Parents’ Perceptions Influence Measles Vaccination Rates

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Abstract

Children’s immunization coverage rates of measles have decreased in Canada over the last few years. These decreases have exposed Canadians to more frequent outbreaks of measles that affect a larger number of people with each outbreak. Parents’ decisions are a large part of children being unvaccinated or under-vaccinated. Parents refuse to immunize their children for multiple reasons related to unreliable information sources and their knowledge, attitudes, fears, and beliefs. Information sources include the media, internet and health care professionals. One major controversy that affected Canada and elsewhere in the world is the media coverage of the association between the measles mumps rubella (MMR) vaccine and autism. Although this relationship was later discredited, the subsequent high media coverage decreased MMR vaccine coverage rates. The ease of international travel brought measles into Canada, which contradicts the attitude of several parents that a developed country is safe against vaccine preventable disease like measles. To combat these parental perceptions requires practitioners to be open, honest, and knowledgeable about current immunization information. This knowledge builds a trusting relationship with parents who will be more comfortable with their children receiving vaccinations, which subsequently increases measles coverage rates and protection of Canadians against the virus.

keywords: measles, coverage rates, immunizations, pediatrics, Canada
Parents' perceptions can be a detriment to immunization coverage rates of measles in children, therefore it is essential that health professionals understand the influences on parents so they can combat them and achieve desired immunizations coverage rates.
Measles in Canada

Since the introduction of vaccinations in Canada, incidences of vaccine preventable diseases have dramatically dropped. Before a vaccine for measles was introduced, measles was considered a major cause of death, especially in children, with an average of 61,370 cases yearly, between 1950 and 1954 (PHAC, 2006a). The average plunged to 199 cases yearly between 2000 and 2004 (PHAC, 2006a). Immunizations help eliminate infectious diseases that threaten the health of Canadians. Unfortunately, in Canada outbreaks of vaccine preventable diseases still occur, and these pockets of outbreaks are becoming larger and larger. In the last few years measles has had a resurgence in Canada, the annual cases between 2007 and 2011 increased to 750 cases, almost quadruple the figures from earlier in the decade (PHAC, 2013). The PHAC (2013) reports that recently in 2012 an outbreak of 776 cases of measles occurred, which is the largest outbreak seen in Canada since 2002. One of the reasons for these outbreaks can be connected to a decrease in immunization coverage rates.

Measles Vaccine Coverage Rates

Decreasing immunization coverage rates are important because if they are not high enough the entire population is not protected (Kennedy et al., 2011). Each disease has an optimal immunization coverage rate that affords protection of the entire population. For instance, if 94 children in a classroom of 100 children were immunized against measles, all children in that class would be protected. Measles requires a high 94% coverage rate because it is a highly contagious virus (Cushon et al., 2012; PHAC, 2013). The PHAC (2006b) estimates that coverage rates for measles in 2004 averaged at 94% for children under two. More recently UNICEF reports the 2010 coverage rate at 93% for the first dose of the measles vaccine, which reflects a slow decline over the last 20 years. The measles vaccine requires two doses to be
effective and according to the PHAC (2006b) by the age of seven, measles coverage rates are 79 percent, which is below the desired coverage rate of 94 percent. This low coverage is a major concern because children not immunized are vulnerable to catching measles. Furthermore, children who cannot receive immunizations because of allergic reactions or compromised immune systems are also at risk (Kennedy et al., 2011).

