



Letter to Editor

Exploring the Debate on Vaccines

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A thought-provoking debate in the popular literature concerning vaccination has blossomed in recent years [1-6]. While “traditionalists” support universal immunization against a variety of infectious diseases, many influential individuals hold that vaccinations do far more harm than good. The web sites vactruth.com and anhinternational.org are typical web sites to visit to understand their concerns. More details on the debate, offering commentary on both sides of the issue, can be explored at wikipedia.org/wiki/Vaccine_controversies. In essence, however, those arguing for the universal use of vaccines point to the many millions of lives saved since mass immunization programs were introduced and further argue that resistance to routine vaccination is almost always based on false information. Those arguing against the routine use of vaccines usually either contend that the vaccines are unsafe (often maintaining that vaccine components such as formaldehyde or thimerosal are highly toxic) or alternately argue that governments simply do not have the moral authority to encroach on an individual’s freedom to make medical decisions for themselves or for their children.

I would like to offer my sociological analysis of this debate. I believe that central to the debate are two competing belief systems concerning what kinds of evidence can be used to establish an informed opinion on clinical matters. The traditionalists hold that the way to truth is through the method of scientific investigation, which includes studies in basic immunological mechanisms at the cellular level, experiments on animals, and clinical trials on humans. They hold that the resulting publications in the peer-reviewed scientific literature are the “canon of truth” from which opinion on clinical matters must be established.

But not everyone is a believer in this approach. Individuals in this second community are suspicious of the scientific method on several grounds. Some argue that “big pharma” or the medical profession at large, in their own self-interest, has been suppressing valuable “alternative” approaches to treating patients. They further argue that any formal clinical trials that members of this alternative clinical community have conducted are rejected from publication from mainstream scholarly journals (these journals forming the canon referred to above) purely because of self-interest and bias. As a result, they are forced, they argue, to make their results available to the public by alternative means: web sites, personal communication, “alternative” health fairs, articles in the popular press, and books. This is not to suggest that mainstream medical journals do not discuss complications from vaccination; potentially serious, even lethal, complications do exist, especially in immunologically compromised individuals. Some individuals obviously should not be vaccinated.

Of interest, one particularly noteworthy publication on the harmful effects of vaccinations came from *The Lancet*, a particularly well-respected medical journal [7]. This study was true canon material. Unfortunately, the study was completely fraudulent [8,9] and the first author of the study (Andrew Wakefield) even lost his medical license after an investigation found that he had acted “dishonestly and irresponsibly” [10].



In the case of the vaccine debate the potential consequences are critically important. Some arguments against vaccination have succeeded in reducing vaccination rates in certain communities, leading to increased outbreaks of preventable, and sometimes lethal, childhood illnesses [11].

But even accepting that vaccines are safe and effective, another debate centers around whether society has the right to mandate vaccinations to protect society at large. Like the debate on seatbelts for car occupants and helmets for motorcyclists, the question as to what interventions the government should enforce will likely continue for some time.

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