

Predicting the future of the research trends – on examples of OSH publications from 2010-2022

Abstract

The purpose of the study was to predict research trends in occupational safety and health (OSH) using the example of Poland. Selected OSH articles in scientific journals indexed in Web of Science CC (WoS CC) – Public, Environmental & Occupational Health (WoS CC Category) were used to obtain a representative dataset. The downloaded data include recordsets - articles affiliated with Polish scientific institutions. Two approaches were used for that analysis. In the first approach sets of metadata (keywords) of articles indexed in WoS CC, separately for each of the years: 2010, 2015, 2020, 2022. In the second approach the same dataset and separate categorization were applied using the main categories representing working environment (OSH): biochemical, chemical, physical, psychosocial hazards/aspects; personal protective equipment and ergonomics and health. Total number of records in dataset = 3606. Data of search: August 9, 2023.

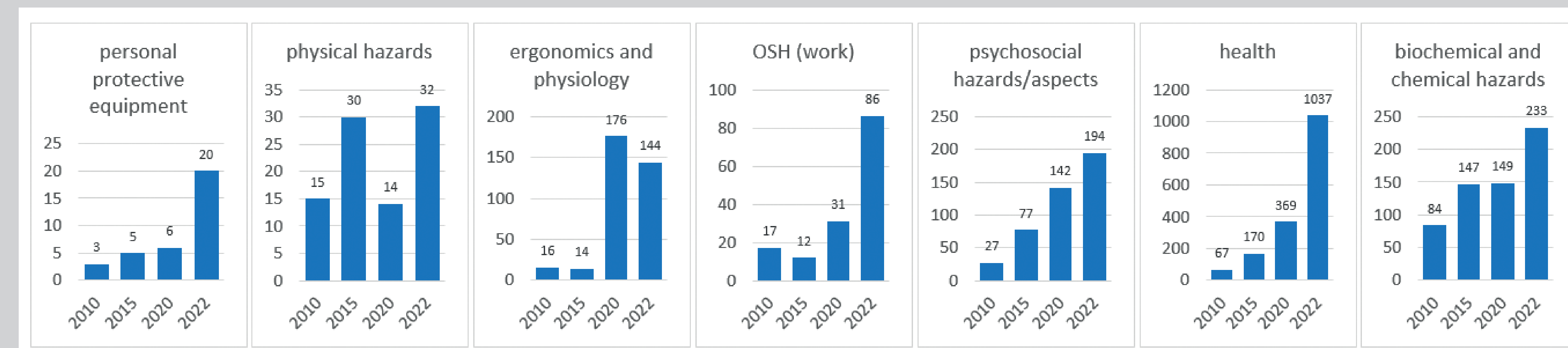
Key words: research trends, occupational safety and health (OSH), Web of Science, Poland, scientific publications, data analysis

Methods:

WoS CC query – search by WoS CC Public, Environmental & Occupational Health categories.

Document type – article or review article.

Topics – main categories: OSH (work), biochemical and chemical, physical, psychosocial hazards/aspects; ergonomics and physiology.

