



Review

## Consultation liaison psychiatry in systemic lupus erythematosus: literature review

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### Abstract

#### Article info

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*Background:* Systemic lupus erythematosus (SLE) is a multifactorial autoimmune disease that attacks various systems. In SLE, there are also psychiatric manifestations; in this condition, you need to consult a psychiatric team to get an assessment. We aimed to describe psychiatric companion consultation in cases of SLE with psychiatric manifestations.

*Methods:* This article was written using a literature review method, collecting data according to inclusion criteria through search engines such as PubMed, ScienceDirect, and Google Scholar.

*Results:* It was found that SLE patients exhibit psychiatric manifestations, including depression, cognitive dysfunction, anxiety, symptoms of mania, and psychosis, placing them at risk of suicide. Therefore, a liaison is necessary to ensure further follow-up regarding psychiatric concerns in SLE patients.

*Conclusion:* Patients with SLE can experience psychiatric symptoms such as depression, cognitive dysfunction, anxiety, symptoms of mania, and psychosis, placing them at risk of suicide. Therefore, treatment and consultation with a psychiatric team are necessary to manage SLE cases with psychiatric manifestations and enhance the quality of treatment provided.

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### Introduction

Systemic lupus erythematosus (SLE) is an autoimmune disease that involves various systems, characterized by a chronic disease course with the potential for recurrence and remission (Ameer, et al., 2022). The incidence of SLE is 70/100,000 population in Shanghai, while in Japan, India, and Saudi Arabia, it ranges from 3.2 to 19.3/100,000 population. Studies in Asia mention clinical manifestations, with renal and skin involvement reported in 26% to 74% of cases, musculoskeletal involvement in 45%, and neuropsychiatric manifestations in 6% to

27% of cases. Research conducted in Indonesia involving 74 patients found that 94.6% were female, and 93.2% were aged under 40 years (Taufik, et al., 2022)."

SLE is a multifactorial disease, stemming from genetic, ecological, epigenetic, and environmental factors. The intricate mechanisms underlying the disease involve various interactions, including activation triggered by exposure to ultraviolet B light, infections, and toxins, which induce tolerance breakdown in genetically predisposed individuals. This leads to exposure to host cell antigens, prompting the formation of autoantibodies by adaptive immune cells, thereby damaging target tissues. Due to the autoantibodies' ability to attack the host's cells, SLE manifests across multiple systems, including the skin, musculoskeletal system, digestive tract, hematological system, pulmonary system, cardiovascular system, kidneys, central and peripheral nervous systems, and psychiatric system (Ameer, et al., 2022).

Liaison psychiatry constitutes a specialized branch of psychiatry catering to patients within general hospital settings. The team of psychiatric liaisons typically comprises psychiatrists, psychologists, psychiatric nurses, social workers, and other mental health professionals. They offer consultations or assessments to hospital patients, often being the first point of contact when another treating doctor requests guidance. Additionally, they fulfill a broader liaison or joint care role within the hospital, facilitating integration with colleagues for patient assessments or follow-up care (Stevens & Rodin, 2011).

Psychiatric symptoms frequently observed in SLE patients encompass depression (affecting approximately 39% of patients) and cognitive dysfunction (present in around 80% of cases), which is the most prevalent. Additional manifestations may include anxiety, symptoms of mania, and psychosis (Ameer, et al., 2022; Meszaros & Faraone, 2012). Consequently, there arises a critical need for dedicated psychiatric treatment and consultation teams to manage SLE cases exhibiting psychiatric symptoms. Establishing liaison services becomes imperative to ensure comprehensive follow-up and management of psychiatric concerns in SLE patients.

## **Methods**

The process of conducting a literature review involves searching and gathering information from sources relevant to the defined problem formulation. Clinical questions arising from the problem statement are structured using the PICO analysis framework, which stands for Patients (in this case, systemic lupus erythematosus), Intervention (consultation-liaison psychiatry), Comparison (if applicable), and Results (if applicable). By systematically defining these components, researchers can formulate focused inquiries that guide their literature search and analysis, facilitating a comprehensive review of relevant studies and findings.

