mofetil, and acitretin were utilised in treating psoriasis. Nevertheless, these prescriptions suppressed the entire immune system, which forced clinicians to perform a repetitive laboratory evaluation owing to increased renal and liver toxicity, myelosuppression, and haematologic conditions (The Dermatologist 2014). Biologics have transformed the management and treatment of psoriasis by supporting clinicians to directly target the significant factors in the pathogenesis of this condition (Levy et al. 2012). The growing use of biologic prescriptions, especially Adalimumab reflects the high efficiency, improved quality of life (QoL), and moderately good wellbeing profiles on patients.

*Significance of the Study*

Given that no one study can address such a complex and serious healthcare problem, the present study will contribute to the understanding of the dynamics facilitating the use of psoriasis biologics. Accordingly, it will offer the knowledge needed to advance the understanding of psoriasis biologics’ efficiency to improve the QoL. Finally, the exploration will contribute to the existing literature that has assessed the growing use of biologic medication to treat psoriasis.

Aim: To investigate the efficacy of biologics in treating psoriasis

*Objectives*

1. To evaluate the safety of biologics in treating and managing psoriasis
2. To determine the factors enhancing the use of biologics in the modern healthcare system and sector
3. To add to the existing literature that has assessed the use of biologics to treat psoriasis

*Research questions (RQs)*

1. Are biologics safer than traditional systematic medications?
2. Are biologics effective in treating psoriasis?

Methodology

The proposed study will utilise the exploratory research design to investigate a research problem that is not well-defined, as demonstrated by Akhtar (2016). The investigator selected this design because the study will be based on secondary data/sources. The papers to be systematically and meta-analytically synthesised will be searched from MEDLINE, EBSCOhost, PubMed, and CINAHL. The search period will be from 2011 to 2021 to ensure an adequate number of research papers is obtained for analysis. MeSH terms and keywords will be used to locate relevant articles for analysis. The investigator will target to find a total of ten articles for appraisal and synthesis.

*Data Analysis*

Thematic analysis will be used for systematic review while R software (R 4.0.3 version) will be used for meta-analysis. Moreover, I2 test will be employed to evaluate the heterogeneity of the data.

*Ethical Considerations*

The study will have scientific merit to the healthcare community. The study will support healthcare professional, and relevant policy makers understand the efficacy of biologics in treating psoriasis.

*Limitations*

One of the greatest limitation linked to this methodology is that the biases from individual studies may affect the quality and validity of the current study.

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Appendix: Gant chart

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| Task/Time  **(2021- 2022)** | 24th- 1st March Feb. | 5th March- 14th March | 30th March- 17th April | 30th April- 15th May | 21st May- 10th June | 13th June- 27th June. | 30th July- 13th July. | 17th July – 21st July. | 27th July- 30th August |
| Drafting the introduction Chapter |  |  |  |  |  |  |  |  |  |
| Formulation of search strategy, design and methods. |  |  |  |  |  |  |  |  |  |
| Literature review |  |  |  |  |  |  |  |  |  |
| Data collection |  |  |  |  |  |  |  |  |  |
| Data  analysis |  |  |  |  |  |  |  |  |  |
| Writing first draft |  |  |  |  |  |  |  |  |  |
| Writing second draft |  |  |  |  |  |  |  |  |  |
| Writing final draft |  |  |  |  |  |  |  |  |  |
| Submission of research project |  |  |  |  |  |  |  |  |  |