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A Review of Spatial Analysis Application in Childhood Malnutrition Studies

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[Shamsuddin, Aida Soraya](#)^a ; [Abu Bakar, Wan Azdie Mohd](#)^a;

[Ismail, Sharifah Norkhadijah Syed](#)^b; [Jaafar, Nurul Hazirah](#)^a; [Yassin, Wardah Mohd](#)^a; [+1 author](#)

^a Department of Nutrition Sciences, Kulliyah of Allied Health Sciences, International Islamic University Malaysia (IIUM), Pahang, Malaysia

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Abstract

Approximately 230 million children under 5 years old of age suffer from malnutrition and over half of the children below 5 years old deaths are due to malnutrition nowadays. To gain a better understanding of this problem, the application of spatial analysis has risen exponentially in recent years. In this review, the present state of information on the use of spatial analysis in childhood malnutrition studies was evaluated using four databases of digital scientific journals: ScienceDirect, Scopus, PubMed and CINAHL. We chose 2,278 articles from the search results and a total of 27 articles met our criteria for review. The following information was extracted from each article:

objective of study, study area, types of malnutrition, subject, data sources, computer software packages, spatial analysis and factors associated with childhood malnutrition. A total of 10 spatial analysis methods were reported in the reviewed articles and the Bayesian geosadditive regression model was the most common method applied in childhood malnutrition studies. This review highlights the importance of the application of spatial analysis in determining the geographic distribution of malnutrition cases, hotspot areas and risk factors correlated with childhood malnutrition. It also provides implications for strategic initiatives to eradicate all forms of malnutrition. © Penerbit Universiti Sains Malaysia, 2022.

Author keywords

childhood malnutrition; Geographic Information System (GIS); mapping; spatial analysis

Indexed keywords

EMTREE medical terms

anthropometry; birth weight; body mass; childhood; childhood obesity; demographics; geographic distribution; geographic information system; health; human; malnutrition; nutrition; Preferred Reporting Items for Systematic Reviews and Meta-Analyses; regression model; Review; risk factor; social status; spatial analysis; stunting; systematic review; temperature; underweight; urbanization

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Corresponding authors

Corresponding
author

A.S. Shamsuddin

Affiliation

Department of Nutrition Sciences, Kulliyyah of Allied Health Sciences,
International Islamic University Malaysia (IIUM), Kuantan Campus, Pahang,
Kuantan, 25200, Malaysia

Email address

aidasoraya.shamsuddin@gmail.com

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