2017

Parental Perspectives on Vaccinating Children Against Preventable Childhood Diseases

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Abstract

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by

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MHA, University of Maryland University College, 2005

BS, Strayer University, 2002

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Health Services, Community Health Education, and Advocacy

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May 2017

Abstract

Childhood immunization has been one of the most important public health measures in the 20th century. In the United States, 95% of avoidable childhood diseases have been prevented through vaccinations. However, there have been growing concerns around the safety of vaccines, and this increased uncertainty has led to decreases in vaccination participation and increases in cases of preventable diseases. As such, is it important to understand why parents are not vaccinating their children. A qualitative approach was utilized to conduct this study. Flyers to recruit participants were distributed by healthcare providers and were posted in church facilities. Ten parents of children ages 3 to 8 years volunteered to participate to discuss their refusal to or delay in vaccinating their children. The health belief model functioned as the theoretical context to guide this phenomenological study approach in examining the reasons parents are not vaccinating or delaying vaccination of their children. Analysis included constructing a written description of the phenomenon as experienced by the research participants using their responses to the research question, followed by developing response coding schemes, identifying themes, justifying findings, and ensuring sound analysis and reporting of information. For example, word frequency and common phrases were the first steps of the analysis. Results showed that parents had a negative reaction towards childhood vaccination and felt that either the vaccine schedule was too aggressive or contained dangerous toxins that may have side effects. These findings can be used to assist healthcare providers in the way they provide outreach and education to parents as well as potentially helping develop tools that would encourage parents to vaccinate their children.

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Dedication

This dissertation is dedicated in loving memory to my late uncle, Cesar Abraham who passed away on December 25, 2014. Thank you for being such a strong influence in my childhood years. To my beautiful niece Melana, you are beautiful, amazing and smart and it is because of you and the numerous struggles you've faced with childhood vaccines that encouraged me to do this study. To all the children throughout the United States that are diagnosed with the Autism Spectrum Disorder, it is my hope that the findings and recommendations of this study is used to help eliminate or settle parent's fears of perceived adverse health effects from vaccines and ensuring that all children are immunized.

Acknowledgments

First and foremost I would like to thank my Lord and Savior Jesus Christ for giving me the strength that I needed in order to successfully complete this journey. I would like to thank my parents Melford and Orphana Charles for building a strong family foundation emotionally and spiritually for my siblings and me. For instilling the values in me to never give up, believe in all that I do and most importantly helping others. I would like to thank my seven siblings, Ashworth S. Williams Sr., Scanly Armantrading, Anice Freeman, Dr. Dean Darroux, Greg Charles, Kenny Charles and Lisaanne Charles for always believing in me and being a strong support. Thanks to my children Khaleed and Kei-lah Dowdy for their flexibility and constant understanding. Thank you to Dr. Donelle McKenna and Dr. Makeva Rhoden for all the help along the way in understanding Walden's policies and in understanding the course work when I was struggling. Thank you to my friends and family for all of your love, support and encouragement. Finally, thank you to my committee Dr. Cynthia Newell, and Dr. Earla White for guiding me and encouraging me throughout this journey.

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Chapter 1: Introduction to the Study

There has been public skepticism about the safety of vaccinations which has led to many parents declining to have their children receive them. This is causing major concern among scientists and health care providers who consider the benefits of vaccination indisputable (Mikulak, 2012). According to Favin, Steinglass, Fields, Banerjee, and Sawhney (2012), parent knowledge and attitudes toward childhood vaccines are a contributing factor for undervaccination. Favin et al. (2012) also noted that other attributing factors consisted of parent's lack of access to health care, seeming contradictions, and fear that their child may experience harmful side effects to the vaccines. According to the Centers for Disease Control and Prevention (CDC, 2012a), vaccines contain the same germ or part of the disease germ that cause the actual disease as a way to introduce the disease into the host body so that antibodies are created to fight a more aggressive form. For instance, measles vaccines contain the measles germ, yet the microbes that cause measles are eradicated to levels that prevent actual contraction of the infection. Vaccination causes the body's immune system to start up and create antibodies that fight the disease without actually contracting the disease (CDC, 2012a). Subsequently, the child's system will cultivate a resistance to that illness. In contrast to other options, which fight or eliminate a disease, the vaccines make children resistant to contracting the disease, thus stopping the disease before it starts (CDC, 2012a).

Recognizing the importance of childhood vaccination, state-licensed day care students or public school-aged children over the age five years are required by all 50 states to have a series of vaccinations before enrolling unless there is a medical

contraindication, or religious exemption (Lee, Rosenthal, & Scheffler, 2013). Despite these state requirements, there are still a substantial number of parents in the United States who decide not to vaccinate their children (Harrington, 2011). According to Lee et al. (2013) one of the most successful public health intermediations is vaccination. Vaccinations have reduced instances of childhood diseases more than 95% in the United States (Lee et al., 2013). In 2011, the endorsed series of six vaccines was administered to 78% of children between the ages of 19 and 35 months (CDC, 2012a). According to the CDC (2012a), one of the most successful achievements of public health was the virtual elimination of smallpox from a regular vaccination. Additionally, transmission of preventable contagious diseases has been significantly reduced, especially the spread of measles and whopping cough, also known as pertussis. However, Mikulah (2012) noted that despite the successes of vaccinations, the concern over possible risks associated with vaccination has grown over the past ten years.

The focus of this study was a deeper comprehension of the beliefs and perspectives that parents have about childhood vaccines and how state vaccination exempt laws have become a contributing factor in attempting to increase vaccination rates in children. With the exception of Mississippi and West Virginia, the rest of the states grant some form of religious freedom for vaccination preference, while 17 states grant exclusions based on personal "belief" or philosophical exemptions (Wang, Clymer, & Buttenheim, 2014). Additionally, the methods for obtaining nonmedical allowances are less strict than in others (Lee et al., 2013). Some states require that exemptions are renewed annually with an official health department approval or written requests

detailing the reasons for refusal. Some states have relaxed regulations regarding vaccination exemptions. Since 2006, Oregon parents complete a form to acquire a vaccination exemption for religious reason (Lee et al., 2013). Lee et al. found in 23 states that as long as exemption requests aligned with state regulations, school representatives could not refuse the exclusion.

The leading goal of the study was to explore parents' perceptions of the safety of childhood vaccinations. These findings may potentially be useful in developing helpful tools that would encourage parents to vaccinate their children rather than delaying vaccination. As such, this study had the potential for social change to help develop tools that would encourage parents to vaccinate their children. This change can help with the reduction of unvaccinated and undervaccinated rates in children ages 3 to 8 years old.

In this chapter I discussed the background of the topic including the research literature that is related to the scope of the study, the gap in the literature that was addressed, and why the study is needed. After which the state of the problem and the significance of the study was followed. The purpose of the study, the research question theoretical foundation for the study and the nature of the study were described. Also, the summary of the methodology that was used to conduct the study, the definitions, assumptions, scope and limitations in the study were also described. Finally, a summary of the major points in the chapter concluded this chapter.

Background

According to Mikulah, (2012), childhood immunizations save millions of lives each year. Vaccinations are responsible for fewer instances of infection and death from measles, mumps, diphtheria, whooping cough, lockjaw, and rubella, and the most efficient manner in reducing influenza-related deaths (Lee et al., 2013). The (CDC, 2012a) noted that one of the most important functions of the public health system is the encouragement to vaccinate children over six months of age. Drexler (2010) further explained that with the "introduction of new biological dangers, evolving contagions, and resistance to everyday antibiotics, vaccinations are becoming a major player in fighting these pathogens to help sustain good health for people" (p. 20). Despite the importance of vaccination, there has been a rapid rise in antivaccination support in the United States. Some of the factors contributing to antivaccination include public apprehension of potential side effects from vaccines, religious and philosophical “beliefs”, state immunization mandates, and the controversial link between vaccinations and autism, among other concerns (Jolley & Douglas, 2014). Issues of harm from vaccination and distrust also play a role in parents refusing childhood immunization. For example, the damaging media headlines about the various illnesses linked to vaccination as well as the use of antifungal agent found in the measles-mumps-rubella vaccine (MMR) and other vaccines (Wang et al., 2014). In fact, some parents believe that it is riskier to vaccinate than nonvaccinate (Harmsen et al., 2013). Also according to Harmsen et al. parents who decided not to vaccinate their children made a conscious decision based on various factors including: the advantages of the vaccines, the risks associated with the vaccines,

and the child's reaction to the vaccine. Parents also accepted whatever decision they made regarding their choice on whether or not to have their children vaccinated. In fact, experts throughout the literature (Behrmann, 2010; Jolley & Douglas, 2014; Smith et al., 2011), focused on the contributing factors for the rise in antivaccination, and the importance of childhood vaccinations in preventing illnesses; however, little is known about the way parents view childhood vaccines. Further insight into these contributing factors is needed to help orchestrate a better outreach and education system that will assist parents in making the best possible decisions for their children as well as the community (Harmsen et al., 2013).

