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The age of botanical: Are natural ingredients safe and effective in treatment of pigmentation? A systematic review, especially on skin allergy

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Statement of the Problem: Pigmentary disorder is one of the most common skin problems that patient visit the doctor and OTC pharmacy store. Due to lot of complications of chemical agent, the trend is toward the use of natural botanical agents which are gaining popularity. Despite the availability of Hitech laser treatment skincare is the most common household item for skin upkeep. However, the RCT on evidence-based studies are few in between. Many of such studies are short. Hence, we are not sure if there maybe any complication on long term use.

Methodology and Theoretical Orientation: Systemic review studies is used to search for "pigmentation, melasma, PIH, botanicals, natural agents, and various ingredients names", through databases of PubMed, SCOPUS and Google. There were 2 reviewers independently screened titles leading to a total selection of 30 clinical studies. The author also utilising a commonly used qualitative analysis by other than reviewing literature, also used clinical history taking, interview and observation over social event, and forming focus group to gather data. Using the security framework and lenses of analysis of the social science/behaviour to understand what are the patient inclination, social behaviour and preferences, its performance, relevance, functionality and efficiency, if it can be optimised for as many a blemish conditions it can solve for the patients.

Finding: Despite the popularity of <u>botanical</u> among the consumer, there are less than ideal numbers of studies that

can put a stamp verifying definitely that it is highly effective and with long enough study to clarify absent of complications. Even though here is a shortage of evidence-based research studies, several natural ingredients did show promising efficacy as depigmenting agents, including azelaic acid, lignin peroxidase, arbutin, ellagic acid, liquorice extracts, niacinamide, mulberry, soy and ascorbic acid iontophoresis.

Conclusion and Significance: With ever increasing number of patient seeking dermatologist advice on blemish disorder, there is also a surge of OTC purchase from pharmacy on blemish control agent. Although the available evidence based research studies are limited, the indication show the promising application of natural ingredients for blemish control against the former gold standard of using hydroquinone. These ingredients are AA, soy, lignin peroxidase, ascorbic acid iontophoresis, arbutin, ellagic acid, licorice extracts, niacinamide, and mulberry.

Significance: In addition to showing promise in treating hyperpigmentation, these agents also provide greater insight into the <u>pathogenesis</u> of dyschromias, thus enhancing our understanding of the many complexities of pigment disorders.

Recommendation: Available evidence shows the efficacy of botanical in pigmentation treatment.

They are safe so far. For future studies, design an ideal prospective double-blind RCT trial that is sufficiently long enough to conclude not only the effectiveness but also safety of botanicals.