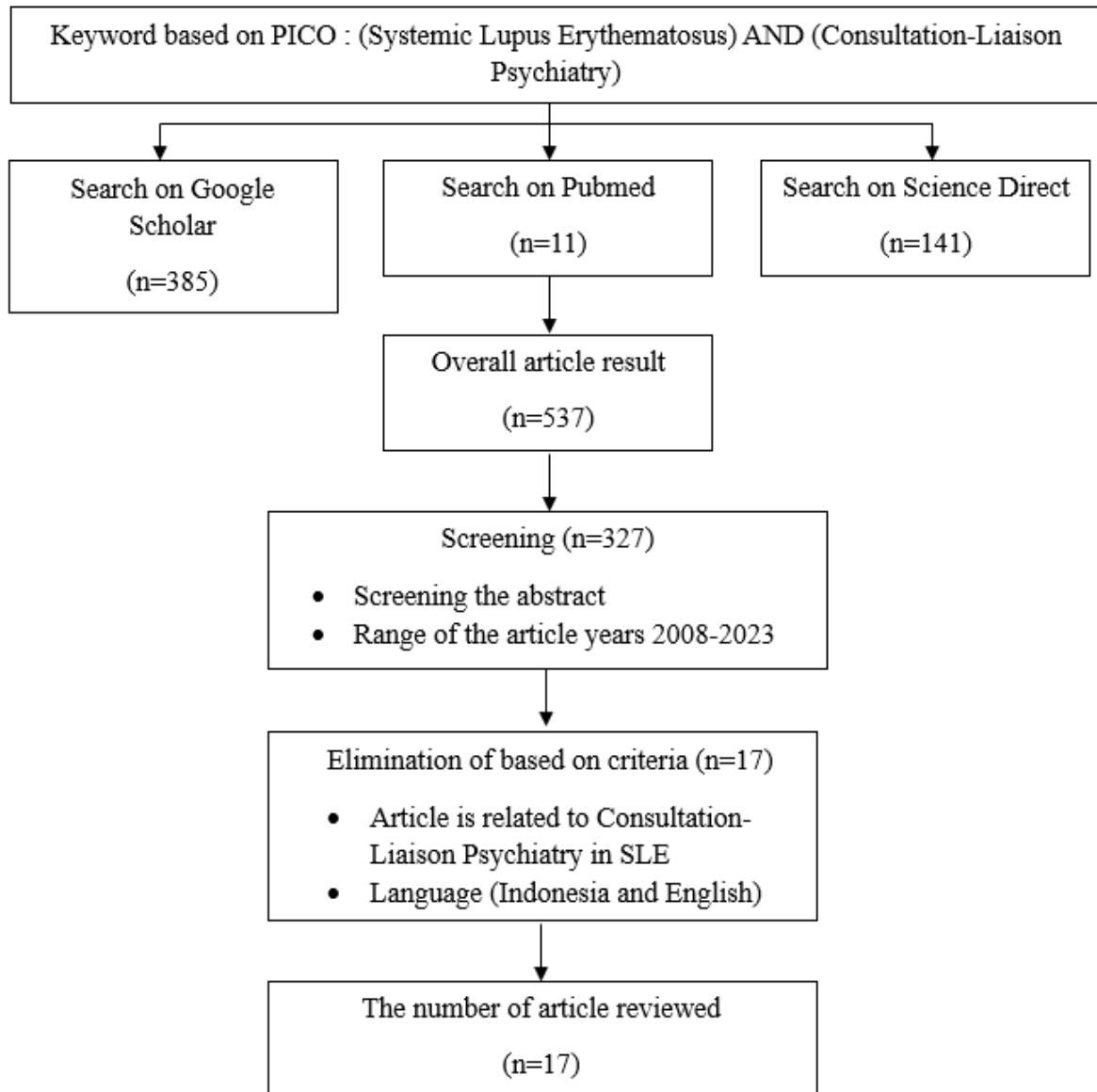
When conducting online journal searches, researchers utilize the PICO analysis framework to formulate search queries in search engines or online databases such as Google Scholar, ScienceDirect, and PubMed. For instance, key terms like 'Consultation-Liaison Psychiatry' combined with 'Systemic Lupus Erythematosus' are employed. Screening of search results is conducted following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) method, adhering to predetermined inclusion and exclusion criteria. The gathered data is efficiently managed using reference management applications like Mendeley.

