



Research Article

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A Physician's Approach to the Vaccine-Hesitant Patient

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Abstract

Vaccine hesitancy and refusal is an ongoing problem the medical field has faced since the 18th century. Although the success of vaccination is shown through the control and eradication of disease, many patients are still reluctant to obtain immunizations. The reasoning for a patient's hesitancy varies significantly from one individual to the next. By providing an open forum for patients to express their thoughts and opinions, physicians can better address each patient's vaccination concerns. Discrediting the patient's understanding of vaccines may lead to backfiring and severely hinder the physician-patient relationship. Acknowledging each patient's concerns and collaborating with them to provide an insightful and educational experience will allow physicians to provide a patient-centered model of care. Further, this may achieve greater success in persuading patients of the benefits of vaccinations and lead to improvements in vaccination rates.

Keywords

Vaccine hesitancy, Vaccine refusal, Vaccine rhetoric, Anti-Vax, Osteopathic

Introduction

The scientific community considers vaccines one of public health's most significant achievements due to their ability to control and eradicate disease [1]. Despite the profound success of immunizations, myths and anti-vaccine propaganda have led to a decline in vaccination rates, resulting in the re-emergence of diseases not seen in decades [2,3]. Vaccine hesitancy and refusal have engendered frustration and confusion among medical providers, which in some instances resulted in the physician's dismissal of patients [4]. In an attempt to ameliorate vaccine refusal, scientists have conducted numerous trials to disprove common misconceptions about vaccination [5-9]. Despite the overwhelming scientific evidence of vaccine safety and efficacy, many remain hesitant about immunization. This article describes how the use of vaccine rhetoric can aid in better understanding the arguments for vaccine refusal, thus improving communication and trust between the physician and the vaccine-hesitant patient (Figure 1).

History of Vaccine Hesitancy

The anti-vaccination movement is a long-established concern that public health has faced since the smallpox pandemic in late 18th century Britain. It was documented that despite clear evidence of infection with cowpox for the protection against smallpox, much of the public refused the novel treatment which resulted in ongoing outbreaks

and needless deaths [10]. Public refusal continued even with the safety improvements of the modern smallpox vaccine, which led to a series of Vaccination Acts mandating inoculations across the United Kingdom [11,12]. Similar to the United Kingdom's response in the late 19th century, states such as California, New York, Maine, and many others have responded to vaccine refusal by removing personal or religious belief exemptions for educational institution's immunization requirements [13,14]. Undeterred by centuries of advancements in immunization safety and efficacy, one-third of today's families remain hesitant to vaccinate their children [15]. While this article does not discuss the ethics of vaccination, speculation regarding the rationale behind vaccine refusal and methods to advise hesitant patients are addressed.

