Microbicides Development - Trends in- Original Research Published Globally in PubMed Indexed Journals

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Background and objectives
Microbicides are compounds currently under development that would be applied topically to the vagina or rectum and would have the ability to prevent the sexual transmission of human immunodeficiency virus (HIV) [that causes acquired immuno-deficiency syndrome (AIDS)] and possibly other sexually transmitted infections (STIs). An HIV prevention strategy that women can initiate or control in the form of a microbicide was first proposed by Stein (1990) almost two decades ago. Since then several candidate microbicides have entered effectiveness trials prevention. The document of the US-based Alliance for Microbicide Development (2007) entitled, “Mapping the Microbicide Effort” provides an exhaustive report on microbicides development till 2006. Abdool Karim & Baxter (2010) discussed briefly the developments in microbicides development spanning of almost two decades. With this backdrop, mapping of research papers from a premier biomedical database like the PubMed therefore offers an important scientometric tool to present the current trend in a growing area like the microbicides development. This study aimed to explore the progress and foresight in microbicides development using research papers’ analysis.

Methodology
Specifically, records were downloaded from the PubMed (2010) with the search strategy, i) “Microbicide [ti]” and ii) “HIV prevention[ti] + methods[ti] + women[ti] ”. A total of 395 records were saved as Medline records in text(.txt) format on November 16, 2010. Of these, 317 records complete in all fields / respects were processed for analysis.

Results & Discussion
Of the 317 papers, 293 (92.43%) were journal articles and the remaining 24 (7.57 %) reviews, published during 1952 – 2010. Majority of the papers (280(88.33%)) appeared during the recent decade (2001-2010 – 7,9,13,20,31,32,39,45,42,42 papers, respectively) only. Ten papers published from 1952 – before 1990 have little relevance on the ongoing microbicides research as an HIV prevention strategy that women can initiate or control in the form of a microbicide was first proposed by Stein (1990). A total of 133 publishing journals were used for 317 papers. Only four journals viz., Sexually Transmitted Diseases (32 papers, IF 20200709, 2.579), Antimicrob Agents and Chemotherapy (19, IF 2009, 4.802), Journal of Acquired Immune Deficiency Syndromes (16, IF 2009, 4.207) and AIDS (London, England; 13, IF 2009,4.909) contributed one-fourths (1002
80, 25.24%) of the total 317 papers as also 24 publishing journals for 111 papers and another 105 journals for 126 papers. To put it simply, 20.05% (28) journals published 60.25% (191) papers. Except, AIDS (from England), the remaining top ranking journals are published from USA. In terms of corresponding author’s affiliation, 22 countries accounted for these papers. The no. of countries from the present 22 is certainly going to mount in the time to come as also the US-based institutions. Even the impact of 24 review articles is of maximum benefit to the scientific and biomedical community as suggested by Ketcham and Craford (2007). Top ranking countries in terms of number of papers were USA (198 papers), UK(23), South Africa (14), India (12), Belgium (7), PR China (6), Australia, Canada and France (5 each), The Netherlands (4), Spain and Thailand (3 each), Italy, Uganda and Tanzania (2 each) and Austria, England, Germany, Kenya, Switzerland, Zambia (and USA) and Zimbabwe (1 each). Authors’ collaboration pattern of 317 papers showed 30(9.46%) single authored papers and the rest by 2 or more authors with 12 papers having Collaborative/Editorial teams also in addition to multi-authors as: Microbicides Development Programme (4 papers), Mad STI Prevention Group (2), CAPRISA 004 Trial Group, MIRA Team, MDP Team, COL 1492 Study Group, ANRS Multi-Micro Project Study Group and Editorial Team.. Barring nine papers [German (4), French (3) and Italian (2)], all the papers analyzed were published in the English language (307). In the present study, 133 publishing journals for 317 papers more or less followed Bradford’s Law (1950) of scattering, describing how the literature of microbicides is scattered in these 133 journals.

Conclusions
While a successful microbicide still remains elusive, more and more microbicides researchers, public health personnel, communities and advocacy organizations from more and more countries are actively pursuing the global initiative in developing a safe, effective and accessible microbicide. Leading countries in terms of research output like the USA, the UK, South Africa and India are often those directly affected by HIV. In this endeavour, the ongoing series of biannual international conference provides the right milieu for deliberating the global efforts being put in this important area of microbicides development. The next in the series will be the Microbicides 2012 at Sydney, Australia. Authors predict by that time an International Journal of Microbicides R&D may emerge on the scene to take care of the growing number of research papers.

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