

## “SALAMI SCIENCE” OR “SALAMI SLICING”: A REFLECTION ON SCIENTIFIC PRODUCTION

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“[...] Awareness that this model based on indexes and impact factors does not demonstrate the importance of scientific development and the effects of science[...] requiring the effort of proposing and presenting alternatives”.

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“Salami Science” or “Salami Slicing” refers to the practice of creating two or more publications out of a single research databank, in other words, from one investigation<sup>1-6</sup>. Nevertheless, it would be an oversimplified or even naive definition and an experienced reviewer should consider other criteria to conclude that there was any unethical slicing of scientific production. The occurrence of Salami Science becomes more evident with the presence of the following aspects: same objectives or hypothesis, same methodology, sample characteristics, results and conclusions. The presence of the same authors, or some of these, reinforces the suspicion<sup>1</sup>. This aspect is, indeed, one of the reasons for this practice also to be known as self-plagiarism<sup>5,7</sup>.

Self-plagiarism is generally performed with the purpose of increasing the number of publications and, in this manner, obtains advantages, either monetary or academic<sup>5,7,8</sup>. Once a high number for publications has often been an important criterion for admission in an academic career, career progression or even for obtaining productivity fellowships or funding for new researches, this practice has been evidenced

worldwide<sup>1-8</sup>. Besides being unethical, it is also reprehensible for leading editors to waste time in judging articles that do not add any new evidence, occupying the place of contributions that could be innovative, increasing in an unfair manner competition for publication in scientific journals, as well as hindering the identification of texts with substantial information for the advance of scientific knowledge.

The publication of two or even various articles originating from the same databank can, nevertheless, be indicated and welcome in some cases<sup>3,4</sup>. In major epidemiological studies, such as investigations with cross-sectional or longitudinal design, observational or of intervention, the authors dedicate themselves to collect vast information which is not used in one sole article, having, on average three thousand words. Instruments, in general are extensive and address various aspects of the health profile of many individuals<sup>3,4</sup>. Thus, not disclosing the generated knowledge would not be ethical once it could refrain from providing benefits to the subjects of the study, aside from the fact of the publication of the results having been agreed

with the Research Ethics Committee.

A great national example of investigation which has generated many publications is the Longitudinal Study for Adult Health, known as ELSA-Brasil<sup>9</sup>. This is a cohort study with over 15 thousand employees from six federal universities representing the south, southeast and northeast regions of the country. The objective is the investigation of the incidence and risk factors for chronic diseases, with data collection since 2008, when wave 1 was started. From 2012 to 2014 wave 2 was begun and wave 3 should begin in the first semester of this year<sup>10</sup>. Considering only the Pubmed base, 138 articles originating from this study can be found. Other similar sized studies generating numerous articles can also be mentioned, such as the Pelotas Birth Cohort Study<sup>11</sup> and the Bambuí Project<sup>12</sup>, a cohort on the elderly placed in the city of Bambuí, Minas Gerais.

Many cross-sectional studies, such as the community-based study Accidents in Informal Economy<sup>13</sup> and the institutional based study Musculoskeletal Disorders and Industrial Work<sup>14</sup>, also generated various publications in the area of Collective Health with distinct objectives, results and conclusions, despite presenting the same characteristics related to sample composition in each one. Other numerous studies in this specific field of knowledge could also be mentioned, as well as the benefits generated.

The generation of secondary benefits to the disclosure of scientific knowledge is, moreover, one of the key elements to contain the impulse of researchers of sending to journals small sections of the same study, not adding any advances to scientific knowledge. The evaluation of knowledge, and consequently of the researchers, may soon, who knows, no longer be focused on the quantity of published articles, on the H-index, or even Impact Factor of magazines, but on quality, on effects and impacts generated from the scientific production<sup>15</sup>. It is perceived that rethinking the forms of measuring the effects of scientific production would be fundamental for the field of health. The academy and society would be grateful.

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