Problem Statement

This study adds to the literature on childhood vaccinations and parents' perceptions. The research problem was that parents are not vaccinating or undervaccinating their children due to fear of potential and deadly side effects (Behrmann, 2010; Jolley & Douglas, 2014; Smith et al., 2011). According to Bazzano, Zeldin, Schuster, Barrett, and Lehrer (2012), the link between vaccines and autism has been scientifically rejected. However, "the theory continues to be popular and may influence the attitudes of parents of children with autism spectrum disorders" (Bazzano et al., 2012). Additionally, with measles outbreak increasing, preventing and managing outbreaks of measles and whooping cough is essential to protecting both children and adults. From January 1 to September 18, 2015, the CDC (2015) reported that 189 people from 24 states and the District of Columbia were reported to have measles. This outbreak was primarily connected to an amusement park in California (CDC, 2015). The CDC

(2013) also estimated that about 90% of people who get measles are unvaccinated. Confirmed cases of measles in the United States were 288 in May 2014, more than the total cases of 2013, and more than any year since 1994 (CDC, 2014b). The CDC (2014b) also noted that the third-largest outbreak of reported measles was in New York City during February and March of 2014, with 26 cases reported. The New York City outbreak mainly occurred in Upper Manhattan and was believed to have spread through hospital waiting rooms because doctors and nurses did not identify the symptoms in time (CDC, 2014b). According to Schuchat (as cited in CDC, 2014**),** at least two children who contracted the virus were from families that were not vaccinated and seven had not reached vaccination age. A 2010 whopping cough outbreak in California resulted in 9,120 infected and ten deaths and traced to a person who chose not to vaccinate (CDC, 2014b). The CDC (2014b) also reported that there were 60 cases in California, where large numbers of wealthy parents refuse to vaccinate their children. Schuchat (as cited in CDC, 2014), also noted that among the 195 United States residents with measles who were not vaccinated, 165, or 85%, were not vaccinated for religious, philosophical, or personal reasons.

According to Lee et al. (2013), all states require children older than age five and in state-licensed day care facilities and public schools to receive a succession of vaccines before enrolling in school. However, the number of children not vaccinated is substantial (CDC, 2013). For example, in the community of Ashland, Oregon, 2001-2002 vaccination exemption rate was 11% of all students, while only 2.7% for the entire state and only 3% for the nation (Lee et al., 2013). Also, in Ashland, 12.3% of all children

attending public schools and 18.8% of children attending day-care facilities in 2002 claimed an exemption from mandatory vaccination laws, compared with 2.4% for the entire state (CDC, 2011a). One of the most significant impacts of decreased immunization occurred in 2008 when the CDC (2011a) reported 131 cases of measles, which is more than twice the average number of reported annual instances between the years of 2000 and 2007. There is a gap in the literature regarding parents' perception of childhood vaccinations and why some parents remain opposed to vaccinating their children. There is little information as to whether parents receive educational outreach before their children need to be vaccinated, and how this awareness or lack thereof influenced their decision.

A review of the literature for this study found that the rapid rise in antivaccination sentiment in the United States can be attributed to misinformation regarding risk and other factors (Behrmann, 2010; Jolley & Douglas, 2014; Smith et al., 2011). While the importance of childhood vaccinations in preventing illnesses is known, there is a gap in the literature regarding parents' perception towards childhood vaccinations and why some parents remain opposed to vaccinating their children. There was little information as to whether parents receive educational outreach before their children need to be vaccinated, and how this outreach or lack thereof influenced their decision. Only a few studies focused on the methods of parental outreach and education on childhood vaccination and whether it was effective. There was little found on what methods health care providers use to educate parents regarding the importance of childhood vaccination and its relative effectiveness. Do parents have an understanding of childhood vaccinations or are they

just vaccinating their children because school requirement? Parents need reassurance and a sense of security when it comes to knowing the most accurate information on childhood vaccination.

In a study on the link between deliberate delay of vaccination and scheduled vaccination treatment, Smith et al. (2011) concluded that parents would allow their children to be vaccinated if they received strong recommendations and reassurance from their physician. It is not enough to hear that there is no evidence linking vaccines to instances of autism. Parents want the truth, including any details on possible side effects. The study concluded that parents' worry about vaccine safety or necessity is the most common reason they decide not to have them vaccinated (Smith et al., 2011). The study also posited that educational interventions, pamphlets, brochures, and other social marketing efforts, which discuss safety concerns help parents decide to go ahead with vaccinations (Smith et al., 2011).

Purpose of the Study

It was imperative to find out why so many parents are refusing to vaccinate their children. Recent measles and pertussis outbreak suggest that children are not being vaccinated in order to protect them from these outbreaks. This study explored parents' perspectives and views on childhood vaccines. With this in mind, the aim of this dissertation was to understand the mechanisms, including parenting methods, how detailed and available is information about vaccines, as well as cultural views, which could influence how parents feel about vaccination acceptance and vaccination policy, vaccines on a whole and especially regarding the MMR vaccine (Mikulak, 2012).

Research Question

The central question to be answered in this study was as follows: How do parents perceive the dangers posed to their children by childhood vaccination? This phenomenological study was based on the parents' perception of childhood vaccines, with children age 3 to 8 years old who reside in Oregon.

Theoretical Framework for the Study

The health belief model (HBM) is a psychological framework with the goal of explaining health related issues through the examination of the attitudes and "beliefs" of individuals (Bartholomew, Parcel, Kok, Gottlieb, & Fernandez, 2011). The HBM served as the theoretical framework to guide this phenomenological approach by examining health behavior and reasons for noncompliance such as the motives behind why parents decide not to have their children immunized. This methodology helped uncover the reasons parents decline vaccination, either due to fear of autism, religious and philosophical beliefs, inconvenient facilities, the public worry about possible adverse health issues caused by vaccines, and the way individual states handle exemption requests.

The fundamental notion of HBM is that health behavior is determined by personal "beliefs" or perceptions about a disease. Personal perception is influenced by intrapersonal factors affecting health behaviors (Turner, Hunt, DiBrezzo, & Jones, 2004). HBM is one of the most universally applied theories in health education and health awareness campaigns (Turner et al., 2004). According to the HBM, changing variables,

action triggers, and self-reliance, impact how people perceive the severity of susceptibility, benefits and obstacles, and subsequently our reactions (Turner et al., 2004).

The aim of the HBM is to assess what drives how people react to health related issues by examining perceptions and attitudes toward disease and fear. The HBM operates under the premise that behavioral change follows the consideration of three concepts: possible vulnerability and seriousness of risk; apparent threat and supposed benefits; as well as hurdles (Taylor, 2007). These key components do not mean that HBM should be the sole source for assessing the contributions associated with health-related behaviors. Rather, these key components recommend that individual intervention evaluations be implemented to demonstrate this. HBM has introduced other crucial aspects such as social and economic factors, as well as further environmental causes, such as low-income, experience with racial bias, cultural marginalization, low health assessments or inconvenient office hours and locations (Taylor, 2007).

The results of this study led to a more in-depth understanding of the factors that drive and influence parents' decision against immunization for their children and influence decisions regarding modifications to vaccination exemption laws. In addition to examining parental concern over vaccination, this study examined whether or not the theory of vividness effect has any influence on parents' decisions against childhood immunization.

Nature of the Study

This study was a qualitative investigation. A phenomenological inquiry was conducted to explore parents' experiences and their perceptions about childhood vaccines.

A qualitative approach was consistent with examining the reasons some parents are refusing to have childhood vaccines administered to their children. A qualitative approach allowed me to determine if misinformation regarding risk and other factors play a role in parent's decision-making regarding vaccines. This qualitative research inquiry can increase comprehension and broaden theoretical knowledge from a disciplinary point of view.

