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Public opponents of vaccination: a case study

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Abstract

Opposition to mass childhood vaccination is a world-wide phenomenon, particularly in industrialised countries. Unfounded claims about vaccination are perpetuated by parental lobby groups and individual spokespeople, some of whom have a medical or scientific background. This article focuses on one such spokesperson who has achieved particular notoriety. Dr. Viera Scheibner is a retired micropalaeontologist, without any formal training in health-related sciences, who tours the world claiming that vaccines are ineffective and dangerous and lead to a host of ills such as cancer and asthma. Professionals in public health or the clinical arena are from time to time called upon to publicly respond to her, or similar, claims disseminated during tours of Europe, North America or Australasia and in books and articles. Health professionals have expressed at how such spokespersons misrepresent the evidence on vaccine safety, resulting in the potential to undermine public confidence in immunisation. Media coverage, or proposed coverage, particularly of her more extreme claims, often makes health professionals engaged in immunisation feel obliged to respond. This paper describes Viera Scheibner's approach, which follows a repetitious path and is representative of that taken by other public opponents of immunisation. We conclude by suggesting how health professionals might respond in the public arena.

Keywords: Vaccine safety; Controversy; Health communication

1. Public opponents of vaccination: a case study

In industrialised countries today, opposition to vaccination occurs through organised lobby groups of mainly parents or individual spokespersons whose medical or scientific background lends credibility to their claims. The most radical opponents of vaccination claim that all vaccines are unsafe and ineffective, tending to attribute all manner of modern ills to vaccination. To support their claims requires highly selective filtering of the findings of scientific and epidemiological studies of vaccine safety and effectiveness. Notwithstanding the need for vigilance regarding vaccine safety, the efforts of these individuals can lead some people to make uninformed decisions about immunisation. For example, evidence suggests that countries with active public opposition to whole cell pertussis vaccination programmes had a higher burden from that disease [1].

One vociferous opponent of vaccination is Dr. Viera Scheibner and she has made considerable efforts over the past decade to publicise her assertions about the dangers of vaccination. This paper describes her efforts as an example of a public opponent of vaccination. It then suggests how health workers might respond to public dissemination of some of her unfounded claims as a model for an appropriate approach to such challenges.

Viera Scheibner is Australia's best known opponent of vaccination. Over the past decade, she has toured the world promoting her message that vaccines are ineffective and unsafe. Typically, her lecture tours are organised by local anti-vaccine lobby groups and advertised via fliers, public notices, and newspaper briefs. In this material, parents, the general public, and health professionals are invited to hear a "scientist and author" speak about vaccination [2]. Journalists from local newspapers can find her theories newsworthy enough to draw press coverage, subsequently sparking a letter writing war between indignant health professionals and people who passionately support her arguments.

Scheibner introduces herself as a retired Principal Research Scientist with the State Government of New South Wales (NSW), Australia, who has a doctorate in natural sciences. She has no formal health sciences training and has co-authored one article in the peer reviewed medical research literature indexed on Medline between 1966 and June 2002 [3]. Her doctorate (RNDr) was in micropalaeontology and examined "Jurassic and Cretaceous foraminifera from the

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Pieniny Klippen Belt in the Western Carpathians". As Viera Scheibnerová, she worked as Assistant Professor in the Department of Geology at Comenius University in Bratislava from 1958 to 1968 [4]. She emigrated to Australia in 1968 and worked with the Department of Mineral Resources on the Geological Survey of NSW until 1987 [5]. She is now retired from paid employment, devoting much of her time to lecturing about the alleged dangers of vaccination.

By her own account, Dr. Scheibner's interest in vaccines stemmed from 1985 when, testing an infant breathing monitor developed by her late husband, she observed periods of what she called "stressed breathing" in babies in the days following diphtheria, tetanus and whole cell pertussis (DTP) vaccination. Believing that she had found the cause of sudden infant death syndrome (SIDS), her attempts to alert the scientific community to her findings were met with resistance and disagreement. Thus, began her search for other examples of vaccines causing harm and a heartfelt crusade against the practice. By 1993, she claimed to have studied more than 30,000 pages of medical literature [6].

Other than the SIDS connection, Dr. Scheibner alleges that a host of other diseases and conditions, including AIDS, asthma, cancer, and Legionnaires disease, are caused by vaccines. At one stage "brain eating bugs" drew her attention [7]. She also claims smallpox has not been eliminated but has been re-classified as other pox viruses, thus proving that the vaccine failed to eliminate the disease [6].