Inclusion criteria for the literature review encompass publications from the years 2008 to 2023, encompassing all research types available in both English and Indonesian languages, focusing on Systemic Lupus Erythematosus and consultation-liaison psychiatry. Exclusion criteria

involve publications predating 2008, exclusion of literature not in English or Indonesian languages, and any irrelevant results not meeting the specified criteria.

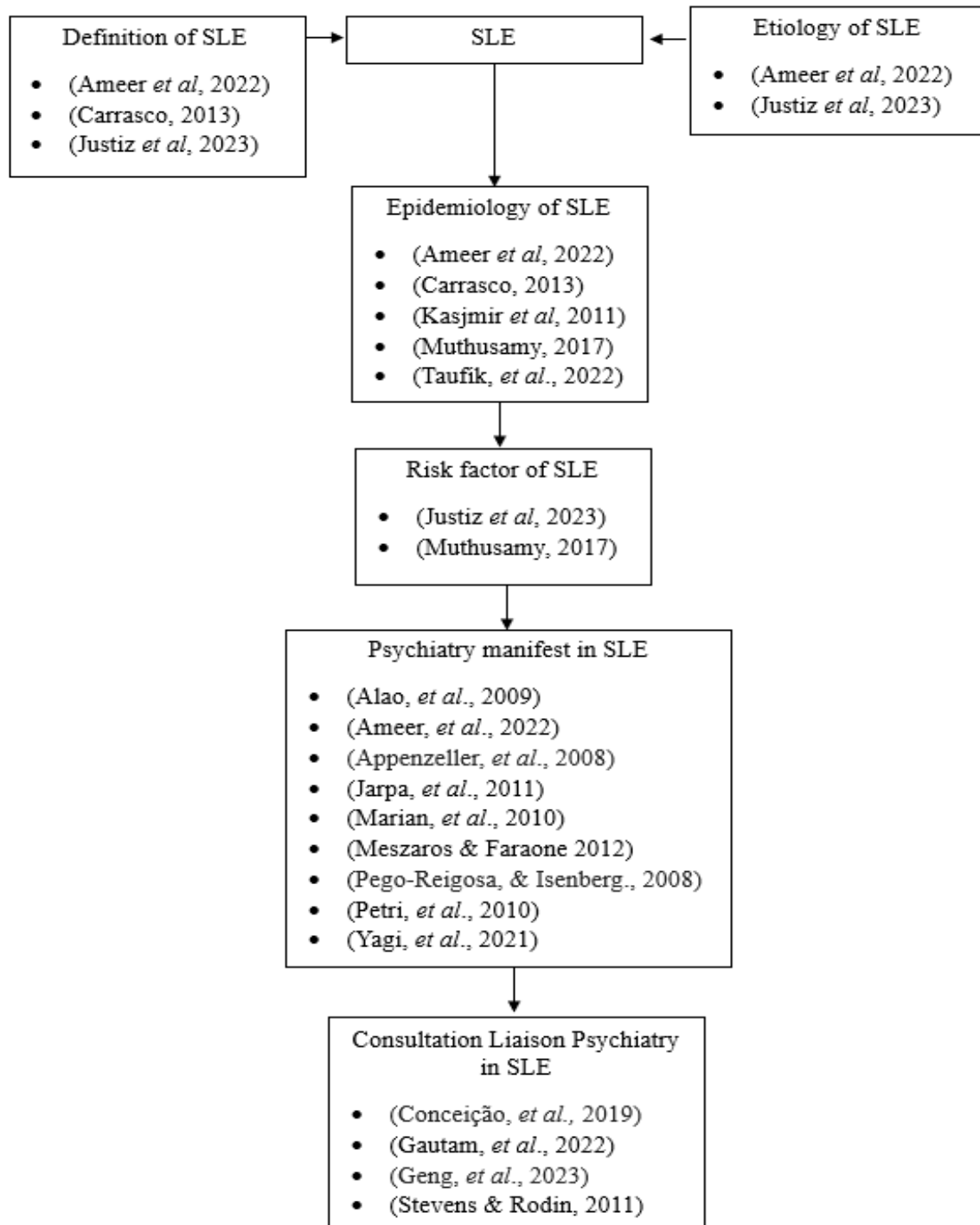
## Results

**Figure 1** illustrates the selection procedure. Among all the articles examined, seventeen satisfied the inclusion criteria and were consequently incorporated into the review.



**Figure 1.** Flow diagram.

**Figure 2** illustrates the overall findings related to SLE, including its definition, etiology, epidemiology, risk factors, manifestations, and treatment.



**Figure 2.** Risk factors.

## **Discussion**

### *Definition of SLE*

Systemic Lupus Erythematosus (SLE) is a complex systemic autoimmune disease that affects multiple systems within the body. In this condition, individuals lose immunological tolerance, leading to the production of pathogenic autoantibodies. When this mechanism fails, it can result in tissue damage. The development of SLE can be influenced by various factors, including genetics, immunology, endocrinology, and the environment (Justiz et al., 2023).

Systemic Lupus Erythematosus (SLE) is characterized as a multisystem autoimmune disease that can affect nearly all organs in the body, exhibiting a wide range of severity. Each individual's experience varies, from mild clinical manifestations to severe complications that may lead to disability or even death. The severity of SLE can manifest in skin damage or organ dysfunction, with outcomes ranging from long-term remission to fatality (Carrasco, 2013).

In another study, it was elucidated that SLE is a chronic autoimmune disease characterized by recurring and intermittent disease courses. These cycles can be triggered by interactions between environmental and genetic factors, leading to an excessive production of pathogenic autoantibodies. Consequently, this immune dysregulation results in damage to human tissues and organs (Ameer et al., 2022).

