

METHODOLOGICAL CRITERIA FOR MONITORING GLOBAL INDOOR AIR QUALITY: A REVIEW FOR PARTICULATE MATTER (PM)

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Indoor air quality monitoring (IAQm) has obtained great relevance to build scientific evidence on intramural personal exposure, that can affect public health and indoor sources can contribute to climate change. However, there is still no methodological clarity when carrying out intramural monitoring. The objective of this review was to establish the global trends in monitoring criteria for PM, measurement equipment, target population and characteristics of the enclosure for indoor air quality. The methodology is based on the selection of 63 investigations related to IAQm from 2012 to 2017, published in indexed journals from Asia, Europe, North and South America and Africa. Then, a database is constructed with six methodological criteria: sample size, continuous monitoring time, type of interior environment, measurement site and particle size and three considerations are included: object of study, type of equipment and characteristics of the home. Finally, a statistical analysis was consolidated for each of the criteria and its relationship with the object of study. As results, when the investigation is about personal exposure, the object of study is focused on women and children and when is about source of emission, the focus is on the type of fuel and stove that they use. Regarding the continuous monitoring time, only in 59% of the studies is equal or superior to 24 h. In general, the place of measurement changes according to its relation to the object of study. The aerosol monitors have taken great relevance, also gravimetric mechanisms, particle counters, pumps and other analysers are used. To conclude, in 15% of the investigations they didn't report at least two criteria, rural areas and restaurants are spaces that need more attention and countries such as the Central African Republic, North Korea, Afghanistan and Papua New Guinea require deeper research.

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