The data for this study were gathered from interviews with parents of children ages 3 to 8 that have not allowed their children to receive childhood vaccines or are behind schedule on when their children need to be vaccinated. I utilized qualitative data software to store, organize and extract data. The data were analyzed and coded for primary themes. Coding allowed me to identify the emergent of themes and follow up on such themes. I made recommendations based on the identified themes.

Definitions

Herd immunity: Protection obtained by the entire population when a high percentage is vaccinated against communicable diseases (Lee et al., 2013).

Vaccine: A biological agent, which aids the body in developing resistance, or immunity, from a particular disease. Vaccines are made up of an intercessor from the original virus, which has been weakened. The agent causes the body's immune system to distinguish the foreign organism, terminate it, and then be able to recall the agent if it comes into contact with the microorganisms at another time (CDC, 2012a).

Vaccine-preventable disease: Diseases such as diphtheria, whooping cough, tetanus, measles, mumps, and rubella, once common amongst children. Due to

vaccination mandates, levels of these diseases are all but eliminated in the United States. Even though most infants and toddlers have been vaccinated the age of two against recommended diseases, some children have not received all the advised shots, thereby still leaving the possibility of outbreaks (Hurley, 2011). It is recommended that older adults, and many adolescents, and persons born outside the United States, who are considered under-immunized based United States standards, receive booster shots to increase their immunity (CDC, 2013).

MMR vaccine: An immunization, administered via injection, against measles, mumps, and rubella, which contains tempered viruses of the three diseases (CDC, 2012a).

Autism spectrum disorders: Developmental in capacities that can cause social, communication, and behavioral impairments (CDC, 2012b).

Vividness effect: An outcome that occurs when vividness of personal testimony is believed to a greater degree than more reliable evidence (Ehlers, Whitman, Muller, Anderson, & Todd, 2015).

Phenomenology: A theoretical method where the study of consciousness and the experience guides the research (Lewis, 2015).

NVivo: Software used to collect, organize, and analyze content in qualitative or mixed methods research (QSR International, 2012).

Assumptions

In this study, the assumption was that parents think it is riskier to have their children vaccinated than not. This assumption was made because according Harmsen et al. (2013), parents who decided not to have their children vaccinated made a conscious

decision based on various factors including the advantages of the vaccines, and the risks associated with the vaccines in addition to the child's reaction to the vaccines. Second, it was assumed that study participants would provide complete and honest responses to the questions. Finally, it was assumed that a connection exists between some childhood vaccinations and an increased risk of autism or other dangerous side-effects.

The Scope of the Study

The subjects of this study were parents of children who had been administered the MMR vaccine and lived in Oregon. The issues addressed were the growing reasons against antivaccination sentiment among parents and the ways in which misinformation regarding risk and other factors (e.g., religious and philosophical beliefs, the controversy surrounding a link between immunizations and autism) influence the way the participants think and feel.

Delimitations

This study was designed to investigate the perspectives parents have on their children receiving childhood vaccines and live in Oregon. This study was designed to collect focused data based on a particular population that decided not to vaccinate their children due to (a) religious and philosophical beliefs, (b) exceptions of convenience, (c) anxiety regarding possible adverse health effects from the MMR vaccine (i.e., links to autism), and (d) the way states have mandated vaccination exemptions (Jolley & Douglas, 2014). Since the study was limited to parents who reside in Oregon, the views presented may have been influenced by living and working in a small community and, therefore, may not apply to a larger community. Ten participants were required to answer

a series of questions in English or Spanish and be available for an interview during December 2015 and January 2016. Defined methodological steps were taken in this study, including (a) constructing a theoretical framework, (b) sampling, (c) collecting and analyzing data, and (d) reporting the information gained to generate the best evidence for qualitative research and to minimize limitations (Lewin, Glenton, & Oxman, 2009).

Limitations

The findings of this study represented information obtained from a finite group of participants about a particular event during a specific timeframe. While analysis was focused, it was also subjective, and generalizability is not possible (Lydon, Byrne, Offiah, Gleeson, & O'Connor, 2015). Similarly, this study was limited to parents residing in Oregon. The views presented may have been influenced by living and/or working in a small community where oftentimes the majority of people know each other and not be in contact with unfamiliar residents and travelers; this may not applicable to a larger community where people come in contact with foreigners and strangers at more frequent rates. Limitations existed based on selectivity in the people being sampled for interviews and challenges that may arise with using the NVivo version 11 for Mac software.

Significance of the Study

For minimization of measles, mumps, and rubella outbreaks to continue, it is imperative to determine the reasons why some parents decide not to allow their children to receive the MMR vaccine. Increasing numbers of parents are pursuing sanctioned exemptions to avoid immunization, apparently due to fear of the possible negative consequences of vaccination, rather than the embracing that they defend against certain

diseases (Jolley & Douglas, 2014). This study focused on the parents of children ages 3 to 8 years living in Oregon who had not been immunized against childhood vaccines. The results were not generalized beyond this population.

This research can inform health care providers and policy makers as a direction in developing policies and practices that address the reasons some parents decide not to vaccinate against preventable diseases, including measles, mumps, and rubella. Also, this study can help states reconsider and potentially modify vaccine exemption laws. As such, this study has the potential for an implication of social change, to help develop tools that would encourage parents to vaccinate their children. This change can help with the reduction of unvaccinated and undervaccinated rates in children ages 3 to 8 years old. As such, the aim of this dissertation was to go beyond demographic factors in trying to understand the mechanisms against vaccination that might explain the negative attitudes toward individual vaccination participation and vaccination policy (Mikulak, 2012).

Implications for Social Change

Public health conditions can be vastly improved through vaccination administration. The entire community, including infants and those with pre-existing conditions, are susceptible to infection from one nonvaccinated individual (CDC, 2013). This investigation had the potential of providing ways to better inform parents on the benefits of vaccination, dispelling the fears associated with possible side-effects, and creating a more transparent industry where these types of false information induced panics is eliminated. Through a more open industry, where parents are informed, and health care providers work as advocates for not only the individual patient but for the

community as a whole, the number of children not receiving life-saving immunizations may be drastically decreased.

Summary

Narrowing the scope of this research to the MMR vaccine and limiting participants to a 150-mile radius offered a more in-depth understanding of how parents feel about vaccines and other issues related to this target population. As measles, mumps, and rubella have such a constant and adverse effect on children around the world, it is vital to develop lessening strategies among many population groups, specifically parents so that children receive recommended vaccinations (Gage, Munafo, & Davey, 2015). Parents are an especially important group to target as they decide whether their children receive vaccinations.

This research employed a basic exploratory qualitative methodology and a phenomenological strategy based on Skype meetings or telephone interviews with participants to understand the decision-making processes and perceived barriers regarding vaccination. The results may lead to the development of new approaches to increase vaccinations among children. Programs developed to maximize immunization rates could improve return on investment for immunization programs statewide. This study may also lead policymakers to amend vaccination exemption laws. Although the literature regarding the effects of the MMR vaccination and the importance of reducing the risk associated with it was plentiful, research on the significance of increasing vaccination rates among unvaccinated children and the vaccine uptake decision-making

process among parents was scarce. A thorough review of the literature is presented in Chapter 2.

Chapter 2: Literature Review

Introduction

Measles is a disease that was essentially wiped out in the United States in 2000 however there has been a resurgence, and the disease is once again spreading. Nationally, there were 288 cases of measles, from 15 separate outbreaks reported from January to May of 2014; the largest number of cases since 1994 (Mimms, 2014). Thanks largely to the recognized benefits of the MMR vaccine, the United States stopped experiencing homegrown measles outbreak in 2000. The number of United States residents who continue to request exemptions so that they do not have to vaccinate their children continues to increase. The number of children susceptible to measles contraction and other childhood diseases has also increased (Demicheli et al., 2012; Harrington, 2011; Mimms, 2014).

Measles is dangerous, especially for those with preexisting medical conditions. According to the CDC (2015), 15% of people who have contracted measles in 2015 had to be hospitalized. For children too young to be vaccinated, measles poses an even greater threat. Typically, it is suggested that the first measles vaccine be administered at 12 to 15 months, with the second following around four to six years of age. However, with the growing number of cases of children not receiving vaccinations until late or not at all, contraction of the disease and subsequent spread are of increasing concern, with many school-age children not receiving the recommended vaccination despite state requirements (Harrington, 2011).