Osteopathic Philosophy

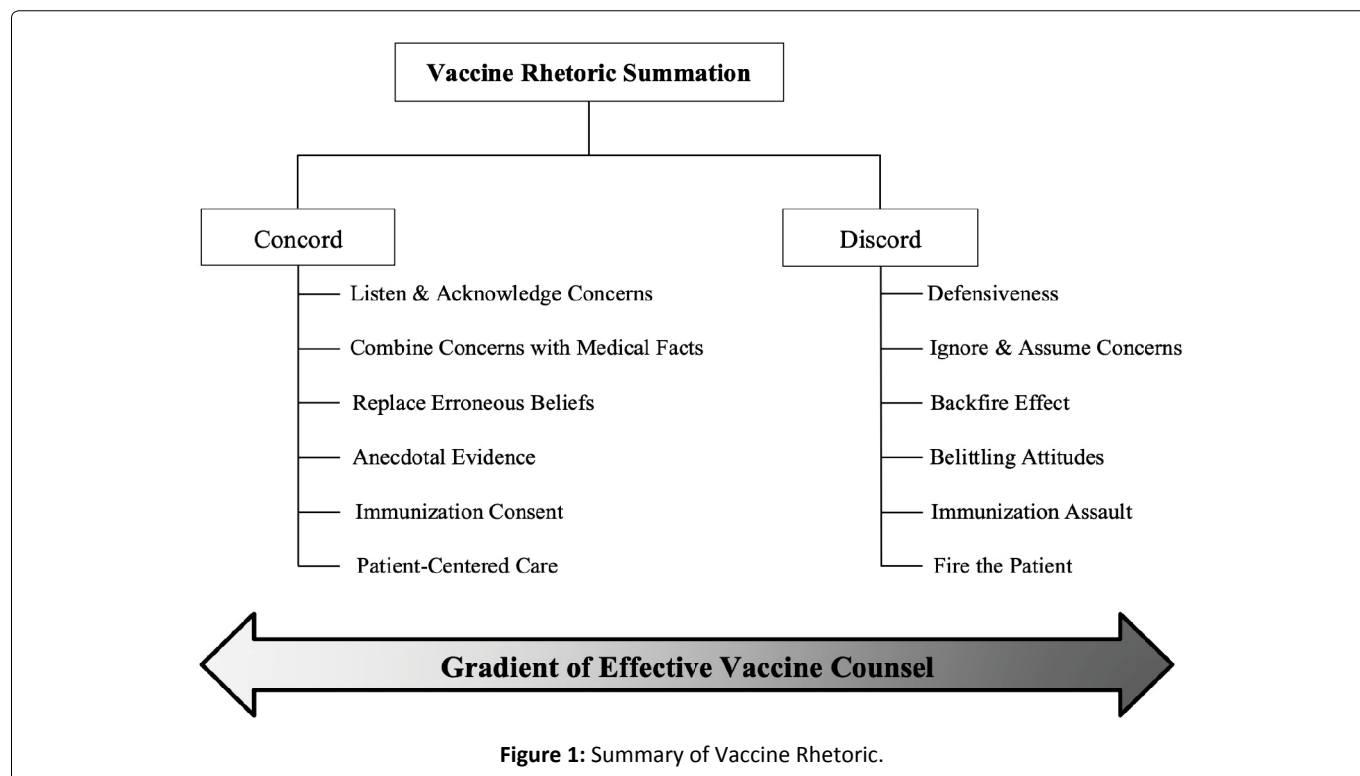
Research reveals that patients who consult complementary

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and alternative medicine practitioners tend to be more hesitant towards immunization [16]. Osteopathic physicians are often seen as a bridge between traditional medicine and alternative medicine and are thus placed in a unique position to address these patients' concerns. Despite this, Paul Kimberly, DO, summarizes osteopathic philosophy in his quote, "There are no uniquely osteopathic medical facts, only medical facts viewed through osteopathic lenses."

Most physicians, if not all, can agree that there is more to good health than simply the absence of disease or pain. This belief is demonstrated in the osteopathic tenets, which include the following:

1. The body is a unit; a person is a unit of body, mind, and spirit.
2. The body is capable of self-regulation, self-healing, and health maintenance.
3. Structure and function are reciprocally interrelated.
4. Rational treatment is based upon an understanding of the basic principles of body unity, self-regulation, and the interrelationship of structure and function.

Research pertaining to structure and function of adaptive immunity has led to the creation of vaccine technology. Immunizations utilize human structure and function to bolster immune responses with minimal risk [17]. The belief that the body is self-regulatory and possesses self-healing properties is one of many reasons behind vaccine hesitancy; the human body possesses the machinery to fight infection without a need for immunization. This belief correlates with the fourth osteopathic tenet. Osteopathic physicians are well-suited to build upon this commonality and develop a deeper understanding and connection with

their patients when discussing vaccine hesitancy and vaccine efficacy. Similarly, like-minded allopathic physicians may also benefit from emphasizing this commonality with their patients. For instance, utilizing anecdotal evidence in the form of stories from personal clinical practice and integrating that information with a patient's perspective can assist in reducing confusion or misinformation about vaccine treatment. This would comprise a patient-centered approach to promoting vaccine use. Refinement of this ability can lead to beneficial outcomes for our society's health.

The Vaccine-Hesitant Patient

Vaccine hesitancy and refusal are often lumped into a single minority group and labelled "anti-vax". Despite being named as a single, non-compliant group, there are a multitude of reasons patients may refuse vaccination. Some theorize that due to the efficacy of immunizations, families have forgotten how dangerous preventable diseases can be if left unchecked [18,19]. Perhaps a patient is misinformed and convinced that a retracted research article still holds merit and proves a link between vaccination and autism [20]. Another may argue the potential correlation between the hepatitis B immunization and multiple sclerosis [21]. A different patient tells you she follows the physicians Drs. Tenpenny and Humphries on Facebook who both discourage vaccination. Lawrence, et al. revealed the most common vaccination concerns vary drastically when compared locally and globally [22]. Specifically, differences were attributed to family values and locally held beliefs which can differ widely across cities, states, and nations. Therefore, it is impractical to compile a comprehensive list of vaccination concerns, and unrealistic to develop a universal protocol on advising vaccine-hesitant patients. If physicians are to properly promote vaccination in their community, they must treat each case individually

rather than assuming universal stereotypes hold true for every vaccine-hesitant patient.

