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Productivity and scientific impact of research carried out in Sri Lanka on Natural Products Chemistry

Over the past four decades significant contributions have been made by Sri Lankan researchers in the field of natural products chemistry. The size and intensity of such work can be measured by examining different indices of productivity, while the quality and scientific impact can be evaluated in an international context through bibliometirc studies (analysis of the number of publications within the international scientific literature and the impact of these publications measured by the citations received by these publications). The objectives of the current study are two-fold. Firstly, to test and evolve appropriate qualitative and quantitative measures to assess productivity and quality of research output, and secondly, to apply suitable techniques to measure productivity and scientific impact of work carried out by Sri Lankan scientists in the field of natural products chemistry. The study was carried out in two parts and involved initially an assessment of the size of the contribution made by Sri Lankan researchers in natural products chemistry, measured in terms of counts of publications from 3,600 journals indexed in the Science Citation Index (SCI) for the period 1991 to 1995, and publications in 5700 journals indexed in SCI Expanded for the period 1975 to 1990. In the next step, the citations received for these papers were computed by means of the citation tracking facility of the two data sources. On an overall basis during the period 1976 to 2001, two citation peaks were observed for publications of Sri Lankan scientists on natural products chemistry. The first peak was during 1990 to 1992 and the second peak was during 1997 to 1999. A detailed examination of 50 publications indexed in the SCI during 1991 to 1995, showed that 34 articles had been cited 88 times during the subsequent five year period ranging from 1992 to 2000. Consequently the overall citation rate was of 2.59 citations per cited article. Although it had been reported (Moed, 1985) that an average publication in an international journal receives its maximum intensity of citations in the third year of its lifetime, the current study does not support this contention, with the average citation rate during the third year after publication, dropping to 0.25 per cited article. The current trends in citation rates seem to indicate greater recognition for Sri Lankan work on natural products chemistry, since higher citation rates have been observed from the first year of publication.