

HPV and Dengue Vaccines: Patent and Articles Social Network Analysis (SNA) and the Implications for Innovation Health Policy at Innovative Developing Countries (IDC)

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The research and technological development (R&D) in vaccines against dengue Virus and Human Papilloma Virus (HPV) were analyzed using patent and non-patent literature (NPL). The case study demonstrates the use of Social Network Analysis (SNA) as a tool to support the improvement of public policies for innovation. Patent data retrieved from the databases: Derwent Innovations Index (DII), Inpadoc and from the Brazilian Patent Office; NPL data, from Institute for Scientific Information (ISI), PubMed and SciELO databases were treated and harmonized using VantagePoint data mining software. Adjacency matrices were generated for the correlation of data by the use of SNA methodology. The construction of "socio-bibliometric maps" referring to the objects was performed with Ucinet/Netdraw package. The networks' topology analysis identified the position occupied by the "nodes", which represent co-invention or co-application (patent documents) or co-authorship (articles) and the "connections" that represent the interactions measured considering the established partnerships between/among people, affiliations and nations to which they belong. The SNA allowed the characterization of the dynamics of the generation and dissemination flow of knowledge that reflect the scenery of R&D in vaccines against dengue and HPV. Our data suggests that this dynamics is characterized by the low participation of Brazilian researchers in the patenting processes; although there are connections with key-groups from the scientific point of view. The study data evidences the fragility of the country's insertion into vaccines R&D network. Monitoring the patent and publication landscape may enter the policy agenda of innovative developing countries.