A study of 4 years of Australian press coverage about vaccination reveals that her most frequently used arguments against vaccination centre around the experiences of Sweden and Japan [8].

> Sweden stopped whooping cough vaccination in 1979. Not only did they have the second lowest infant mortality in the world, but whooping cough since has become a mild disease. After a spate of 37 cot deaths after DPT vaccinations, Japan moved the minimum vaccination age to 2 years in 1975, which resulted in a virtual disappearance of cot death [9].

It is noteworthy that Dr. Scheibner and other spokespersons focus particularly on conditions where complete control by immunisation has been most difficult to achieve (pertussis and measles), vaccines where allegations of adverse effects have been most strident (whole cell pertussis) and disorders whose causation and pathophysiology are at once frightening and ill-defined or multifactorial such as neurodevelopmental problems and Shaken Baby Syndrome. Her methods in public meetings revolve around the use of overhead transparencies where she highlights fine print in, or reinterprets tables and graphs from, published papers. She makes much of the claim that all her material comes from mainstream medical literature, often implying that medical practitioners have not paid sufficient attention to this information or are actively concealing it. The conceptual and factual details can be refuted but this often requires communication of epidemiological concepts or data interpretation not readily accessible to a lay audience. For instance, the above claims require detailed understanding of the history of pertussis immunisation in Sweden (which is now very well controlled by acellular vaccines) [10] and the epidemiology of SIDS in Japan. In the latter case, Scheibner rests her statement about the "disappearance of cot death" on data showing that no claims were lodged under the compensation scheme when the vaccination age was increased from 3 months to 2 years of age [11]. However, she fails to point out that a SIDS diagnosis is restricted to infants under 12 months [12]. SIDS had merely disappeared as an *entity* from the vaccination compensation system which was now compensating only for events occurring after 2 years, the new minimum age for vaccination (for a detailed rebuttal of the above claims see http://www.skeptics.com.au/journal/anti-immune.htm [13] and Scheibner's response http://www.vaccination.inoz.com/jsids.html [14]).

More recently, Scheibner has been alleging a link between vaccines and Shaken Baby Syndrome [15]. This has resulted in her corresponding with imprisoned fathers attempting to be cleared of criminal charges of their children's deaths. The following introduces an article she wrote for Nexus, a magazine which declares itself as dedicated to UFOs, suppressed science, government cover-ups, and other conspiracy theories.

> Recently, there has been quite an "epidemic" of the so-called "Shaken Baby Syndrome". Parents, usually the fathers, or other care-givers such as nannies have increasingly been accused of shaking a baby to the point of causing permanent brain damage and death. Why? Is there an unprecedented increase in the number of people who commit infanticide or have an ambition to seriously hurt babies? Or is there something more sinister at play? [15].

The article expands on Scheibner's belief that Shaken Baby Syndrome has been misdiagnosed in many cases. She asserts that vaccine-induced brain swelling and bleeding tendency, with associated haemorrhage is the true culprit. Although her theory is not supported by more detailed consideration of pathophysiology or well-conducted vaccine safety studies, the counter-arguments are again quite complex, requiring sophisticated understanding of the physiology of bleeding tendency and the interpretation of clinical trial data. Scheibner claims to have been asked by lawyers acting for defendants in Shaken Baby cases to provide expert reports [15]. Chadwick and Parrish have called for "irresponsible expert testimony" to be excluded by judges in such cases [16].

In her book, "*Vaccination: 100 years of orthodox research shows that vaccines represent a medical assault on the immune system*," Dr. Scheibner proposes homoeopathy as an alternative to vaccination [6]. Otherwise, her writings tend to maintain a focus on vaccines, with limited discussion of the consequences of vaccine preventable diseases. Measles,

for instance, is considered an, "important development milestone in the life and maturing processes in children," [17] ignoring data that the acute effects of measles leads to death in every 5–10,000 cases [18]. An unwillingness to acknowledge even the slightest benefit from any vaccine may be the Achilles Heel of Scheibner and at least some other public opponents of vaccination. Supporters of vaccination can contrast their uniform acknowledgement that vaccines are neither 100% effective nor 100% safe, while emphasising that very exacting standards of safety and effectiveness are required for licensure and that approaching 100% is a key aim. It is difficult to explain away benefits of vaccines such as the eradication of smallpox, the lack of wards full of paralytic polio patients in iron lungs or the virtual disappearance of *Haemophilus influenzae* type b (Hib) meningitis [19]. The latter is particularly powerful as it has occurred recently and over such a short time period. Attempts to discount these developments as unrelated to vaccination require contortions of logic which can stretch the credulity of even the most devoted follower.

