

We Need Epidemiological Study from Our Own Population

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Epidemiological data is a valuable source for decision-making in a clinical setting or from a public health perspective.¹ It serves not only direct purposes by supporting evidence-based treatment but also indirectly contributes to guidelines and policies in healthcare services. Currently, there remains a pressing need for further epidemiological or population-based studies to be conducted in Indonesia. The availability of health data and information specifically from the Indonesian population is still limited and highly sought after. It is common for us to depend on epidemiological data from foreign countries, but this practice can introduce bias into our decision-making process due to the disparities between their conditions and our own.

Indonesia possesses a distinct socio-demographic and health landscape, setting it apart from other countries. The diverse range of diseases, risk factors, healthcare access, health equity, and geographical characteristics all contribute to the uniqueness and variability of health problems within the nation.² Specific regions across the Indonesian archipelago encounter health issues that are distinct to their locations. Infectious diseases, particularly tropical diseases, and nutrient deficiencies continue to present significant challenges in numerous provinces throughout Indonesia.²⁻⁴ Variations are observed across different areas and timeframes of study. These dynamic and variable factors make population studies particularly intriguing. It is the responsibility of clinicians, researchers, and epidemiologists to delve into the

intricacies of the population and study its health problems comprehensively.

One of the prevailing epidemiological and clinical concerns related to micronutrient deficiency in Indonesia is iodine deficiency, which requires immediate attention.^{5,6} Despite its current lack of significant national focus, iodine deficiency disorders (IDD) remain a crucial global issue, including within Indonesia. IDD stands as the most prevalent preventable cause of brain damage and hampers human growth and development.⁵ It contributes to thyroid complications such as hypothyroidism, hyperthyroidism, and an elevated risk of goiter, thyroid nodules, and thyroid cancer. Furthermore, iodine-deficient areas experience an increased susceptibility to autoimmune thyroid diseases.

Over the years, the awareness regarding iodine deficiency problems has dwindled due to the successful implementation of global salt iodization and fortification programs. However, it is crucial to continually evaluate these nationwide initiatives and conduct further studies to generate attention, disseminate information, and provide ongoing support.⁷ Surprisingly, 30% of the global population, including Indonesia, still faces the risk of iodine deficiency disorders (IDD).⁸ Collaboration among epidemiologists, clinicians, public health stakeholders, and the government is essential to support all programs, including updated clinical and epidemiological studies, discussions, and policy updates regarding IDD.

In this issue, we present a population study conducted in Magelang Regency, which is

situated in the Central Java Province. The study focuses on examining the iodine intake status and thyroid profiles of women of childbearing age. The article is authored by a team of endocrinologists from Kariadi Hospital in Semarang, led by Nugroho H. Notably, this team has a rich research history spanning several decades, dating back to the 1970s, under the guidance of the esteemed late Professor R Djokomoeljanto, a prominent endocrinologist from Universitas Diponegoro in Semarang. Central Java Province, specifically Magelang Regency, is recognized as one of the areas in Java Island and Indonesia with high endemicity of iodine deficiency disorders (IDD). Numerous studies focusing on public health and nutritional epidemiology of IDD have been carried out in this region.⁹ As a matter of fact, Magelang Regency holds a prominent position as the hub for IDD studies in Indonesia.

Nugroho H et al.¹⁰ assessed iodine levels, dietary intake, goitrogenic food consumption, urinary iodine concentration, FT4, TSH, and total goiter rate in women of childbearing age. This study comprehensively examines iodine and thyroid status in a specific population. Senggi Village in Magelang Regency was chosen due to its geographical, climatic, topographical, and land material characteristics, which pose a moderate risk for iodine deficiency. The region's soil is encompassed by the eruption-affected Merapi Mountain, heightening the vulnerability of residents to iodine deficiency disorders. In a prior study conducted in this area, a prevalence of 6% for congenital hypothyroidism was observed.¹⁰

The study found that women of childbearing age in Senggi had adequate iodine and thyroid status but showed an increased total goiter rate and low urinary iodine concentration. The iodine content in the freshwater source, table salt, and daily dietary intake was also found to be low. The study did not find any associations between iodine status, daily goitrogen intake, and salt iodine concentration. Adequate iodine status and a significant total goiter rate may indicate residual goiter from previous severe endemic iodine deficiency disorders or a higher rate of autoimmune thyroid disease or thyroiditis.¹⁰ This

phenomenon can be further studied in the same or other populations.

Nugroho H et al.'s study,¹⁰ along with seven other original papers on anemia in end-stage renal disease, hypovitaminosis D and depression among patients with type 2 diabetes mellitus, mental health status in pulmonary tuberculosis patients, vitamin D levels and handgrip strength in pre-frail older adults, validity and reliability of the Indonesian version of an arrhythmia-specific questionnaire, characteristics of recurrent malaria episodes, and quality of life of patients after kidney transplantation, are featured in our second edition for 2023. This issue presents high-quality studies that provide data and information from our patients and the Indonesian population. We hope this issue will expand our knowledge, strategies, and wisdom for diagnosing, treating, and providing education for our patients in a clinical setting.

In short, IDD represents just a single illustration of the numerous public health and clinical concerns that demand our attention. To effectively address these concerns, gathering data specific to our own population is imperative, enabling the identification of risk factors. This knowledge will empower us to devise and execute appropriate actions. Collaboration among clinicians, researchers, and public health stakeholders is essential to facilitate research, disseminate vital information, establish local guidelines, and shape policies. The collective efforts undertaken in these areas will ultimately shape the future of our nation's health status.

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