The initial review of the literature revealed that within the group of unvaccinated people, in 2014 cases 6% occurred in children under recommended vaccination age, and an additional 17% of infected children under four years old were not old enough to have the second dosage (CDC, 2015). Demicheli et al. (2012) reported that 90% of measles cases in 2015 were from individuals that weren't vaccinated. Also, even though 99% of American children have received vaccines at least once, the percentage of children who have received all their vaccination shots is significantly lower. According to Mimms (2014) of the youngsters between 19-35 months, only 68.4% of them had gotten all their shots in 2012. Depending on the disease, vaccination rates vary (Cawkwell & Oshinsky, 2015). Between 2008 and 2012, the number of children between 19 and 35 months old who had all four rounds of whooping cough vaccine was 82.5%, reflecting a 2% decline. During the same time, there is only a 1% drop for MMR vaccinations, at 90.8% (Cawkwell & Oshinsky, 2015).

My initial review of the literature found studies showing children receiving fewer shots (Jain et al., 2015). There are a significant number of children in the United States who are fully vaccinated, unvaccinated and undervaccinated and belong to socioeconomically and demographically diverse communities. There are times where children are unvaccinated because their parents take advantage of the vaccine exemption waiver. At the same time, children are undervaccinated due to problems parents' have in trying to access vaccines for low-income and poor households (Jain et al., 2015). The most repeated reason (190 of 277 parents asked, 69%) parents gave for requesting exemptions was due to worry that the vaccine would hurt their child (Jain et al., 2015).

Parents of vaccinated children were less likely that those of exempt children to acknowledge their concern over the safety and effectiveness of vaccines, mistrust in the government, and doubt of the severity of preventable diseases due to vaccines (Rainey et al., 2011).

According to Favin et al. (2012), the foremost reasons for under-vaccination are associated with immunization services, how much parents knew about, and their feelings about vaccines. The most frequent causes noted were: service access and reliability, how professional health care workers conducted themselves, untrue contraindications, the amount to information parents have, parents' beliefs, fear of possible side effects, and differences in priorities. While national averages of nonmedical vaccination requests have remained low in the United States, there are small communities where antivaccination sentiment is increasing. Mimms (2014) reported that the vaccination exemption for whooping cough was 0.3% higher in 2014 than in previous years, bringing the nation's median to 1.8% and placing those medically unable or too young to receive vaccines at greater jeopardy. Nearly 70% of kindergartners living in Oregon did not receive their vaccination in 2013 due to religious reasons. In Oregon, nearly 7% of kindergartners in 2013 did not receive vaccinations for either philosophical or religious reasons. In Idaho, Michigan, and Vermont, more than 5% of kindergartners did not receive vaccinations based on nonmedical reasons. Possible outbreaks originating from these communities can quickly spread and jeopardize others. Some religious communities, including the Amish, disagree with vaccination based on philosophical ideals. Not to mention smear campaigns

that are based more on a conjecture that facts that promote nonvaccination. According to CDC (2013),

> there are communities where large numbers of individuals have decided not to be vaccinated, although some parents objected to vaccination on philosophical, not religious grounds, the perceived link between autism and vaccination has not ended statistically significant increase in unvaccinated children. (2013, para. 2)

This chapter includes a dialogue of the literature about the growing antivaccination sentiment among parents, with the search strategies and keywords that allowed exploration of appropriate topics associated with the study. Additionally, dimensions of the HBM and the applicability of this model to this study are reviewed. Chapter 2 concludes with a discussion regarding the gaps in the literature and the significance of this study.

Literature Search Strategy

A literature search was needed to gather relevant literature for this study. A literature search relating to this topic was conducted via the Walden University's Library and Google Scholar using key words vaccines, MMR, under and unvaccinated children, parents, autism, states, policy, exemptions, childhood education diseases, and outbreak. The results were sorted according to those studies that discussed the reasons why parents refusal to vaccinate their children, followed by studies that provided information on the approaches or methods health care workers use to educate parents on the importance of childhood vaccination and whether or not it has been effective. In the literature, the recommendations identified to address this problem were education to parents as well as

statewide vaccination exemption policies requiring stricter regulations on childhood vaccinations. The reviewed literature also included studies that evaluated the effectiveness of both recommendations and analyzed the findings and recommendations of such research. Additionally, an extensive review of literature on Oregon's vaccine regulations along with the research on behavior theories in public health was also conducted.

The HBM served as the theoretical construct to guide the phenomenological study approach, which examines why parents decide not vaccinate their children. Theory development works to explain practice and offers a basis for supplemental research (Lewis, 2015). This method helped explain why parents have decided not to vaccinate for either fear of autism, religious and philosophical beliefs, exceptions of convenience, public concern regarding real or perceived adverse health effects, and the way states have outline vaccination mandates exemptions.

The core concept of HBM is guided by personal "beliefs" and perceptions about a disease, and the available ways to fight exposure are guided by personal "beliefs" and opinions (Turner et al., 2004). HBM is most often used in health education and promoting healthy lifestyles (Turner et al., 2004). According to the HBM, action triggers, changing conditions, ideas of susceptibility risk and obstacles all impact perceptions and subsequent behavior (Turner et al., 2004).

The focus of the HBM is to examine individual perceptions and attitudes about diseases as an indicator of their behavior toward health. The HBM works under the premise that changes in behavior happen when three ideas surface simultaneously,

alleged vulnerability and severity, apparent risk and perceived advantages and obstacles. These key components (Taylor, 2007) do not suggest that HBM can solely be used to increase health promotion involvement to alter behaviors related to health decisions; rather HBM posits that evaluations of individual intercessions are a requirement for a detailed summary. The HBM allows social, economic or other influential environmental factors including low income, ethnic prejudices, cultural segregation, low health assessments, or inconvenient service hours and locations (Taylor, 2007).

Theoretical Foundation

Theoretical frameworks serve in various capacities in the public health sector. For instance, theory updates public health practitioners' assumptions about strategies for intervention (Beach et al., 2005). Theory can also aid public health practitioners in program design, implementation, and evaluation while offering grounded intervention suggestions to create innovative ways for addressing specific public health problems (Glanz & Schwartz, 2008). Further, Painter et al. (2008) suggested that the use of conjecture in public health serves as a diagram for examining public health issues, creating appropriate interventions, and evaluating success. The goal of public health programs is the improvement of the lives of individuals, families, organizations, and communities as a whole while successfully changing an individual, organizational, and community behavior (Beach et al., 2005). The level of behavioral change required is dependent upon the degree of the public health problem. For instance, in diabetes management, those suffering from diabetes are needed to make adjustments to his or her eating habits, which represent a change in personal behavior. The public health

practitioner looking to develop a diabetes program for those with diabetes may use a theory that, targets individual behavioral change; whereas a public health practitioner addressing a lack of physical activity in schools, may apply an approach that targets groups such as communities or organizations. There are also occurrences in which behavior change may require multi-levels interventions (individual, organizational, and community) to be effective. To that end, there are a variety of behavior theories used in public health to inform program planning, implementation, and evaluation.

The most common behavior theories in public health are: (a) health belief model, (b) stages of change model, (c) theory of planned behavior, (d) precaution adoption process model, (e) social cognitive theory, (f) community organization, (g) diffusion of innovations, and (h) communication method (Beach et al., 2005). According to Painter et al. (2008), these theories are essential to public health because success hinges on a definite understanding of the targeted health behaviors and the environments within which they occur. As such, the selection of a theory of public health is based on the particular problem under investigation and the level of intervention. If the practitioner is seeking to address a health problem on an individual/intrapersonal level, interpersonal level, or on the community level, they would need to select the appropriate behavior theory that would most resemble and address the degree of intervention (Glanz & Schwartz, 2008).

For instance, if trying to address a behavior change on an individual level, a public health practitioner may use the HBM or use the social cognitive theory to address behavior change on an interpersonal level (Beach et al., 2005). On the other hand, if

public health practitioners are trying to address behavior change on a community level, they may use the community organization theory or the diffusion of innovations theory (Painter et al., 2008). In public health practice, dealing with community level problems necessitates the consideration of institutional and public policy factors, as well as the contributing factors like social networks and norms' influences on behavior (Glanz & Schwartz, 2008). The reason for this is because community level theory models focus on individual, group, community and institutional issues.