Not all the claims of vaccination opponents are completely erroneous. For example, Dr. Scheibner is critical of doctors for their reluctance to report adverse events after vaccination [20]. There is no doubt that many share a desire for accurate data on adverse events. Indeed, over-arching reference to universal themes of child well-being, concern over scientific arrogance, and natural methods of preventing disease define much of the appeal of public opponents [8].

Although a brief look at the arguments of Dr. Scheibner and others [21] indicates that fanaticism is probably their own worst enemy, such arguments can attract media attention and health workers will often lament these effects. In the case of Dr. Scheibner, the ability to make herself and her claims so widely known probably stems from being an animated speaker, who may appear to those without a very detailed knowledge of the literature (including health professionals) to have an encyclopaedic knowledge of vaccination. Most importantly, a willingness to visit towns, no matter how small, to speak about her beliefs represents an example of strong grass roots activism. This can also stir the resolve of local lobby groups to be more fervent in their public opposition to vaccination. Partly because of the outrageousness of her claims, Scheibner's visits often attract a strong reaction from local health professionals. This can perpetuate publicity and community discussion about them, even seeming to lend her a "whistleblower" status.

2. The response dilemma

Clinicians and public health workers are often perplexed as to how to deal with the perceived threat from, or repercussions following, visits from Dr. Scheibner or similar spokespeople. One concern is that a responding publicly might unwittingly lend credibility to such claims, with some preferring to let fanaticism speak for itself. However, ignoring such lobbyists poses its own risks. In the absence of expert voices refuting the theories advanced, some parents may uncritically accept the information. The local context will often determine whether it is appropriate to respond. For health workers who choose to do so, the following are suggestions based on a broad range of literature about risk perception and communication [22].

3. Suggestions for response

- Become familiar with the most common claims that vaccination opponents put forward. Conduct an Internet search and attend one of the meetings.
- Be available to speak to the media. Inform the journalist about the qualifications and background of your local or invited spokesperson. In the case of Viera Scheibner, her credentials may not be made explicit and the "Dr." title can imply medical training for audiences who may then regard information with the authority they normally ascribe to qualified health professionals.
- Acknowledge vaccines, like other medical interventions, are not 100% safe and effective. Trust is important in maintaining public confidence in vaccine programmes. Over confidence in vaccine safety estimates that are later shown to be incorrect erodes trust [22]. The potential problems arising from over-confident safety reassurances were starkly demonstrated at the height of the UK's Creutzfeld–Jacob Disease (CJD) affair. The then minister for Agriculture attempted to show it was safe to eat beef burgers by feeding one to his daughter. Later, when a possible link between beef consumption and variant CJD was recognised, the photo became inscribed in the public consciousness as symbolising untrustworthy official reassurances.
- Promote the importance of vaccine adverse events reporting and making these data publicly accessible [23].
- Avoid fact-for-fact debates, which tend to get lost in detail, may overwhelm or bore audiences and appear reactive [24].
- Respond to the emotions raised by the claims then reframe the debate to centre on protecting children from diseases. Controversies about vaccine safety tend to draw attention from this ultimate goal.
- Listen to community concerns about vaccination and be open and responsive to them [25,26]. Do not respond to questioning of immunisation in an admonishing way. Such responses tend to play into the medical arrogance frame often set by vaccine opponents.
- Audiences with little familiarity with vaccination issues, for example, new parents, may more readily accept as mainstream, theories which are outlandish in scientific terms. Draw attention to the overwhelming medical and scientific support for vaccination.
- Have prominent community doctors and other credible sources like infant health nurses from the community

reinforce the importance of immunisation and give their own accounts of caring for people with vaccine preventable diseases [8].

- Use visual images and stories of those affected to jog the community memory of the effects of diseases like polio. A story or picture can be worth a thousand risk–benefit equations. For example, the following website contains a 1952 photo of a ward of polio sufferers in iron lungs: http://www.immunize.org/images/ca.d/ipcd1861/img0008.htm.
- In order to broaden the coalition of voices supportive of immunisation, obtain the support of other parent organisations like SIDS or autism support groups who do not support claims that these conditions are linked to immunisation [8].

With the rise of the anti-vaccination movement, reduced incidence of vaccine-preventable diseases, increased consumerism and interest in alternative therapies, public health workers will be increasingly compelled to respond to community concerns about vaccination [27] This point has been highlighted by the attention given to the alleged link between measles–mumps–rubella (MMR) vaccine, inflammatory bowel disease and autism [28]. The above suggestions are based broadly on workshops and conclusions from existing research. However, there is a need to develop and test interventions that help people make considered and balanced decisions about vaccination.