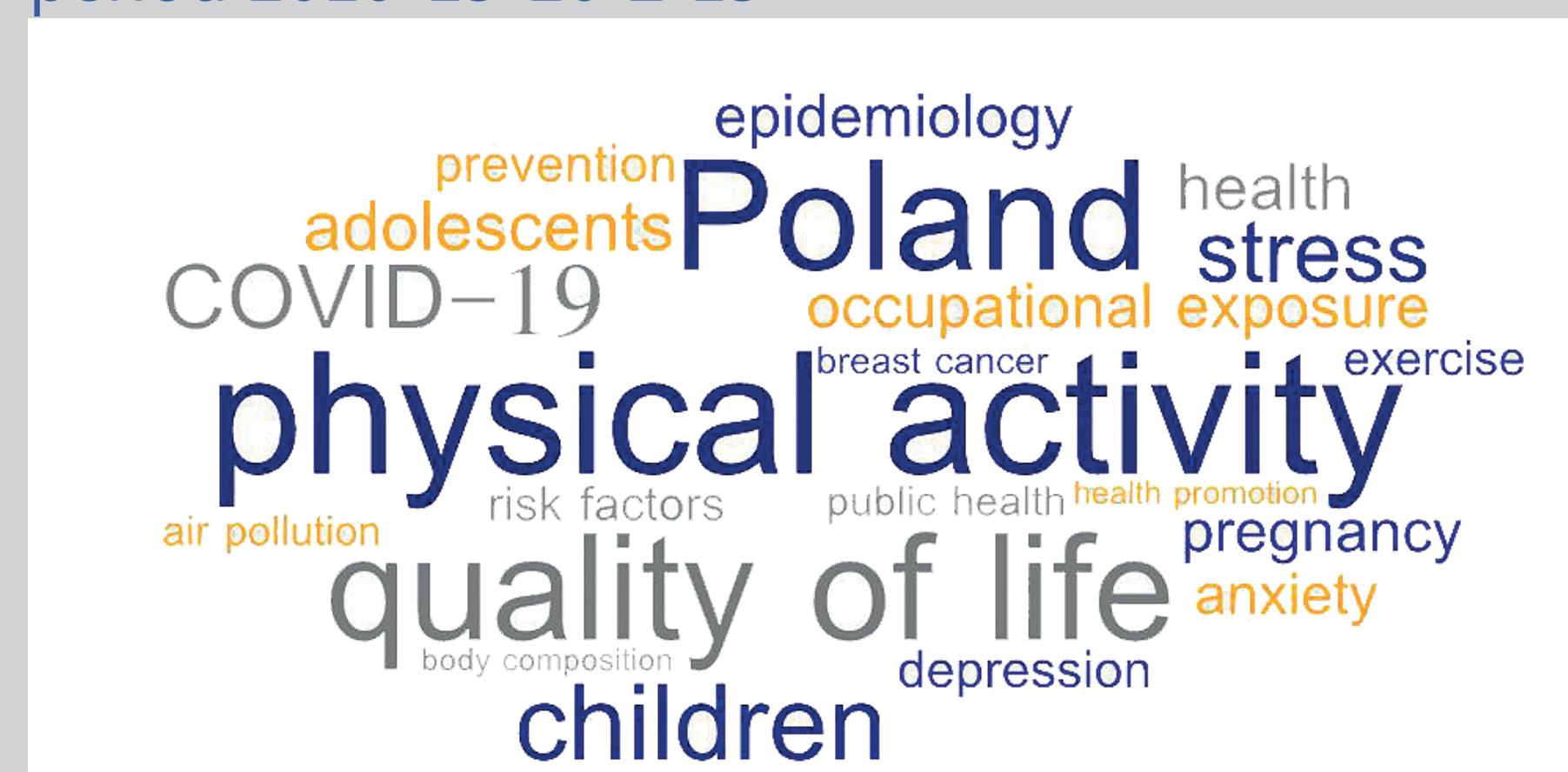


RQ.1. What are the main topics of OSH research for 2010-22 in Poland?