The HBM served as the framework for this study because it is a behavior model with particular emphasis on health promotion and education (Rosenstock, Strecher & Becker, 1988). The HBM also served as an ideal vehicle for understanding why individuals did or did not engage in a broad variety of health related actions while presenting substantial support for the model (Janz & Becker, 1984). In order to avoid health problems, people will seek medical treatment if it is simple to follow and not difficult. The HBM was pioneered by Rosenstock (1966) and advanced by Becker and Maiman (1975). The HBM provides a model to follow that will indicate why some people choose to vaccinate, and others do not. HBM extrapolate as the primary mechanism from psychological and behavioral theory. According to Janz and Becker (1984) the HBM is directed by two variables: how valuable a reach a particular goal is to someone, and whether they will get what they want to be based on a particular decision or action. Janz and Becker (1984) explained that variables imagined in the perspective of health-related activities resulted in four various ways, (a) the desire to get better or avoid getting sick altogether, (b) the faith that a particular health-related action will avert

getting sick, (c) how susceptible the individual believes they are to becoming sick, (d) and the chance of to reduce the likelihood of susceptibility by taking action (Janz & Becker, 1984).

The HBM consists of the following facets:

1. Perceived susceptibility: individual feelings about disease or health vulnerabilities varies vastly (in the case of the influenza vaccine, public panic about avian flu and swine flu does not mean the number of people getting season flu vaccination with increase) (CDC, 2011b). This dimension includes questions about guesstimates of susceptibility, trusting the diagnosis, and inclination to vaccines in general.
2. Perceived severity: Janz and Becker (1984) further posited that people have different opinions about how dangerous and how likely contraction is and treatment options. Estimates of both health consequences, for example, pain, disability, death, as well as possible social penalties including family time and social interactions are included in this facet.
3. Perceived benefits: While coming to terms with the possibility of developing a particular health condition can lead to choosing vaccination, a likely course of action was not outlines. As in the case of flu prevention, whereas flu does not come with very severe symptoms, does not require a long recovery period, and the chance of infecting another is minimal, a hospital visit, many opt not to get flu vaccinated. This is dependent on the level of the confidence an individual has of the effectiveness of available treatments that will lower the chances of

contraction. Only if feasible and efficient would a person agree to an advised health action.

4. Perceived barriers: Are possible adverse consequences, which can develop into obstacles to a prudent course of action (Janz & Becker, 1984). When the individual weighs balances the action's effectiveness against perceptions of expense and dangers. Some examples included fear of needles, worries about side-effects, event transportation issues, including parking, time constraints, and even such concerns that the immune system has a way of correcting itself and does not require man-made interventions.

Historical Application of Theory

Researchers in the United States Public Health Service first introduced HBM in the 1950s. The HBM has been in use since in the exploration of a variety of health behaviors, such as attaining preventive health vaccinations or behaviorally responses to acute or chronic illness treatment (Janz & Becker, 1984). According to Janz and Becker, the TB screening program employed mobile units to give adults free TB screening x-rays. When it was discovered that, despite their accessibility, few adults were taking advantage of the free service, organizers began to investigate the lack of engagement from the community. In contrast, the study explored the motivation behind those who choose not to take advantage of the free screenings. According to Rosenstock the researcher for that study learned that the apparent risk of disease and supposed benefits of action were decisive factors in the motivation of those seeking the testing (Rosenstock, 1974).

In its infancy, the model had only four fundamental concepts: perceived susceptibility, perceived severity, perceived benefits, and perceived barriers. As a technique for challenging behavior, Cues for Action were added. The notion of self-efficacy was incorporated in1988, as a way to tackle the challenges of reversing habitual, unhealthy behaviors such as smoking and overeating (Rosenstock, 1974). Researchers discovered the HBM model in attempts at integrating stimulus-response theory and cognitive theory together to explain behavior. The HBM design model was influenced by Kurt Lewin's theories behavior is controlled objective reality, not perceptions of reality, (Rosenstock, 1974). Past stimulus-response theory emphasized how important behavioral consequences are when making predictions about actions; whereas cognitive theory refined the approach even more by reinforcing the relevance of the subjective values a person has, and if he or she thinks a particular action will give them what they want (Rosenstock, 1974). Value-expectancy theory was born from the combination of these approaches, where reinforcements and enticements do not directly influence behavior, but rather the value a person places on a particular action and the chance to attain the desired result (Rosenstock, 1974). Janz and Becker (1984) noted that behavior is influenced by perceptions, a phenomenological outlook of life, not the true world. Value-expectancy theory emphasizes the function of personal characteristics and attitudes, as an extension of the particular method of relating health behaviors with demographic aspects such as social class or ethnicity. This was an early effort to infuse cognitive components into the behaviorist stimulus-response model.

According to Champion and Skinner (2008) six factors are shown to influence individual perception and decision-making processes in health behaviors: (a) age, (b) gender, (c) ethnicity, (d) personality, (e) socioeconomics and (f) knowledge. According to Janz and Becker (1984), there are action motivators that encourage or dissuade people. Two notable studies evaluated the usefulness of the HBM. In one study, Oliwa and Marais examined parental decision-making regarding certain childhood vaccines including the MMR vaccine, and how parents described the perceived risk they associated with the vaccine. The researchers identified three ideologies concerning risk: (a) cultural conjecture of risk, (b) risk society, and (c) psychometric models of public risk perception (Oliwa & Marais, 2015). The other study Smith et al. (2011) focused on using the HBM to evaluate the associations among the "beliefs" that parents have about vaccines, the decisions to postpone or refuse vaccines, reasons for these decisions, and vaccination treatment. The study results suggested that parents who postponed or decided against vaccinations were more apt to have concerns about safety and did not realize all the benefits related to vaccines (Smith et al., 2011).

Antonovsky and Kats (1970) also used the HBM to explore inconsistencies in oral health care shared among United States residents caused by difficult to navigate social and cultural nuances that impact access to effective dental health and overall oral health care. The HBM was used to investigate targeted intercessions at various points that would inform and expand research and policy to subsequently reduce inconsistencies in oral health (Antonovsky & Kats, 1970).

Another example of the application of HBM is in the study of AIDS-related preventative behavior. Recently, an escalating number of studies using an expanded, modified HBM model have been used in predicting AIDS- preventive behaviors. Petosa and Jackson (1991) used the HBM to predict how likely seventh-, ninth-, and eleventh-grade students were to practice safe sex and discovered that the higher the grade level, the less the model was able to predict the behavior. Fujimoto, Williams, and Ross, (2015) found that HBM factors (obstacles to change and susceptibility) were able to explain a considerable amount of the variance in high-risk behavior over a 6-month time frame. As this study explored the reasons for growing antivaccination sentiment among parents, the HBM guided the study regarding research question methodology, data collection, and analysis.

Rationale for Theory Choice

Despite the successes of vaccinations, there has been some doubt regarding the safety of vaccinations against vaccine-preventable disease. The fact that parents are refusing to have their children vaccinated is causing major concern for health care professionals who consider the benefits of vaccination indisputable (Mikulak, 2012). Recognizing the importance of childhood immunization, state-licensed day care students or public school-aged children over the age five are required by all 50 states to have a series of vaccinations before enrolling unless there is a medical contraindication, or religious exemption (Lee et al., 2013). Despite these state requirements, there are still a substantial number of United States parents who decide not to vaccinate their children (Harrington, 2011).

It was imperative to find out why so many parents are refusing to vaccinate their children. Recent measles and pertussis outbreak suggest that children are not being treated to protect them from these outbreaks. This study explored parents' perspectives and views on childhood vaccines. The aim of this dissertation was to understand the mechanisms, including parenting methods, how detailed and available is information about vaccines, as well as cultural views, which could influence how parents feel about vaccination acceptance and vaccination policy, vaccines on a whole and especially regarding the MMR vaccine (Mikulak, 2012). Little is known about whether parents received outreach before it is time to have their child vaccinated and how their decision was influenced due to this awareness or lack thereof. Only a few studies focus on the methods of how parents receive outreach and education on childhood vaccination and whether this is an effective method or approach. Little research was found on approaches or methods health care providers use to inform parents of how importance childhood vaccination is, and the subsequent effectiveness of that outreach. Do parents have a true understanding of childhood vaccinations or are they just vaccinating their children because it is required for them to enroll in school? Parents need reassurance and a sense of security when it comes to knowing the most accurate information on childhood vaccination.

