

# Anthroposophy

## *A Risk Factor for Noncompliance With Measles Immunization*

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Anthroposophy is a school of thought or esoteric philosophy that goes back to Rudolf Steiner. Steiner wanted to expand the human mind through imagination, inspiration, and intuition. His own insights originated mainly from the “Akasha-Chronicle.” This is the “nontransitory history that is not perceptible to the senses,”<sup>1</sup> which apparently only Steiner could access. Steiner applied his concepts in several areas, eg, farming, education, and medicine.

Anthroposophic medicine was founded by Steiner and Ita Wegman in the early 20th century. Currently, it is being promoted as an extension of conventional medicine. Proponents claim that “its unique understanding of the interplay among physiological, soul and spiritual processes in healing and illness serves to bridge allopathy with naturopathy, homeopathy, functional/nutritional medicine and other healing systems.”<sup>2</sup> Its value has repeatedly been questioned,<sup>3</sup> and clinical research in this area is often less than rigorous; of 178 clinical trials recently reviewed, for instance, only 21 were randomized.<sup>4</sup>

Anthroposophic education was developed in the Waldorf school that was founded by Steiner in 1919 to serve the children of employees of the Waldorf-Astoria cigarette factory in Stuttgart, Germany. Pupils of Waldorf or Steiner schools, as they are also frequently called, are encouraged to develop independent thinking and creativity, social responsibility, respect, and compassion. Waldorf schools implicitly infuse spiritual and mystic concepts into their curriculum.<sup>5,6</sup>

Like some other alternative healthcare practitioners,<sup>7,8</sup> some doctors of anthroposophic medicine take a stance against childhood immunizations.<sup>9</sup> In this comment, I summarize recent evidence in support of this statement and outline the effects of this attitude.

### RECENT OUTBREAKS MEASLES

#### Great Britain

In 2000, public health experts in the United Kingdom reported the first UK-wide outbreak of measles.<sup>10</sup> The index case, a 5-year-old boy from Yorkshire had visited an anthroposophic community in London. At that time, approximately 30 children of the community had typical symptoms of measles. The London outbreak was not reported to the authorities, and therefore none of these cases were confirmed by laboratory tests. The general practitioners in the Yorkshire region where the index case lived, however, did alert the authorities of the presence of measles, and all suspected cases were adequately monitored. After an unimmunized family from Gloucestershire visited the Yorkshire village during the measles outbreak, similar measures were taken in the Gloucestershire location. Further infections were reported in Somerset, Dorset, and Hampshire. A total of 293 cases were identified. Of which, 117 cases were confirmed to have measles with laboratory investigations (antibody capture radioimmunoassay of saliva samples). Measles genotyping confirmed the spread of virus to unimmunized anthroposophic communities. Only 2 cases had been vaccinated against measles. The authors of the report<sup>10</sup> believe that high vaccination coverage produced effective herd immunity for the general UK population.

A questionnaire was later sent to the parents of all notified cases from the Gloucestershire outbreak and 126 (56%) were returned.<sup>11</sup> The mean age of the infected children was 7.9 years. They had to take an average of 14 days off from school because of the measles infection, and 76 consulted their physician. One child was admitted to hospital. Of the total respondents, 87% had not received measles vaccine. The respondents stated that they had doubts about the safety and efficacy of the vaccine. In accordance with anthroposophical teaching (see later), many believed that measles illness is important for a child’s development and has a “beneficial strengthening effect.” Of the respondents, 62% claimed to have observed such an effect in their children.

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## The Netherlands

In 1999–2000, an outbreak of measles infection was reported in the Netherlands.<sup>12</sup> In total, 3292 children were infected, of whom, 94% were not vaccinated; 100 of those children were not vaccinated because their parents had refused immunization for “anthroposophic beliefs.” According to the authors of this report, 16% of the infected children had complications and 3 children died.

During 2008, van Velzen et al<sup>13</sup> reported a measles outbreak in a Dutch anthroposophic community. At the time of the report, the outbreak was ongoing, and 34 cases had been registered in The Hague as well as 2 further infections in Leiderdorp and Utrecht. The index case was an 8-year-old boy attending a school of 210 pupils “of whom many come from the anthroposophic community in which parents opt not to vaccinate their children.”<sup>13</sup> Within a few days, 9 further cases from that school were reported. Shortly later, another outbreak occurred in a different school in The Hague with children from the anthroposophic community. Of the 34 infected children, 31 had not been immunized.

## Austria

Schmid et al<sup>14</sup> reported a measles outbreak originating in an anthroposophic community in Austria. It occurred in 2008, and a total of 392 cases were registered, of whom 168 were affiliated to the anthroposophic community. A school-based retrospective investigation showed that a single dose of measles vaccine was 97.3% effective and a 2-dose vaccine was 100% effective in protecting children who were treated. The vaccination coverage of the anthroposophic community was only 0.6%.

