Assessment of Health and Well-being of Portuguese Population by Environmental and Socioeconomic Determinants

Diogo Guedes Vidal[1], Esmeralda Barreira[2], Gisela Marta Oliveira[3], Manuela Pontes[4], Rui Leandro Maia[5], Maria Pia Ferraz[6], José Cabeda[7], José Manuel Calheiros[8]

[1]UFP Energy, Environment and Health Research (FP-ENAS), University Fernando Pessoa, Portugal, diogovidal@ufp.edu.pt
[2]Portuguese Oncology Institute Francisco Gentil, EPE (IPO-Porto), UFP Energy, Environment and Health Research (FP-ENAS), Health Sciences Faculty, University Fernando Pessoa, Portugal, merb@ufp.edu.pt
[3]UFP Energy, Environment and Health Research (FP-ENAS), University Fernando Pessoa, Portugal, gisela@ufp.edu.pt
[4]UFP Energy, Environment and Health Research (FP-ENAS), University Fernando Pessoa, Portugal, mpontes@ufp.edu.pt
[5]UFP Energy, Environment and Health Research (FP-ENAS), University Fernando Pessoa, Portugal, rlmaia@ufp.edu.pt
[6]UFP Energy, Environment and Health Research Unit (FP-ENAS), Health Sciences Faculty, University Fernando Pessoa, Portugal, mpferraz@ufp.edu.pt
[7]UFP Energy, Environment and Health Research Unit (FP-ENAS), Health Sciences Faculty, University Fernando Pessoa, Portugal, jcabeda@ufp.edu.pt
[8]UFP Energy, Environment and Health Research Unit (FP-ENAS), Hospital-School UFP (HE-UFP), University Fernando Pessoa, Portugal, jcalheiros@ufp.edu.pt

ABSTRACT

BACKGROUND: Sustainable development aims for the universal well-being and for integral human development. The 2030 Agenda for Sustainable Development defines the goal SDG3 as "ensure healthy lives and promote well-being for all at all ages"[1]. The promotion of health equity faces challenges of political, social, economic and environmental nature, which are interrelated and influenced by environmental and socioeconomic determinants. Health determinants are intrinsically linked with all SDGs[2]. **OBJECTIVE:** thus, this work proposes a tailored made index SEHVI - *SocioEconomic Health Vulnerability Index* aiming to analyse the Portuguese population health and well-being in a quantitative manner. **METHODS:** SEHVI aggregates 7 health outcomes indicators – mortality variables – and 28 health determinants indicators – healthcare resources, social protection, education, water and sanitation, employment and income, air pollution and land, housing, social participation, safety and waste variables – relating dimensions affecting health quality and well-being. Variables' choice was based on the SDGs monitoring framework[3] and on data availability on databases. Statistical data was collected from official national databases - INE, PORDATA, and APA - disaggregated at municipal level, in order to evaluate population's life conditions at the local scale. This is a cross-sectional study focusing three periods: 2009, 2015 and 2018, and targeting only mainland municipalities (N=278). "Madeira" and "Açores" archipelagos were excluded from the present study due to scarcity of available statistical data for the selected variables. Standardization and normalization methods were applied to variables before aggregation into the index model. The model was validated by statistical tests and by factorial analyses of exploratory type using IBM®SPSS®

Statistics vs.25.0 software. **RESULTS:** Results are robust with an adequacy of data structure ($KMO =$ 0.767; $p<0.01$), which translates populations' vulnerability regarding health and well-being conditions. The country national index score was adopted as the benchmark. In the period of analysis, all indicators progress was evaluated: with the exception of water quality for human consumption and education related indicators, significant improvements were observed for all other indicators. Most of the mainland population (72 %) experiences more vulnerable health and well-being conditions than the country's average. Generally, since 2009, SEHVI scores are worsening. **CONCLUSIONS:** This study enlightens that populations' environmental conditions and socioeconomic determinants play an important role in health and well-being outcomes, namely those related to housing conditions, air pollutants emissions[4], education level and health services[5]. These results confirm that well-being is a multidimensional subject, influenced by different domains of life and thus requiring a multidisciplinary approach.

Keywords: *health determinants, life conditions, sustainable development goals, socio-economic determinants*

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