The HBM is deciding to vaccinate can be associated with whether or not parents believe that as a result of vaccination their child may become more susceptible to other health problems, how dangerous the disease can become, and general vaccination risks and benefits (Dorell, Yankey, Kennedy, & Stokley, 2013). The HBM is also used to

forecast health behaviors. Behavior is predicted when individuals fit certain characteristics. Research on vaccination processes viewed through the lens of social cognition models has supported the premise that decisions on vaccination are the result of considering apparent risks. Of these theories, the HBM has been the most broadly used (Moss, Reiter & Brewer, 2015). Social psychology and cognitive research theories are also being used to observe decision-making influences and perceived risk (Dorell et al., 2013; Moss et al., 2015).

The communication that a parent or family maintains with their healthcare professional is an important factor in the making decisions about health related issues. According to studies investigating the suitability of vaccines have found that a physician's advice regarding a vaccine can significantly impact a parents' ultimate vaccination decision (Paul, LaMontagne, & Le, 2012). For instance, Gust, Darling, Kennedy, and Schwartz (2013) found that for parents postponed or passed on vaccination, changed their minds on the advice of their pediatrician. Using HBM helped show the model's four key strengths, understood by medical providers, while facilitating an active and helpful conversation with parents who oppose childhood vaccination.

For instance, the research question in this study was: How do parents perceive the dangers posed to their children by childhood vaccination? Participants' responses to this question were evaluated using the HBM constructs of apparent severity, supposed benefits, alleged barriers, and action triggers. Using HBM was beneficial due to the historical importance of coverage vaccination research and the notable comparable in the feelings of 1950s parents, versus today's modern parents. Using the HBM as a

framework to understand the reasons for growing antivaccination sentiment among parents, this study focused on a group of parents in Oregon. The belief that vaccines, in particular, the MMR vaccine, are dangerous and warrant attention correlated to perceived severity using the model framework. According to Rosenstock et al. (1988), the cost of vaccination and lack of access to vaccination services correlated with the HBM construct of perceived barriers. Fear of autism or other negative outcomes due to an immunization could be associated with perceived susceptibility, according to the HBM, and speak to one's perception that a vaccine could cause an adverse health condition. In addition to examining parental concern over vaccination, this study also examined whether or not the theory of vividness effect has any influence on parents' decisions against childhood immunization.

Literature Review Related to Key Concepts

Increased skepticism about the safety and necessity of vaccinations has led to decreases in vaccination participation and increases in reported cases of a vaccine-preventable disease. To that end, the number of United States children who are unvaccinated for under-vaccinated is significant (CDC, 2013). The primary reasons for under-vaccination are associated with vaccination services, how much information parents receive and their attitude towards immunization (Lee et al., 2013). According to Lee et al. (2013) most reasons for non-immunization are service access and reliability, the professionalism of the staff, untrue contraindications, how much parents know, understand, and believe possible side effects, and contrasting priorities. According to the CDC (2012a), the same germ that causes a disease is in a vaccine. This study seeks to

explore parents' perspectives on childhood vaccinations. As such, the constructs of interest in the study consist of the inquiry on the experiences of parents and the way they perceive vaccines.

These constructs were chosen to identify and explain parents' perceptions and decisions as well as the implementation of vaccination exemption laws in Oregon. Cawkwell and Oshinsky (2015) described knowledge as how sensory information is organized and interpreted to provide actual meaning. The ways individuals perceive their environment is what makes each person different. Perception is important as behavior is rooted in ones' perception of reality. According to Buttenheim et al. the perceived world the one that significant behaviorally. Some of the dynamics influencing ones' perception include (a) attitudes, (b) motives, (c) expectations, (d) experiences, (e) social settings, (f) background, (g) culture, and (h) interests (Buttenheim et al., 2015).

Miller (2012) also employed qualitative approaches to examine the perceptions of those with disabilities regarding their interactions with various health care professionals. Specifically, Miller collected data through grounded theory methods, and found that (a) most people who considered themselves disadvantaged due to social repression or shame were also unhappy with their health care team; and (b) those persons who minimized the impact of disability were either content with their health care team or credited their personal efforts as being able to live with the disability. Rohrmann, Bechtoldt, Hopp, Hodapp, and Zapf (2014) used a qualitative phenomenological approach to explore the perceptions of experienced teachers toward cooperative learning training and implementation in the classroom. Specifically, individual were interviewed to identify

perceptions about cooperative learning training and its use in their classrooms. Again, the constructs in Rohrmann et al. (2014) study are similar in that it explored individual's experiences and their perception of learning and training in the classroom. Using the approach in Rohrmann et al. study was appropriate to this study as it also helped explore parents' perceptions and experiences as it pertains to childhood vaccinations.

Given the constructs, the researcher performed a review of the literature on perception to identify an appropriate methodology for this study. There are various types of perception: (a) individual (parental) perception, (b) social perception and (c) risk perception (Chamot & Perneger, 2002). In perception studies with similar constructs, the researcher identified qualitative approaches to examine individual's perception as the dominant methodology used (Chamot & Perneger, 2002; Coleman et al., 2012; Nijhof et al., 2008). For instance, Nijhof et al. (2008) used a qualitative design to examine the reason some people chose to utilize diabetes risk test for early diabetes detection while others chose not to.

> A survey was conducted with both men and women on the breast cancer screening decisions, which contribute to shaping the social model about mammography screening. The study tested the hypothesis that men are less knowledgeable than women about breast cancer and mammography, with a less productive outlook of mammography screening. (Chamot & Perneger, 2002, p. 382).

Coleman et al. (2012) also utilized a qualitative approach to assessing testing procedures and HIV risk sensitivity among a sample of geographically diverse, sexually

active adults who reported participating in activities that may transmit HIV. Like this study, Coleman et al., (2012) sought to identify individual perception on testing and screening programs. Danis et al. (2011), is another study that focused on risk perception with contributing factors relating to socioeconomic status, race, education, etc. However, this cross-sectional study suggested that socioeconomic status and geographical locations played a significant role in low vaccination rates more than parental perceptions. The study also found the need for policies that would eliminate obstacles, both system and structural, that will increase the number of children in high-risk groups that are vaccinated (Danis et al., 2011).

In addition to Chamot and Perneger, (2012); Coleman et al. (2012); Nijhof et al. (2008) there were additional studies that supported the decision to utilize a qualitative methodology to explore how parents "beliefs" about vaccination dangers. A qualitative method was appropriate as it is consistent with examining the reasons some parents decide not to let their children receive vaccinations. For instance, allowing for the determination of misinformation regarding risk and other factors such as the controversy surrounding a link between immunizations and autism, religious and philosophical beliefs, as a means for shaping the way participants think and feel. This qualitative research method can augment understanding and broaden theoretical knowledge from a disciplinary perspective (Elo et al., 2014). For instance, Champion and Skinner (2008) used a qualitative study to explore how obese individuals recognize and react to the different types of ridicule they face daily. The authors examined weight-based prejudices from the viewpoint of obese participants, including their views and responses to the

various types of weight-based prejudice the participants met on daily bases.

This study helped advance knowledge concerning individuals' perception and the situation/environment they find themselves in. One attribute of personal view is that individuals may have the propensity to misjudge the influence of outside factors and overrate the influence of internal indicators when making conclusions about the behavior of others (Buttenheim et al., 2015). As such, people compare themselves based on others they see who have similar characteristics (Song, 2014). Connelly et al. (2012); Marcon et al. (2015); Dosreis et al. (2013); Danis et al. (2011) all indicated an association between parental perceptions as it relates to a medical issue or concern. For instance, Connelly et al. (2012) observed how sensitive parents were about their child's asthma and how those feelings dictated how they managed their child's treatment. The interviews that were conducted at home showed how parents felt and how strong those feelings were and would influence whether on a sick day they cared for their child at home or went to the hospital (Connelly et al., 2012). Some of the implications of the study also suggested that when using over-the-counter medicine parents felt more in control of their child's illness versus going to a hospital. This stems from parents' perceptions of hospital dangers and the fact that parents are concerned with how much care their child will receive in the hospital. Therefore, parents prefer to monitor their child at home because they focused solely on the child and having no other patients to care for, unlike the doctors in the hospital who may have other distractions (Connelly et al., 2012). Dosreis et al., conducted a study of what parents thought about and if they were satisfied with stimulant medication for attention-deficit hyperactivity (ADHD). The findings suggested that

parents had mistaken beliefs about ADHD medication and any reasons for hesitation would need to be cleared up and whether personal demographic condition influenced the indecision to use (Dosreis et al., 2013).