## Germany

Arenz et al<sup>15</sup> reported measles outbreak in Coburg that occurred in 2003. In total, 1191 people, mostly children, were infected. Only 9% of these children were vaccinated. Complications occurred in 28% of all patients. The outbreak had originated from a Steiner school and had subsequently spread to other parts of the town and surrounding villages.

Bätzing-Feigenbaum et al<sup>16</sup> reported an ongoing measles outbreak in Berlin in 2010. At the time of reporting, 62 cases had been registered. The index case had not been immunized and had traveled to India shortly before falling ill. The child belonged to a Waldorf school where the proportion of vaccinated children was estimated to be less than 70%. The outbreak in Berlin spread “mainly among unvaccinated children and adolescents attending Waldorf institutions (schools and kindergartens in 2 districts) and to their siblings.” None of the reported measles cases had been vaccinated against measles.

Roggendorf et al<sup>17</sup> reported an outbreak that occurred in Essen in 2010. It started on May 15, 2010, with 5 infected children, all attending an anthroposophic school. By May 19, 71 cases had been registered, of whom 30 were members of Waldorf institutions, 18 were their siblings, and 20 were the patients of anthroposophic “doctors who do not recommend vaccination.”<sup>17</sup> Of the 71 cases in this outbreak, only 1 child had received 2 doses of measles, mumps, and rubella vaccination and another 2 cases had received 1 dose of the vaccination. The virus detected in this outbreak was “very similar” to the virus imported from India, which caused the Berlin outbreak earlier in the same year.<sup>16</sup>

## DISCUSSION

In several European countries, anthroposophical medicine is a popular means of pediatric healthcare.<sup>18–20</sup> Anthroposophic doctors “make restrictive use of antibiotics and antipyretics,” which is believed to be associated with “a reduced risk of allergic disease.”<sup>21,22</sup> Some observational studies of anthroposophic medicine

have reported encouraging results.<sup>23</sup> Its value has repeatedly been questioned, not least because anthroposophic remedies are often homeopathically diluted, and thus contain no pharmacologically active ingredients.<sup>3,24</sup> Parents believing in anthroposophy “oppose the measles vaccination because they believe children gain physical and mental robustness from natural measles infection, when supported by appropriate nursing care.”<sup>11</sup> Proponents of anthroposophical medicine claim that childhood infections are a positive and necessary step toward a child’s good health, conveying protection against a range of diseases, including cancer<sup>25</sup> and atopy.<sup>26,27</sup> Other investigators noted that patients opting for anthroposophic medicine usually have a healthier lifestyle than those who are being treated conventionally.<sup>28</sup>

The notion that Waldorf schools might promote an attitude against childhood immunization has caused some discussion and controversy.<sup>29</sup> The European Council for Steiner Waldorf Education published a press release<sup>30</sup> stating:

*We wish to state unequivocally that opposition to immunization per se, or resistance to national strategies for childhood immunization in general, forms no part of our specific educational objectives. We believe that a matter such as whether or not to inoculate a child against communicable disease should be a matter of parental choice. Consequently, we believe that families provide the proper context for such decisions to be made on the basis of medical, social and ethical considerations, and upon the perceived balance of risks. Insofar as schools have any role to play in these matters, we believe it is in making available a range of balanced information both from the appropriate national agencies and qualified health professionals with expertise in the field. Schools themselves are not, nor should they attempt to become, determiners of decisions regarding these matters.*<sup>30</sup>

The reports about measles outbreaks centered around Steiner schools seem nevertheless to imply that a problem does exist. In the interest of public health, we should address it.

## REFERENCES

1. Open Waldorf. Anthroposophy. 2010. Available at: <http://www.openwaldorf.com/anthroposoph.html>. Accessed October 15, 2010.
2. Cantor IS, Rosenzweig S. Anthroposophic perspectives in primary Care. *Prim Care*. 1997;24:867.
3. Ernst E. Anthroposophic medicine: a critical analysis [in German]. *MMW Fortschr Med*. 2008;150:1–6.
4. Kienle GS, Kiene H, Albonico HU. Anthroposophic medicine: health technology assessment report—short version [in German]. *Forsch Komplementarmed*. 2006;13:7–18.
5. Nuoffer B. The Steiner School, an alternative school—the anthroposophic vision of children [in Italian]. *Krankenpl Soins Infirm*. 1987;80:53–55.
6. Cox MV, Rowlands A. The effect of three different educational approaches on children’s drawing ability: Steiner, Montessori and traditional. *Br J Educ Psychol*. 2000;10:485–503.
7. Ernst E. The attitude against immunisation within some branches of complementary medicine. *Eur J Paediatr*. 1997;156:513–515.
8. Jones L, Sciamanna C, Lehman E. Are those who use specific complementary and alternative medicine therapies less likely to be immunized? *Prev Med*. 2010;50:148–154.
9. Zuzak TJ, Zuzak-Siegrist I, Rist L, et al. Attitudes towards vaccination: users of complementary and alternative medicine versus non-users. *Swiss Med Wkly*. 2008;138:713–718.
10. Hanratty B, Holt T, Duffell E, et al. UK measles outbreak in non-immune anthroposophic communities: the implications for the elimination of measles from Europe. *Epidemiol Infect*. 2000;125:377–383.
11. Duffell E. Attitudes of parents towards measles and immunisation after a measles outbreak in an anthroposophical community. *J Epidemiol Community Health*. 2001;55:685–686.