**Influences on Parental Perceptions**

**Media and Internet**

One of the main reasons fewer children are immunized is because parents acquire information from a variety of sources and do not always rely on medical advice or reliable sources to make well-informed decisions. For example, parental knowledge, attitudes, fears and beliefs about vaccinations are influenced by the media and internet. Internet-based information is easily accessible, immensely varied and not always reliable. Kulig et al. (2002) suggest that anti-vaccine information has increased exponentially because of easy access to internet. The media is also a source that can highly publicize information that is later disproven. Regrettably, once an idea is circulated through the public, it is difficult to change the incorrect views. This is what happened when a British article was released in 1998 that stated the MMR vaccine caused autism (Kennedy et al., 2011; Smith, et al. 2008). The article was widely reported in Britain, Canada and the United States and the publicity magnified parental fear of the MMR vaccine. In fact, several authors discovered fear of risk of autism as the number one reason parents refuse the MMR vaccine (Diekema, 2005; Smailbegovic et al., 2003). Even though the article has been refuted and a retraction was printed, Bird (2013) stipulates that recent outbreaks of measles and lower immunization rates can be directly attributed to the invalidated link between autism and the MMR vaccine. After the media error Britain’s MMR vaccine coverage rates dropped from
92% to 73% in 2000 and a rise of measles outbreaks occurred (Cushon, 2008; PHAC, 2013). Fortunately several experts noted the most valued and trusted sources of information parents use are from health care professionals (Smith et al., 2008; PHAC, 2011).

**Knowledge and Attitudes**

Whyte et al. (2011) suggest that parents’ knowledge and attitudes towards immunizations strongly influence their immunization decisions. The decision-making process combines both knowledge and attitudes to reach a conclusion about immunizations. Parental lack of knowledge or misinformation can result in refusal of vaccines (Favin et al., 2012). A common attitude of Canadian parents is that vaccines are unnecessary because infectious diseases cannot reach them and only affect Third World countries (Kulig, et al., 2002; PHAC, 2011). However, the recent outbreaks of measles show that diseases that are rare in Canada thrive in other countries and can be brought into Canada (PHAC, 2013). Because Canadians travel throughout the world and foreigners visit, the country is susceptible to a virus like measles. In fact, recent outbreaks in Canada are linked to a virus strain that began in the United Kingdom and was transferred to unvaccinated people in Canada (Bird, 2013). Parents require education to create accurate knowledge and attitudes that positively influence parent immunization behavior.

**Fears and Beliefs**

Favin et al. (2012) suggest families have multiple personal reasons for refusing to vaccinate their children. This means knowledge and attitudes are only a part of what influence parental decisions. Fears are a common reason for parental refusal of vaccinations for their children. Parents’ fears and beliefs inform opinions that may create avoidance of immunizations. The most common parental fears are that side effects and/or ingredients will harm their children and that needle sticks will be painful (Kennedy et al., 2011; Kulig et al., 2002; PHAC, 2013;
Taddio, et al., 2012). Niederhauser and Markowitz (2007) discovered that parents believe diseases the vaccine prevents are manageable and that infants are too small to handle so many immunizations. Some parents have religious beliefs that vaccines interfere with the will of God (Kulig et al., 2002). Parents also defend their philosophical beliefs and simply do not agree with use of vaccines (PHAC, 2011). Beliefs are an important component to parents’ decision making process about vaccinations and can be the most difficult for practitioners to question, understand and accept.

**Conclusion**

When parents combine all the messages they receive about immunizations, add their fears, beliefs and attitudes, the result can be a refusal of vaccination for their children. This refusal then decreases the national coverage rates due to unvaccinated or under-vaccinated children. Health professionals need to know current immunization information, practice standards and be up-to-date on the myths and inaccurate information circulating within the public and media. Health care professionals, especially primary caregivers, should be honest with parents, explain that vaccines are not one hundred percent effective, side effects happen, and the exact risk of disease versus the risk due to vaccination (Diekema, 2005). After the practitioners educate and provide a safe environment for parents to voice concerns, if a parent still refuses immunizations, it is the responsibility of the practitioner to respect the decision without prejudice. Creation of an open, honest dialogue and a trusting relationship with parents is the best way to combat parental perceptions that act as barriers to immunization and decrease coverage rates of measles in Canada. The best case scenario will be that eventually ideal coverage rates are reached and measles will not be a threat to Canadians.
References


