

National Guidelines For The Clinical Management Of Lead Exposure To Children A Nd Pregnant Women In Indonesia : Risk-based Management



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Introduction

Indonesia, with its large child population of approximately 80 million, faces a critical public health challenge due to lead contamination. To address this issue, Indonesia adopted WHO's 2021 guidelines for lead exposure management, tailored to national needs. The guidelines emphasize risk-based management and incorporate local data, risk levels, and resources.

Methodology

We conducted literature reviews, interviews and consultations with stakeholders, field visits, discussions with experts and implementation trials.

Results

Risk-based management consisted of

1. Identification of Lead Exposure

Questionnaires were provided to obtain Background of Environmental Lead Level, Epidemiology, potential sources of lead exposure, clinical conditions, and BLL

2. Risk Assessment

Risk Levels were determined following the risk level matrixes

3. Management of lead exposure based on the risk level



Risk Level Matrix

	Clinical Symptoms			
	Not Found		Found	
	Environmental background/lead exposure identification questionnaire		Environmental background/lead exposure identification questionnaire	
BLL (µg/dl)	No	Yes	No	Yes
	Risk Level			
Not Found	0	1	0	1
<5 µg/dl	0	1	0	3
5-19,99 µg/dl	1	2	3	3
20-45 µg/dl	2	2	3	3
>45 µg/dl	3	3	3	3

Risk-Based Management

Risk Level 0	Risk Level 1	Risk Level 2	Risk Level 3
Education and promotion	<ul style="list-style-type: none"> • Provide information • Do comprehensive anamnesis and physical examination • Investigate others • Analysis of nutritional issues • Developmental assessment • Investigate pica behavior • Do a venous blood examination within 1-3 months for confirmation • Environmental intervention • Report to Health Office 	<ul style="list-style-type: none"> • Nutritional treatment • Identify suspicious signs or symptoms of lead poisoning • Refer the patient for abdominal radiology examination and do treatment following the findings • perform a venous blood examination within 2 weeks for confirmation 	<ul style="list-style-type: none"> • Laboratory tests for treatment such as hematology tests and ferritin, urea, creatinine, hepatic enzymes and urine tests • Hospitalization in cases of symptoms requiring one • Recommend temporary resettlement • perform chelation therapy • perform a venous blood examination within 48 hours for confirmation

Conclusion

This initiative represents a vital step toward safeguarding Indonesia's future generations by mitigating the health risks of lead exposure. It calls for further integration into healthcare practices, enhanced public awareness, and ongoing evaluation to optimize outcomes.

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Conflict of Interest

The authors declare no competing interests. This study was conducted independently from the author's institutional responsibilities.

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