Bystrom, Lindstrand, Likhite, Butler, and Emmelin (2014) performed a systematic review of various qualitative studies examining what parents believe about vaccines and their attitude and identified recurring obstacles encountered. The hurdles were used to determine and identify consistent themes. Semi-structured interviews were used in eight of the studies, with five using focus groups (Bystrom et al., 2014). The consistent themes identified in the literature were:

1. Concerns about harm.
2. Matters of distrust.
3. Accessibility issues, e.g. access to health care.
4. Other issues (Bystrom et al., 2014).

Bystrom et al. (2014) and Danis et al. (2011) also suggested other possible factors for low vaccination rates, including socioeconomic determinants, low levels of parental education young age of parent and physical hurdles such as no regular sources of health care.

In the literature analyzing parental perceptions, whether it's individual, social, or risk perception, how an individual views a situation directly impacts their decisions regarding childhood vaccinations. The conventional methodology identified was a qualitative approach including focus group, surveys, or individual interviews, semi-structured interviews, document review, and in some research, case studies (Barbieri &

Couto 2015; Brown et al., 2010; Bystrom et al., 2014; Ravlija & Vasili 2012). Throughout the literature, parental perceptions and attitudes have been approached from various viewpoints about making general medical decisions. For instance, Barbieri and Couto discussed the decision-making process of parents with their child's health care, filling an otherwise apparent gap in the literature by connecting a comprehensive and robust range of attitudes and demographics with observed participation in MMR vaccinations. There were several methodological strengths presented in this study and are instrumental to the literature. For instance, one study reviewed found that differences in attitudes and demographics still play a part with parents of older children even after they decide to vaccinate (Barbieri & Couto 2015). A potential weakness of the study was that the study was based on a design that measured attitude after the MMR shots had been administered. How much these reported perceptions can foresee future behavior about MMR is yet to be determined (Lieu, Ray, Klein, Chung, & Kulldorff, 2015).

Brown et al. conducted a systematic review of the relevant factor of parents deciding not to vaccinate their children. Studies have been carried out in countries with varying vaccination policies, with various vaccines. The studies were performed over several decades and included several vaccines and disease. These findings provide insight that parents are not entirely sure of they feel about vaccinations since there are aspects they feel more strongly than others. Parents have various perceptions regarding vaccination draws attention to the complex nature of decision-making (Brown et al., 2010). There are limitations to these studies in classification, selection, and analysis that should be factored in despite using the standard methodology to perform the review.

Summary

Answering the research question would provide information to the body of knowledge related to understanding parents' attitude towards having their children vaccinated. It is important to obtain a detailed understanding of the consequences and side effects of vaccines, how much parents know, what parents believe about vaccination, anxiety over possible side effects, differences in priorities, and vaccination exemption laws. Furthermore, more information of these factors is important in order to understand they may have on parents. However a gap existed in this body of knowledge about the qualitative investigation of parents' perceptions and experiences' regarding childhood vaccines, and this is the gap this study attempted to fill.

Chapter 3 describes the study design, sample sampling strategy, and analytic techniques used to address the central research question of the study. It is crucial to comprehend the dilemma experienced by parents in their decision not to vaccinate their children. Additionally, the contribution of state vaccinated exempted laws to low vaccination rates is examined. The purpose of this study was to explore parents' perspectives and views on childhood vaccines. For example, according to the CDC, some health care providers do not recommend that people get vaccinated for certain vaccines, in particular the influenza vaccine. This is due to uncertainty of effect the flu vaccine may have and the potential side effects if any (Sepper, 2013). The major sections of this chapter are the qualitative methodology utilized to collect data from participants, recruitment process, data analysis plan and sample strategy. Validity and reliability issues regarding the qualitative nature of the study are addressed. Finally, the data analysis plan

regarding the obtained qualitative data is provided in detail.

The research question in this study is: How do parents perceive the dangers posed to their children by childhood vaccination? Vaccination is considered to prevent the spread of infectious disease, both safely and efficiently, yet parents are still unsure about whether or not to vaccinate. Several concerns influence parents' decisions regarding vaccination. According to a study done by Bystrom et al. (2014), some parents believe that their children will get sick after receiving a vaccine shot. Adverse outcomes of vaccination had short and long-term consequences. Parents also held distrust of the medical community and discussed not being able to communicate effectively with their health care providers and said they were unaware of the vaccination schedule (Thorpe, Zimmerman, Steinhart, Lewis, & Michaels, 2012).

According to the study by Thorpe et al., so that vaccination rates maintain acceptable levels, vaccination obstacles identified in research need to be addressed but public health officials. In general, the identified obstacles to accessibility are more manageable to improve than other issues. Making parents more knowledgeable about when vaccinations should be administered, emphasizing that minor sicknesses should not stop vaccinations, and making it easier to get vaccinated are possible targets (Thorpe et al., 2012).

This qualitative research into parental perspectives on vaccinating children against preventable childhood diseases is a first step in recognizing and identifying the reasons for growing antivaccination sentiment among parents. The importance of childhood vaccinations for preventing outbreaks of measles, and whooping cough are

clear; however, a gap exists in the literature regarding why some parents remain opposed to having their children vaccinated. This study can help fill this gap. Public health has long focused on childhood vaccination as a strategy to decrease the spread of diseases that could later result in mortality and morbidity. The HBM has been helpful in exploring and predicting individual health behaviors. Qualitative research has increased understanding of events; the phenomenological approach has helped examine how people think, act and assign meaning to health behaviors. Using HBM helped in finding out the reasons that promote or discourage actions, and attempt to guess outcomes.

It is imperative to discover why many parents decide not to have their children vaccinated. More and more parents are applying for legal exemptions to avoid vaccinating their children due to the "belief" that vaccines cause more sickness than they protect against (Jolley & Douglas, 2014). This study focused on the parents of children ages 3 to 8 years in Oregon, who have not been immunized. While the results did not apply to any other population or location, it did help to identify prevailing themes, which can speak to other areas. Health care providers and policy makers could look to this research for direction in developing policies and practices for addressing parental refusal to vaccinate their children. Also, this study can help states more carefully examine and perhaps modify vaccine exemption laws. This study has the potential to impact social reform and create positive social change as it pertains to eliminating or settling parent's fears of perceived adverse health effects from vaccines and ensuring that immunization rates in children 3 to 8 years increase. With this in mind, the aim of this dissertation is to expand beyond demographic variables to comprehend the vehicles, including messaging,

parents' attitudes, and cultural perspectives, which might clarify people's attitudes toward individual vaccination and policies on vaccination requirements (Mikulak, 2012).

Chapter 3 addresses the process of compiling and analyzing information from the research participants by exploring the (a) research design, (b) central phenomenon for the study, (c) role of the researcher, (d) potential bias, (e) ethical concerns, (f) research methodology, (g) recruitment of participants, (h) data collection instruments, (i) data security, and (j) trustworthiness of the data.

Chapter 3: Research Method

Introduction

It was imperative to find out why so many parents are refusing to vaccinate their children against these diseases. Health care providers and policy makers could look to this research for direction in developing policies and practices for addressing parental refusal to vaccinate their children against childhood vaccines. Also, this study can help states reexamine and perhaps modify their vaccine exemption laws. The purpose of this study was to explore parents' perspectives and views on childhood vaccines.

With this in mind, the aim of this dissertation was to branch beyond demographic variable while attempting to understand the instruments, including messaging how parents feel about vaccinations, and influential positions, that might influence attitudes toward both individual vaccination uptake and vaccination policy, especially regarding childhood vaccines (Mikulak, 2012). The major sections of this chapter are the qualitative methodology utilized to collect data from participants, sample strategy and recruitment process, and data analysis plan. Validity and reliability issues regarding the qualitative nature of the study are also addressed. Finally, the data analysis plan regarding the obtained qualitative data is provided in detail.

Research Design and Rationale

Research Question

The central question of this study was: How do parents perceive the dangers posed to their children by childhood vaccination?