Despite the many rationales for refusing vaccination, there exist broad commonalities that should be explored to understand vaccine hesitancy. Multiple physicians and scientists agree that anti-vaxxers are most commonly concerned with the safety of their children [23-25]. The irony behind this belief is that physicians undergo years of medical training, convinced that immunization is the safest decision. Further, vaccination is an obvious treatment and not worthy of much debate. However, most patients lack formal medical training and often depend on personal experience to guide their decisions. A possible solution to this problem is to recognize that a common ground needs to be met between the physician and patient. Physicians cannot convince the patient without first listening and acknowledging their concerns.

Latour is a philosopher who provides a concept of objects and things that can be applied to this described scenario. He defines Objects as "matters of fact" and Things as "matters of fact and matters of concern" [26]. We can assume that physicians see immunization as Objects while skeptical patients define them as Things. When patients are hesitant despite the recommendations of a medical professional, it is understandable for the healthcare professional to respond defensively and with absolutes. However, a better reaction might be to receive the patient's concern and counter with scientific fact. Specifically, be open to the fears the patient is facing without diminishing their anxieties or beliefs. Then present the consequences of withholding immunization (e.g., intubation, neurological damage, death). Facts alone cannot act as proxies for experience because they are confined to standard operating procedures in scientific study. This does not make facts untrue, but it does make them Things rather than Objects in a highly variable world. Physicians can simply recognize there are a variety of reservations pertaining to vaccination, just as there are with taking any drug.

By acknowledging vaccinations as Things, physicians will have greater success in communicating with vaccine-hesitant patients. In his article Lawrence states, "things and objects need to be held in balance by speakers and audiences in rhetorical situations; if one communicator approaches something in the situation as an object...and another approaches it as a thing...then a mismatch or lack of acknowledgement of these differences can be the source of unpersuasive and unsuccessful communication." [27] Empathizing with the patient's concerns allows the physician to recognize how these diverse views contribute to a robust practice of medicine. In much the way the common view of forest fires has evolved. Fire was commonly considered an enemy of forests, but the role of fire in maintaining a healthy forest is being redefined. The same can be said with skeptical patients. The medical establishment used to think of the patient's contradictory perspectives as undermining sound medical practice, but now most see patient capacity and consent as pillars of well-grounded medicine. Patients can ask unique questions that may pave the way for a realization of mechanisms once misunderstood or overlooked. Though criticism may be viewed as a threat to commonly-accepted

ideas and theories, dissent has often proved crucial to disrupting the status quo to spur scientists to new discoveries and ways of thinking.

Vaccine Education

As taught in medical school, healthcare professionals use science as the primary persuasion tactic in motivational interviews, most recently, with vaccine-hesitant patients. As exhibited by the re-emergence of preventable diseases, facts are not always sufficient to convince vaccine-hesitant patients. Lewandowsky, et al. argue that established false beliefs can provide numerous obstacles for retracting misinformation and accepting new guidance as correct [28]. Nyhan, et al. further confirms this assertion when they reported that data published by the CDC was unable to persuade anti-vaxxers that the measles-mumps-rubella (MMR) vaccine does not cause autism [19]. They found that the attempt to refute misperceptions of vaccines resulted in a backfiring effect that further constricted the parent's intent to vaccinate. Indeed, the simple act of attempting to correct erroneous beliefs of immunization resulted in further disbelief and skepticism. Other authors have also documented the act of correcting misinformation frequently results in the recipient rejecting the corrections, strengthening of their current misbeliefs, and dismissal of any future information from the source [29,30]. Physicians must realize that correction of misinformation is a delicate matter and patients may reject the medical advice and scientific evidence that threatens their anti-vaccination beliefs.