### *Etiology SLE*

The cause of SLE itself is complex and involves several factors, yet remains largely unknown. These factors encompass genetic, immunological, endocrine, and environmental influences, all contributing to the disruption of multiple organ systems. This disruption leads to the loss of immunological tolerance to self-antigens, culminating in the formation of pathogenic autoantibodies and subsequent tissue damage. Among the various genetic mutations associated with SLE, rare mutations in early complement components such as C1q, C1r, C1s (with a risk exceeding 90%), C4 (50%), C2 (20%), and TREX1 have been identified as carrying a significantly elevated risk of developing the disease (Ameer et al., 2022).

SLE can be triggered by several factors, including drug use, exposure to UV rays and sunlight, and viral infections. Drugs such as procainamide and hydralazine are known to cause DNA demethylation and antigen changes, potentially inducing SLE. Additionally, the use of sulfa drugs may lead to relapses in SLE patients. Exposure to ultraviolet light and sunlight can increase cell apoptosis, potentially triggering SLE in susceptible individuals. Viral infections, particularly with the Epstein-Barr Virus (EBV), have been implicated in the development of SLE, with EBV being common among children and adults with the condition (Ameer et al., 2022).

Further studies reveal that SLE is a multifactorial disease influenced by a combination of epigenetic, genetic, ecological, and environmental factors. This complexity leads to the activation of both innate and adaptive immunity, resulting in the activation of autoreactive B cells by T cells. This activation cascade leads to the deposition of immune complexes in various tissues, spreading the autoimmune response systemically. In individuals with SLE, the presence of antibodies targeting nuclear and cytoplasmic antigens is commonly observed (Justiz et al., 2023).