12. Van den Hof S, Conyn-van Spaendonck MA, van Steenberghe JE. Measles epidemic in the Netherlands, 1999–2000. *J Infect Dis*. 2006;187:1483–1486.
13. van Velzen E, de Coster E, van Binnendijk R, et al. Measles outbreak in an anthroposophic community in The Hague, The Netherlands, June–July 2008. *Euro Surveill*. 2008;13:1–2.
14. Schmid D, Holzmann H, Schwarz K, et al. Measles outbreak linked to a minority group in Austria, 2008. *Epidemiol Infect*. 2010;138:415–425.
15. Arenz S, Kalies H, Ludwig MS, et al. Der Masernausbruch in Coburg. Was lässt sich daraus lernen? *Deutsches Ärzteblatt*. 2003;100:A3245–A3249.
16. Bätzing-Feigenbaum J, Pruckner U, Beyer A, et al. Spotlight on measles 2010: preliminary report of an ongoing measles outbreak in a subpopulation with low vaccination coverage in Berlin, Germany, January–March 2010. *Euro Surveill*. 2010;15:pii19527.
17. Roggendorf H, Mankertz A, Kundt R, et al. Spotlight on measles 2010: measles outbreak in a mainly unvaccinated community in Essen, Germany, March–June 2010. *Euro Surveill*. 2010;15:pii-19605.
18. Zuzak TJ, Zuzak-Siegrist I, Rist L, et al. Medicinal systems of complementary and alternative medicine: a cross-sectional survey at a pediatric emergency department. *J Altern Complement Med*. 2010;16:473–479.
19. Jeschke E, Ostermann T, Tabali M, et al. Diagnostic profiles and prescribing patterns in everyday anthroposophic medical practice—a prospective multi-centre study. *Forsch Komplementarmed*. 2009;16:325–333.
20. Läengler A, Spix C, Edelhäuser F, et al. Anthroposophic medicine in paediatric oncology in Germany: results of a population-based retrospective parental survey. *Pediatr Blood Cancer*. 2010;55:1111–1117.
21. Flöistrup H, Swartz J, Bergström A, et al. Allergic disease and sensitization in Steiner school children. *J Allergy Clin Immunol*. 2006;117:59–66.
22. Jeschke E, Luke C, Ostermann T, et al. Prescribing practices in the treatment of upper respiratory tract infections in anthroposophic medicine [in German]. *Forsch Komplementarmed*. 2007;14:207–215.
23. Hamre HJ, Witt CM, Glockmann A, et al. Anthroposophic medical therapy in chronic disease: a four-year prospective cohort study. *BMC Complement Altern Med*. 2007;23:7–10.
24. Burkhard B. Anthroposophic treatment in pediatrics—a critical analysis [in German]. *Versicherungsmedizin*. 2004;56:197–199.
25. Albonico HU, Bräker HU, Hüsler J. Febrile infectious childhood diseases in the history of cancer patients and matched controls. *Med Hypotheses*. 1998;51:315–320.
26. Alm JS, Swartz J, Lilja G, et al. Atopy in children of families with an anthroposophic lifestyle. *Lancet*. 1999;353:1485–1488.
27. Rosenlund H, Bergström A, Alm JS, et al. Allergic disease and atopic sensitization in children in relation to measles vaccination and measles infection. *Pediatrics*. 2009;123:771–778.
28. Unkelbach R, Abholz HH. Differences between patients of conventional and anthroposophic family physicians [in German]. *Forsch Komplementarmed*. 2006;13:349–355.
29. Wikipedia. Waldorf education. 2010. Available at: [http://en.wikipedia.org/wiki/Waldorf\\_education#Concerns\\_over\\_immunizations](http://en.wikipedia.org/wiki/Waldorf_education#Concerns_over_immunizations). Accessed September 12, 2010.
30. European Council for Steiner Waldorf Education. Statement of ECSWE on the Question of Vaccination. 2010. Available at: [http://www.steinerwaldorf-europe.org/downloads/statements/ecswe\\_vaccinationstatement.pdf](http://www.steinerwaldorf-europe.org/downloads/statements/ecswe_vaccinationstatement.pdf). Accessed September 13, 2010.