In order to preserve a trusting relationship between the patient and the physician, alternative education tactics must be implemented. While many studies focus on the common myths of vaccination and anti-vaccination propaganda, they often do not provide clear guidance on how to respond to such dilemmas. It is imperative to realize the issue of vaccine-refusal, similar to most problems, does not have a singular solution. As physicians have likely observed, some patients can be persuaded simply by a statement of their medical opinion or reassurance of vaccine safety. However, some patients require alternative methods for educating and persuading when first line tactics fail. One such tactic consists of highlighting factual information about infectious diseases rather than undercutting vaccination myths. Horne, et al. accomplished this by replacing erroneous beliefs rather than refuting them, resulting in a significant difference in vaccine attitudes concerning disease risk ($p = 0.006$) [31]. Instead of arguing the myths of vaccine safety, they replaced erroneous beliefs by highlighting the consequences of not vaccinating. This caused the patient to realize worse harm could occur by refusing vaccination. However, it was noted this method was unable to persuade parents who believed in the existence of an autism-vaccination correlation. Another study found the most effective messages were personal statements about what the physician would do for their own children [32]. The success of either method of vaccine education depends on the relationship between the physician and patient. As previously stated, refuting anti-vaccination propaganda can result in the patient dismissing current and future information provided by the healthcare professional. To assure the continuation of confidence and trust, physicians must remember to receive

and combine the patient's concern with scientific fact to create a more receptive environment for productive vaccine education.

In order to further understand the mechanisms behind the backfire effect, one study sampled online narratives written by anti-vax parents. These narratives described clinical scenarios of parents who brought up their concerns about vaccination. Of this sample, the most popular reason parents withheld vaccination was due to their perception of the physicians' belittling attitude toward their questions [33]. Many of these narratives are frightening and unjust, which can lead a patient to veer from vaccination. Below, are two narratives from this study that demonstrate this effect [33].

She [the doctor] then knelt down looked at my daughter and said "I am just trying to protect you but your Mommy wont [sic] let me". I was in shock. I couldn't say anything I was frozen, like my voice had run out on me.

When my husband told the doctor his mother (me) didn't want our son to have any additional vaccinations, the doctor said to my husband "now who knows best, his mother or the doctor"? and gave him the vaccinations anyway!

Vaccination is a procedure that requires consent. Informed consent involves explaining the procedure, alternatives, and the risks associated with the procedure [34]. Acknowledging the patients' concerns about vaccination is fundamental to informed consent. Furthermore, dismissing the possible risks and proceeding with immunization without consent is consistent with assault. As physicians, it is our duty to inform and counsel patients in making their medical decisions. It is not appropriate to make decisions for our patients that they may neither need nor want.

Conclusion

Although vaccines represent a universally-accepted public health achievement, the re-emergence of preventable diseases due to vaccination hesitancy remains a prevailing issue in our current healthcare climate. The reasoning behind a patient's reluctance may vary significantly from one individual to the next, and, as physicians, it is essential to be versatile in addressing each patient's vaccination concerns. Multiple studies have shown that simply providing statistical facts is ineffective in changing the views of vaccine-hesitant patients. Understanding and addressing their specific concerns builds a level of trust and rapport between the patient and the physician, allowing for more effective counsel and promoting health through vaccinations.

