



SC-04

Fast fashion and environmental pollution: implications for One Health

M. Barbera(1), M. Fabio(1), C. Sindoni(1), A. Facciola(1), G. Visalli(1), A. Laganà(1)

(1) Department of Biomedical, Dental, Morphological and Functional Imaging Sciences (BIOMORF), University of Messina, Messina IT

Background. Fast fashion has transformed the textile industry by promoting rapid production cycles, low-cost garments and increasing consumer demand. While this production model has improved clothing accessibility, it has also become a significant source of environmental pollution through intensive resource consumption, greenhouse gas emissions, excessive water use, textile waste generation and microplastic release. These environmental impacts may adversely affect both ecosystems and human health, emphasizing the need for a One Health approach.

Materials And Methods. A narrative literature review was conducted using PubMed, Scopus and Web of Science. Twenty-seven English-language publications, including original articles and reports from international organizations published within the last 5–10 years, were selected using the keywords "fast fashion" AND "environmental pollution". The available evidence on environmental contamination and its potential implications for human health was critically reviewed and synthesized.

Results. The available evidence indicates that the textile industry is a major contributor to greenhouse gas emissions, intensive water consumption and textile waste generation. In addition, laundering of synthetic textiles represents an important source of microfibre release into the environment. These microfibres may degrade into microplastics capable of adsorbing and transporting hazardous substances, including dyes, heavy metals and phthalates. Their accumulation in aquatic and terrestrial ecosystems may contribute to environmental degradation and increase human exposure through the food chain. The magnitude of these impacts is influenced by the effectiveness of textile waste management systems and environmental protection policies.

Conclusions. Fast fashion represents an emerging environmental and public health challenge. A One Health approach integrating sustainable production, responsible consumption, effective textile waste management and environmental protection is essential to mitigate its long-term impact. Strengthening regulatory policies and promoting circular economy strategies should be considered priorities to reduce the environmental and health burden associated with the textile industry.

References. Niinimäki K, Peters G, Dahlbo H, Perry P, Rissanen T, Gwilt A. The environmental price of fast fashion. *Nat Rev Earth Environ.* 2020;1:189-200. Boucher J, Friot D. Primary Microplastics in the Oceans: A Global Evaluation of Sources. Gland (Switzerland): IUCN; 2017. United Nations Environment Programme. Sustainability and Circularity in the Textile Value Chain: Global Roadmap. Nairobi: UNEP; 2023.