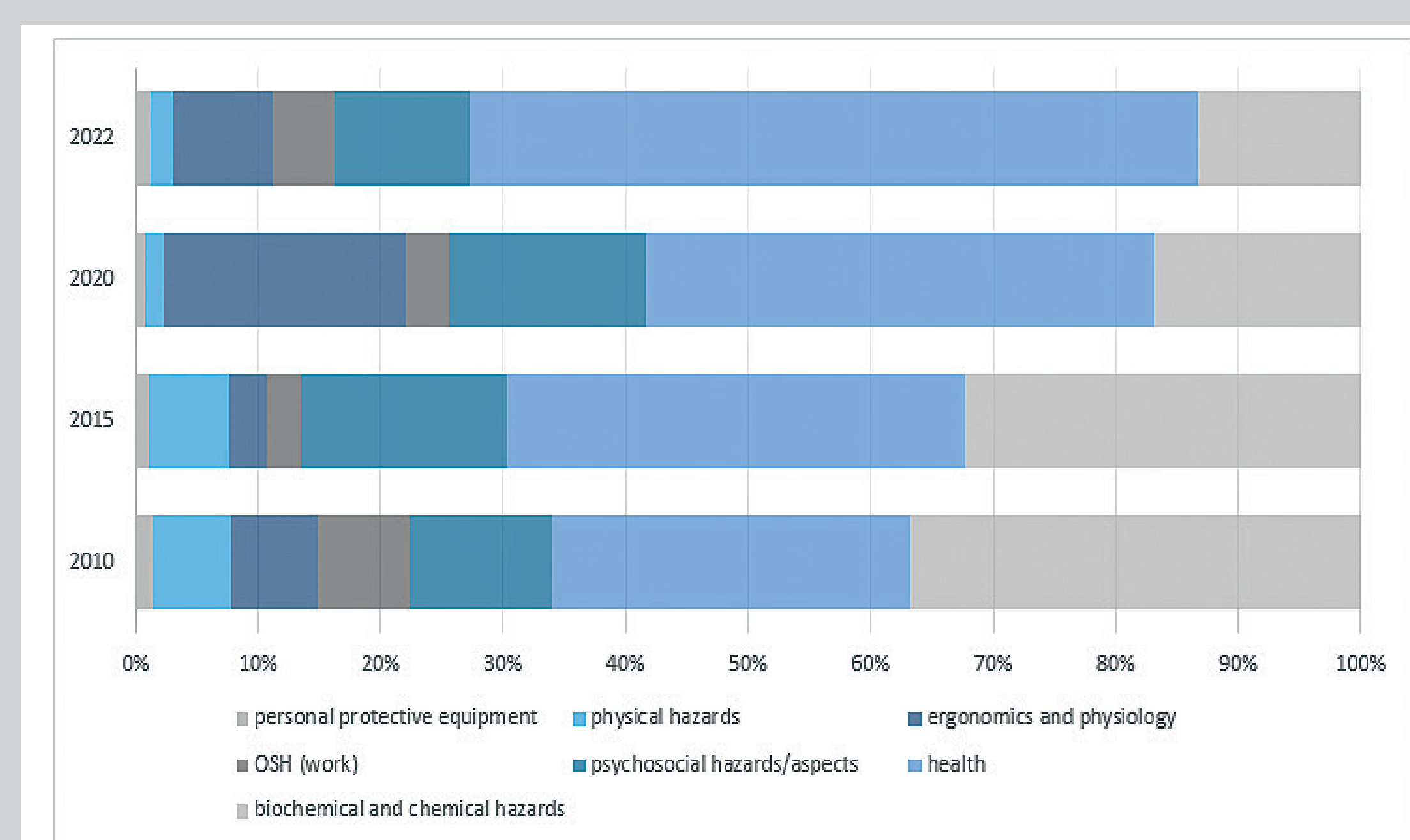
Occurrence of authors' keywords

period 2010-15-20 ≥ 13

for 2022 ≥ 11



RQ.2. How have the main topics of OSH changed? Which topics have been and which are currently the most important for research in Poland?



Percentage of publications on each topic in 2010, 2015, 2020, 2022

RQ.3. Is it possible to predict OSH research topics for the future based on data on already indexed publications?

- no clear answer on predicting research topics
- COVID-19 (Pandemic) has impacted OSH research topics
- the proposal to conduct research again in a few years, when interest in the COVID-19 topic will naturally decline.

Results for search in WoS CC	
Year	Number of articles
2010	235
2015	470
2020	974
2022	1927
ALL	3606

RQ.4. The WoS CC does not index all OSH achievements for Poland – does it make sense to use these databases to predict research trends? Is possible any other solution?

Other solutions:

- other database: Scopus
- different period – e.g. every two years: 2010, 2012, 2014, 2016, 2018, 2020, 2022
- 3,02% of the total number of articles are affiliated with Poland in 2022 in WoS CC (Public, Environmental & Occupational Health)
- conducting a study using data from another country of similar size
- different queries used the same OSH topic (Topics_WoS CC) and country affiliation (Poland).

Summary

- All OSH hazards/aspects are represented in the data sets obtained from Web of Science CC_2010, 2015, 2020, 2022
 - COVID-19 dominated the subject matter of publications in 2022
 - Keywords are not sufficient to analyze the content of the articles
 - During the work, an overarching keyword was introduced - as the main category (ergonomics, psychosocial, etc.)
 - Every record (3606) was analyzed and classified after metadata analysis (title, abstract, keywords)
 - Future work: a year-by-year (every two years) analysis would show more accurately the changes in publication topics.
- The authors plan to expand its scope.

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