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References

1. Plotkin SA (2005) Vaccines: Past, present and future. *Nat Med* 11: S5-S11.
2. Abad CL, Safdar N (2015) The reemergence of measles. *Curr Infect Dis Rep* 17: 51.
3. Phadke VK, Bednarczyk RA, Salmon DA, et al. (2016) Association between vaccine refusal and vaccine-preventable diseases in the United States: A review of measles and pertussis. *JAMA* 315: 1149-1158.
4. Flanagan-Klygis EA, Sharp L, Frader JE (2005) Dismissing the family who refuses vaccines: A study of pediatrician attitudes. *Arch Pediatr Adolesc Med* 159: 929-934.
5. Wessel L (2017) Vaccine myths. *Science* 356: 368-372.
6. Taylor LE, Swerdfeger AL, Eslick GD (2014) Vaccines are not associated with autism: An evidence-based meta-analysis of case-control and cohort studies. *Vaccine* 32: 3623-3629.
7. Spencer JP, Trondsen Pawlowski RH, Thomas S (2017) Vaccine adverse events: Separating Myth from Reality. *Am Fam Physician* 95: 786-794.
8. Hviid A, Stellfeld M, Wohlfahrt J, et al. (2003) Association between thimerosal-containing vaccine and autism. *JAMA* 290: 1763-1766.
9. Nelson KB, Bauman ML (2003) Thimerosal and autism? *Pediatrics* 111: 674-679.
10. Poland GA, Jacobson RM (2011) The age-old struggle against the antivaccinationists. *N Engl J Med* 364: 97-99.
11. (1898) The Vaccination Act, 1898: New Order of the Local Government Board, England. *Br Med J* 2: 1351-1354.
12. Wolfe RM, Sharp LK (2002) Anti-vaccinationists past and present. *BMJ* 325: 430-432.
13. (2020) National Conference of State Legislatures. States with religious and philosophical exemptions from school immunization requirements.
14. Mellerson JL, Maxwell CB, Knighton CL, et al. (2018) Vaccination coverage for selected vaccines and exemption rates among children in kindergarten - United States, 2017-18 School Year. *MMWR Morb Mortal Wkly Rep* 67: 1115-1122.
15. Opel DJ, Taylor JA, Zhou C, et al. (2013) The relationship between parent attitudes about childhood vaccines survey scores and future child immunization status: A validation study. *JAMA Pediatr* 167: 1065-1071.
16. Thomson OP, MacMillan A, Draper-Rodi J, et al. (2021) Opposing vaccine hesitancy during the COVID-19 pandemic - A critical commentary and united statement of an international osteopathic research community. *Int J Osteopath Med* 39: A1-A6.
17. Bordoni B, Escher AR, Jr. (2021) Osteopathic Principles: The inspiration of every science is its change. *Cureus* 13: e12478.
18. Janko M (2012) Vaccination: A victim of its own success. *Virtual mentor* 14: 3-4.
19. Nyhan B, Reifler J, Richey S, et al. (2014) Effective messages in vaccine promotion: A randomized trial. *Pediatrics* 133: e835-e842.

20. Rao TSS, Andrade C (2011) The MMR vaccine and autism: Sensation, refutation, retraction, and fraud. *Indian J Psychiatry* 53: 95-96.
21. Le Houézec D (2014) Evolution of multiple sclerosis in France since the beginning of hepatitis B vaccination. *Immunol Res* 60: 219-225.
22. Lawrence HY, Hausman BL, Dannenberg CJ (2014) Reframing medicine's publics: The local as a public of vaccine refusal. *J Med Humanit* 35: 111-129.
23. Gowda C, Dempsey AF (2013) The rise (and fall?) of parental vaccine hesitancy. *Hum Vaccin Immunother* 9: 1755-1762.
24. McKee C, Bohannon K (2016) Exploring the reasons behind parental refusal of vaccines. *J Pediatr Pharmacol Ther* 21: 104-109.
25. Gust DA, Darling N, Kennedy A, et al. (2008) Parents with doubts about vaccines: Which vaccines and reasons why. *Pediatrics* 122: 718-725.
26. Latour B (2004) Why has critique run out of steam? From matters of fact to matters of concern. *Critical Inquiry* 30: 225-248.
27. Lawrence HY (2018) When patients question vaccines: Considering vaccine communication through a material rhetorical approach. *Rhetoric of Health & Medicine* 1: 161.
28. Lewandowsky S, Ecker UK, Seifert CM, et al. (2012) Misinformation and its Correction: Continued influence and successful debiasing. *Psychol Sci Public Interest* 13: 106-131.
29. Nyhan B, Reifler J (2010) When corrections fail: The persistence of political misperceptions. *Political Behavior* 32: 303-330.
30. Steindl C, Jonas E, Sittenthaler S, et al. (2015) Understanding psychological reactance: New developments and findings. *Z Psychol* 223: 205-214.
31. Horne Z, Powell D, Hummel JE, et al. (2015) Countering antivaccination attitudes. *Proc Natl Acad Sci USA* 112: 10321-10324.
32. Edwards KM, Hackell JM (2016) Countering vaccine hesitancy. *Pediatrics* 138: e20162146.
33. Thornock B (2017) Heralding the Pariahs: What the narratives of vaccine hesitant parents can teach us about the backfire effect and physician-patient relationships. *Ann Public Health Reports* 1: 15-21.
34. Cocanour CS (2017) Informed Consent-It's more than a signature on a piece of paper. *Am J Surg* 214: 993-997.

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