Identifying Essential Topics and Trends in South Korea : Focusing on Particulate Matter

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Particulate matter (PM) has become widely discussed due to its reported correlation with higher mortality and prevalence rates. The importance of PM has increased in South Korea since the late 1990s, and various studies have been conducted. This study performed topic modeling represented by Latent Dirichlet Allocation (LDA) to identify PM research topics and trends in the paper (D=2,764) published in South Korea. As a result, a total of topics were identified in the papers, classified as 'PM reduction (Topic 1)', Government policy and management (Topic 2)', 'Characteristics of PM (Topic 3)', 'PM model (Topic 4)', 'Environmental education (Topic 5)', 'Bio (Topic 6)', 'Traffic (Topic 7)', 'Asian dust (Topic 8)', 'Indoor PM (Topic 9)', and 'Human risk (Topic 10)'. Furthermore, the proportion of papers on 'Government policy and management (Topic 2)', 'PM model (Topic 4)', 'Environmental education (Topic 5), and 'Bio (Topic 6)' increased over time (linear slope > 0). The findings of this study provide valuable insight and introduce a new literature review methodology for particulate matter.