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References

[1] Gangarosa EJ, Galazka AM, Wolfe CR, Phillips LM, Gangarosa RE, Miller E, et al. Impact of anti-vaccine movements on pertussis control: the untold story. Lancet 1998;351:356–61.
[2] Scientist looks at reasons against vaccination. Qld: Sunshine Coast Daily; 2 November 1994.
[3] Tye K, Pollard I, Karlsson L, Scheibner V, Tye G. Caffeine exposure in utero increases the incidence of apnea in adult rats. Reprod Toxicol 1993;7:449–52.
[4] Kovác M, Scheibner V. Personal communication. E-mail to Leask J (JulieL@health.usyd.edu.au) 23 April 2001.
[5] Scheibnerova V. Permian foraminifera of the Sydney basin. Sydney: Department of Mineral Resources; 1982.
[6] Scheibner V. Vaccination: 100 years of orthodox research shows that vaccines represent a medical assault on the immune system. Blackheath (NSW): Viera Scheibner; 1993.
[7] Scheibner V. Brain eating bugs: the vaccines link. Nexus Mag 1996;3(3):43–6, 85.
[8] Leask J-A, Chapman S. An attempt to swindle nature': press anti-immunisation reportage, 1993–1997. Aust N Z J Public Health 1998;22:17–26.
[9] Diseases strike vaccinated kids. Qld: Gold Coast Bulletin; 1994.
[10] Olin P, Hallander HO. Marked decline in pertussis followed reintroduction of pertussis vaccination in Sweden. Eurosurveillance 1999;4:128–9.
[11] Cherry JD, Brunell PA, Golden GS, Karzon DT. Report of the task force on pertussis and pertussis immunization—1988. Pediatrics 1988;81:939–84.
[12] Willinger M, James LS, Catz C. Defining the sudden infant death syndrome (SIDS): deliberations of an expert panel convened by the National Institute of Child Health and Human Development. Pediatr Pathol 1991;11:677–84.
[13] Basser S. Anti-immunisation scare: the inconvenient facts. Aust Skeptic 1998;17(1):18–25.
[14] Scheibner V. Comments on Japanese SIDS rebuttal. http://www.vaccination.inoz.com/jsids.html, accessed 12 June 2002.
[15] Scheibner V. Shaken baby syndrome: the vaccination link, Nexus Mag 1999;5(5):61–3, 79.
[16] Chadwick DL, Parrish R. DTP vaccination or Shaken Baby Syndrome? The role of irresponsible medical expert testimony in creating a false causal connection, 2000. http://www.dontshake.com/sbsfall00dtp.html, accessed 12 February 2001.
[17] Scheibner V. Measles quotes. http://www.whale.to/m/quotes19.html, accessed 8 January 2001.
[18] Hall R, O'Brien E. Immunisation myths and realities: responding to arguments against immunisation. 2nd ed. Canberra: Australian Government Publishing Service; 1998.
[19] McIntyre P, Gidding H, Gilmore R, Lawrence G, Hull B, Horby P, et al. Vaccine preventable diseases and vaccination coverage in Australia, 1999–2000. Commun Dis Intell 2002;26:S1–111.
[20] Treweek A. WA to probe jabs. Perth: The Sunday Times; 1994.
[21] Vaccination: the hidden truth (video). Sydney: Bronwyn Hancock; 1999. Summary available at http://www.vaccination.inoz.com/default.html.
[22] Evans G, Bostrom A, Johnson RB, Fisher BL, Stoto MA, editors. Risk communication and vaccination: summary of a workshop. Washington (DC): National Academy Press; 1997.
[23] Chen RT, Hibbs B. Vaccine safety: current and future challenges. Pediatr Ann 1998;27:445–55.
[24] Leask J-A, Chapman S, Hawe P. Concerns about immunisation. Facts are not enough. Br Med J 2000;321:109.
[25] Bedford H, Elliman D. Concerns about immunisation. Br Med J 2000;320:240–3.
[26] National Research Council. Improving risk communication. Washington: National Academy of Sciences; 1989.
[27] Poland GA, Jacobson RM. Understanding those who do not understand: a brief review of the anti-vaccine movement. Vaccine 2001;19:2440–5.
[28] Elliman D, Bedford H. MMR vaccine: the continuing saga. Br Med J 2001;322:183–4.