### *Epidemiology SLE*

SLE can affect individuals worldwide and can manifest at any age, irrespective of race (Muthusamy, 2017). However, it tends to occur earlier and be more severe in African-Americans (Ameer et al., 2022). In the United States, the annual incidence of SLE is reported to be 5.1 per 100,000 population, with a prevalence of 52 cases per 100,000 population. The gender ratio between females and males is estimated to be between 9 to 14 females for every male (Kasjmir et al., 2011).

The majority of systemic lupus erythematosus (SLE) cases are observed in women, particularly those of childbearing age. Women in this demographic exhibit a significantly higher risk of SLE compared to men, with the risk decreasing after menopause (Ameer et al., 2022). SLE is most commonly diagnosed in women aged 15-44 years, emphasizing its prevalence among reproductive-age females (Justiz et al., 2023).

Epidemiological data on systemic lupus erythematosus (SLE) in Indonesia remains scarce, with no comprehensive coverage for all regions. However, studies conducted at specific hospitals offer some insights. For example, in 2002, Cipto Mangunkusumo General Hospital (RSCM) in Jakarta reported that 1.4% of patient visits to the Internal Medicine Rheumatology polyclinic were due to SLE. Similarly, Hasan Sadikin Hospital in Bandung observed 291 SLE patients, constituting 10.5% of the total patients seeking treatment at the rheumatology polyclinic in 2010 (Kasjmir et al., 2011). Despite these findings, the exact number of SLE cases in Indonesia remains unknown. However, estimates suggest that the prevalence may be comparable to that in the United States, where approximately 1,500,000 people are affected by SLE (Indonesian Lupus Foundation) (Muthusamy, 2017).

Previous research indicated that patients diagnosed with SLE had a 50% chance of surviving for five years. However, with the advancement of research and technology, recent studies reveal a remarkable increase in the survival rate, reaching up to 95%. Deaths occurring after more than five years of disease duration are often attributed to blood vessel diseases. Nevertheless, in some cases, infections remain a primary cause of mortality (Carrasco, 2013).

### *Risk Factor SLE*

SLE is influenced by numerous risk factors, with a higher prevalence observed in the female population, particularly among women of childbearing age (15-44 years) (Justiz et al., 2023). Genetic factors play a significant role, with alleles of genes such as HLA-DRB1, IRF5, STAT4, HLA-A1, DR3, and B8 implicated in abnormal immune responses. Environmental factors, such as ultraviolet rays and sunlight exposure, as well as certain medications like procainamide, hydralazine, and minocycline, can trigger SLE. Additionally, some antirheumatic drugs may induce clinical and serological manifestations resembling SLE, while chemicals like aromatic amino compounds can cause lupus-like syndromes. Hormonal influences, particularly in women of reproductive age, are also noteworthy. However, oral hormonal contraceptives have not been found to increase disease activity in women with SLE (Muthusamy, 2017).

### *Psychiatric Manifestations in SLE*

As previously mentioned, psychiatric manifestations are common in SLE patients, with depression affecting approximately 39% of patients and cognitive dysfunction observed in around 80% (Ameer et al., 2022; Meszaros & Faraone, 2012). Research indicates that 9.6% of SLE patients are at risk of suicide, with many of them experiencing mental disorders meeting

the criteria for a major depressive episode (Jarpa et al., 2011). Case reports have also highlighted the relationship between SLE disease activity, treatment, and the development of depression. For instance, negative life events and the severity of SLE disease activity can precipitate depressive episodes (Marian et al., 2010). Additionally, severe SLE disease activity has been associated with bipolar catatonia, which improves with corticosteroid therapy (Alao et al., 2009).

