Journal of Negative Results in BioMedicine

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Editorial

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Editorial: Journal of Negative Results in Biomedicine

Christian Pfeffer*[1] and Bjorn R Olsen*[2]

Address: [1]Departments of Pediatric Oncology, The Dana Farber Cancer Institute, Pediatric Hematology, The Children's Hospital, and Harvard Medical School, 44 Binney St. Boston MA 02115 USA and [2]Department of Cell Biology, Harvard Medical School, 240 Longwood Avenue, Boston MA 02115 USA

E-mail: Christian Pfeffer* - christian_pfeffer@dfci.harvard.edu; Bjorn R Olsen* - bjorn_olsen@hms.harvard.edu

*Corresponding authors

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Editorial

Dear readers of the *Journal of Negative Results in Biomedicine*,

We are pleased to introduce you to the Journal of Negative Results in Biomedicine (JNRBM). A journal, very unique in its kind, as it publishes articles, fully PubMed indexed that challenge current models, tenets and dogmas. The articles are based on rigorous, and well documented results that do not support these models or even disprove them. It publishes methods and techniques that are found to be unsuitable for studying a particular phenomenon. JNRBM strongly promotes and encourages the publication of clinical trials that fall short of demonstrating an improvement over current treatments. JNRBM's immediate goal is to provide scientists and physicians with responsible and balanced information in order to improve experimental designs and clinical decisions.

As we started this journal we received a large amount of positive feedback, as well as some critical comments and questions. Among them, why such a journal? What are the benefits of a journal that publishes negative results? Won't such published information give my competitors an advantage? How do you avoid publishing bad science?

To respond to these concerns, we would like to draw the reader's attention to Karl Popper's realization that science advances through a process of "conjectures and refutations". Popper gave a rather compelling and simple example: For thousands of years Europeans believed that swans are white based on observations of millions of white swans, until exploration of Australasia introduced Europeans to black swans. Popper's point: Only one black swan was needed to repudiate the theory that all swans are white. However many confirming instances there are for a theory, it only takes one counter observation to falsify it.

As compelling as Popper's arguments are, in reality however, scientists with controversial results, results that refute a current model or "negative" results struggle for their acknowledgement. Numerous examples of scientists can be given where these kind of findings went unnoticed or worse, were ridiculed, to only have their groundbreaking discoveries confirmed decades later. One such example is Gregor Mendel who painstakingly gathered data from hundreds of crosses of his pea plants and deduced what he called the First and Second Laws of Heredity. He further formulated a simple model by which these laws could operate and proposed that observed traits are determined by discrete "factors," now called genes.

Mendel's work, presented to various authorities and societies in 1865–1867 was all but ignored by his colleagues and authorities because it challenged the contemporary theory of blending of inherited traits. Years later, copies of his manuscript were found unopened among the papers of some of his prominent colleagues. It was not until 1902, when Hugo de Vries, Carl Correns and Erich von Tschermak rediscovered the principles formulated by

Mendel, that the branch of biology known as genetics was launched.

Not every unexpected set of observations and controversial conclusion or proposed model will turn out to be of mendelian significance or even confirmed by subsequent scientific progress. However, we strongly believe that such observations and conclusions that are based on rigorous experimentation and thorough documentation, ought to be published in order to be discussed, confirmed or refuted by others. If in the end the "negative results" are the consequence of some fundamental flaw in methods that are commonly used, perhaps further analysis by others may help uncover those flaws and lead to a methodological improvement. If the "negative results" originate from deficiencies in reagents commonly used, or deficiencies that only emerge in a particular experimental situation, publication of such results may lead to a reassessment of the properties of such reagents. Common examples are the reassessment of antibody specificity, the origin of a cell line, or the sequence of a DNA probe.

Finally, we believe it is useful and important to publish well documented failures, such as with drugs that show no benefit or clinical improvement, as well as with the use of methods that are unreliable but for which the shortcomings have not been publicized.

Bjorn Olsen MD PhD

Christian Pfeffer MD

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