

SPATIAL MODELING OF THE SPREAD OF SCABIES AND ENVIRONMENTAL SANITATION AS A RISK FACTOR AMONG SCHOOLCHILDREN: A CASE-CONTROL STUDY

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Abstract	<p>BACKGROUND Scabies is a World Health Organization neglected tropical disease common in children in low-and middle-income countries. The prevalence of scabies, especially in tropical countries, is still quite high at more than 200 million cases per year. Transmission of scabies is predominantly via skin-to-skin contact. The purpose of the study was to determine the epidemiology of clinical scabies among schoolchildren and spatial modeling using geographic information systems (GIS).METHODSA study of unmatched case-control design with a ratio of 1: 1 was performed to identify specific risk factors of scabies. Cases were patients with clinical scabies and controls were healthy people in the area. A total of 100 students were involved in the study. Simple and multiple logistic regression was used to test any association between the variables. Geographical Information Systems (GIS) modeling was used to determine the spatial distribution of clinical scabies based on 69 cases.RESULTTThere was a significant association between the level of environmental sanitation and the prevalence of clinical scabies (OR = 2.53;95% C.I. 1.11-5.74). Multivariate analysis showed that the level of environmental sanitation was significant (AOR = 3.05;95% C.I. 1.19-7.81). Risk factors for developing clinical scabies increased to 3 times after considering other risk factors, namely gender, age group and respondent education level. Analysis of average nearest neighbor distance showed that the spatial distribution of clinical scabies was clustered. CONCLUSIONSThe distribution of clinical scabies was spatial clustering, and prediction of transmission in a clockwise direction with Southeast and Northwest ellipses.</p>
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