Several cohort studies suggest that psychiatric disorders in SLE may be linked to corticosteroid administration, with psychosis being a notable concern (Pego-Reigosa & Isenberg, 2008; Appenzeller et al., 2008). A retrospective study highlighted that steroid-induced psychosis might be influenced by pre-existing underlying neurological or psychiatric conditions (Yagi et al., 2021). Furthermore, a multicenter cohort study revealed that besides depression, cognitive impairment is also prevalent in SLE patients. It was observed that depression in SLE cases may exacerbate cognitive decline, possibly due to SLE activity in the central nervous system and indirect effects such as stress and fatigue (Petri et al., 2010).

### *Consultation Liaison Psychiatry*

The psychiatric consultation service, particularly Consultation-Liaison Psychiatry (CLP), has seen rapid growth in recent years within hospital settings. This service is dedicated to assessing and treating general hospital patients with mental health comorbidities, while also offering teaching and research activities on mental health comorbidities to medical staff in non-psychiatric departments of public hospitals (Geng et al., 2023). Patient information, including age, gender, and past medical history, is typically collected as part of this service's assessment process (Yagi et al., 2021).

In psychiatry, consultant psychiatrists establish active relationships with patients, nurses, and other healthcare professionals who comprise the treatment team. The primary objective of this service is to conduct effective screening, training, and routine supervision under the guidance of psychiatrists. Psychiatry plays a crucial role in implementing cost-effective treatment models aimed at facilitating patients' adaptation and improving medication adherence (Gautam et al., 2022).

The intricate relationship between the mind and body underscores the significance of addressing both physical and mental disorders in healthcare. Psychiatry Liaison Consultation plays a crucial role in facilitating collaborative management of symptoms and psychiatric comorbidities, thereby improving healthcare outcomes and focusing on patient-centered care. Studies indicate that 20-46% of inpatients have at least one diagnosed psychological comorbidity, which can prolong hospitalization and lead to excessive utilization of healthcare resources, ultimately resulting in detrimental health impacts. Early identification and management of subclinical psychological issues are imperative for achieving favorable patient outcomes and reducing healthcare expenditures (Geng et al., 2023).

According to the Consensus Guidelines of the European Association of CL Psychiatry and the Academy of Psychosomatic Medicine, Consultation Liaison Psychiatry primarily serves patients with comorbid physical and psychiatric disorders, those with unexplained symptoms, mental and behavioral disorders arising during or after the management of general medical conditions, individuals seeking diagnostic and therapeutic services for mental disorders, patients presenting with suicidal behavior or self-harm in the emergency room, and those whose behavior, personality traits, cognitive function, or social circumstances influence their medical condition

(Geng et al., 2023). In a randomized controlled trial, psychotherapy and psychoanalysis were found to improve the quality of life for SLE patients experiencing depression and anxiety (Conceição et al., 2019).

In research conducted by (Gautam et al., 2022), there were statistically significant results on all but two questions between doctors and nurses, which showed that doctors overall were more satisfied with communication with the CLP team, the quality of treatment provided by the CLP service, some aspects of organizing CLP services, and expressed higher satisfaction with CLP services in general.

## **Conclusion**

SLE is a chronic autoimmune disease characterized by recurrent and intermittent disease courses, triggered by interactions between environmental and genetic factors. This can lead to an excessive production of pathogenic autoantibodies, resulting in tissue and organ damage. Psychiatric manifestations in SLE patients encompass depression, cognitive dysfunction, anxiety, symptoms of mania, and psychosis, posing an increased risk of suicide. Therefore, it is essential to integrate psychiatric treatment and consultation within the management of SLE cases presenting with psychiatric symptoms. A liaison is crucial in facilitating ongoing psychiatric follow-up for SLE patients, thereby enhancing the quality of treatment provided.

## **Ethics approval**

Not applicable.

## **Acknowledgments**

None.

## **Competing interests**

The authors declare that there are no conflicts of interest.

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## **Underlying data**

Derived data supporting the findings of this study are available from the corresponding author on request.

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