Central Phenomenon

The central phenomenon of this proposed research was an outbreak of measles in California and Oregon. Measles increased nationwide between 2010 and 2015. Measles is frequently linked with foreign travel, and from there can infect unvaccinated and under-vaccinated people (CDC] 2015). A second outbreak occurred in late 2014, early 2015 and was first discovered in California where authorities believe an infected foreign visitor visited Disneyland Theme Park December 2014. The CDC (2015) approximated that about 90% of those infected with measles are unvaccinated individuals. Children are immunized from measles, mumps, and rubella, MMR, at 12 months, with the second shot at four. The CDC and the American Academy of Pediatrics (AAP) recommend that children receive vaccinations from 16 diseases, some more than once, which adds up to 29 shots before turning two; one visit to the doctor can result in 6 shots at one time (AAP, 2014). Measles can be deadly for children, in particular for those too young to vaccinate. In 2013, 6% of measles cases happened in children too young to be vaccinated, and another 17% were under the age of four (CDC, 2014). Of the measles cases in the United States in 2014, so far 90% have been in individuals who were unvaccinated or unsure of their vaccination status (CDC, 2015).

Autism is a relatively common developmental disability, with one in every 150 children being diagnosed (AAP, 2014). A child's first MMR shot is given to children between 12 and 15 months. The first indicators of autism, usually surfaces around 15 to18 months of age. Therefore, inciting fears about a link between the MMR vaccines and the development of autism (AAP, 2014). Hepatitis B vaccine is thought to be another

vaccine that parents believe should not be given to infants and children due to its association with unpredictable behavior, including intravenous drug use and sexual activity. Many parents are choosing not to have their children vaccinated due to fears and perceived relationships (AAP, 2014). Some parents question the benefit of annual flu shots, as the flu is a relatively mild virus, and the risks of vaccinating outweigh the threat of contraction. There are also parents with apprehensions about thimerosal in the flu vaccine (AAP, 2014). While other parents question the need to immunize against chickenpox, chickenpox is like influenza, considered harmless, while irritating, and the risk of vaccination overrules over the threat of the disease (AAP, 2014).

Religious belief plays a significant role in how parents feel about vaccination. Parents protests against childhood vaccines are based on the ethical dilemmas connected with using human tissue cells to manufacture vaccines, and believing that the body is a temple and, therefore, must not be desecrated with particular chemicals or animal blood and tissues; only treated and healed by God or natural means (The College of Physician of Philadelphia, 2012). Except for Mississippi and West Virginia, the rest of United States, let parents request exemptions due to religious reasons (CDC, 2013). There has been an increase in recent years of vaccine religious exemptions (Diekema, 2014). Although adults who request vaccination exemptions represent a small segment of the overall population, they often receive a lot of attention due to their outspokenness (Bradford & Mandich, 2015).

Research Tradition

The research tradition chosen for this study was phenomenology. Past research on the study topic focused on the importance of vaccinations but not on the thought processes of those making decisions regarding parents' apprehension toward having their children vaccinated. Additionally, limited research was available on the perceptions of parents regarding vaccines that prevent childhood diseases. The majority of previous research was quantitative and survey-based, with little focus on parental perceptions and attitudes toward their children that are immunized. Determining potential methods for improving parental attitudes toward vaccination is difficult without an improved understanding of factors associated with whether or not to vaccinate. The results of this research could lead to the most effective targeting of preventive programs to improve vaccination rates.

Role of Researcher

The researcher's role in a qualitative study is to recruit participants, arrange interviews, collect and analyze data, and apply meaning to the data to add to a body of knowledge on a particular topic (Fink, 2012). In this study I carried out a thorough literature review on the subject, developed the participant questionnaire, obtained IRB approval, recruited participants for interviews, responded to participants' questions, obtained research consent from the participants, scheduled and conducted participant interviews, transcribed and reviewed the data for clarity, kept participant information confidential, analyzed the data collected, reported the results, showed conclusions, and listed opportunities for future research. The role of the facilitator was to probe participant

responses to gain meaningful insight into the phenomenon of parental perspective on vaccinating children against preventable childhood diseases, including MMR, influenza, hepatitis B, etc. Additionally, participants' attitudes, perceptions, concerns, values, and feelings regarding vaccinations were explored. Based on the lived experiences of the participants, the results of this study added knowledge about this phenomenon.

Through Skype or over the phone interviews, it was necessary to establish neutral communication modalities, which encouraged candid and informative responses from each participant's subjective perspective. Furthermore, according to Rohrmann et al. there are various strategies used to help participants that are either anxious or apprehensive in participating in the study. The authors went on to state that it is important that the researcher ensure that the participants feel relaxed and know that their opinions are valued and will assist in the success of the study (Rohrmann et al., 2014). According to Huang, O'Connor, Ke, and Lee, (2014), participants in qualitative research studies, should receive respect in four ways. First the interviewer must have respect for autonomy, recognizing and making physical adjustments that take into consideration the freedom and desires of the participant. Next is non-maleficence, which is to avoid causing any stress or harm to the participants. The third principle is some benefit or compensation to participants, and finally, there must be justice, which assures mutual benefit for both the researcher and participants. A commitment to justice signals that the researcher should avoid using the study to aid themselves to the detriment of others (Huang et al., 2014).

Methodology

Study Population

This research study used a phenomenological approach. Interviews were used to elicit responses from parents in Oregon. The population under study was parents who have children between the ages 3 to 8 years old who chose not to vaccinate their children during that age period and (or) parents who have not vaccinated their children within the past several years and show a delay. The ages were selected because those are the ages where children receive the most vaccines. Those are also the ages where children begin their enrollment in the school system. After obtaining written informed consent from all of the participants, individual qualitative interviews were conducted to investigate parents' perceptions, experiences, attitudes and beliefs towards childhood vaccinations. According to Harrington (2011) children over five years of age enrolled in public schools or state-licensed day care facilities in every state are obligated to have a series of vaccinations before they are enrolled, except in situations of a medical contraindication. Despite these state mandates, a considerable number of United States children do not receive all of the recommended vaccinations.

Sampling Strategy

The goal of qualitative sampling is to recruit participants from a population for a more in-depth grasp of the central issue of study (Fink, 2012). Purposeful sampling strategy was applied for this qualitative study. According to Fink (2012), purposeful sampling is common in qualitative research specifically implementation research. Theoretical sampling was the secondary indicator of purposeful sampling. It entails

gathering information about individuals participating in a study to include their attitudes and “beliefs” toward vaccination (Fink, 2012). This kind of sampling required interpretive theories to be gathered from the emerging data (Risso et al., 2015).

A sample judgment framework was applied. This included variables such as age, gender, residency, and ethnicity. The sample category included 10 parents, and the principle of saturation was applied to determine the final sample size so that participant recruitment could be halted when the last interview brought no new insight or information. The sample size included parents with children ages 3 to 8 years regardless of age, gender, race, and ethnicity. The participant population for this research was 10 parents living in Oregon. I directly reached out to the health care providers asking if they could distribute the flyers (Appendix B) to parents that either decided not to vaccinate their children or parents that had not obtained vaccines for the children within the last few years. The health care provider was the only one authorized to hand out the flyer to the potential participant. For flyers posted in church facilities, interested individuals contacted me directly. After potential participants respond to the request, they were asked to engage in a Skype or over the phone interview conducted in English and to verbalize their perceptions, attitudes, experiences and behaviors about childhood vaccination.

Participant interviews were voluntary and required approximately 15-30 minutes to complete. The research premise and participant expectations were explained before collecting data at the start of the meeting. Interviews were conducted via Skype or telephone. All interviews were audiotaped and transcribed. All information was recorded using the same digital audio recorder and copied it verbatim into a Microsoft Word

document. Transcripts were uploaded into NVivo version 11 for Mac software, computer coded and categorized to identify key points and themes.

Contingency Plan

If I did not get participants for the study in Oregon, then I would expand the radius and look outside of the area of Oregon.

Instrumentation

Data collection is a vital component of a research project. The use of appropriate techniques guaranteed that qualitative data were gathered in a scientific and consistent manner. Adequate data collection techniques helped to strengthen the accuracy, validity, and reliability of research outcomes. High-quality research with significant findings was realized through appropriate data collection methods (Harrell & Bradley, 2009). I did not use historical or legal documents as secondary sources for this study. However, individual interviews were used to collect the needed qualitative data. These discussions were conducted with the utilization of an interview guide with open-ended questions that covered various topics regarding vaccination, attitudes, knowledge, cultural and philosophical beliefs were included. The interview guide was modified according to the needs of the participants, thus, all the themes that emerged from the discussions and analysis are provided in detail in Chapter 4. Some examples of the open-ended questions were based on previous research similar to the study conducted by Thorpe et al. The study was based on a systematic review of qualitative studies that examined how parents feel about vaccinations and barriers to receiving vaccines (Thorpe et al., 2012).

Open-ended questions encourage comprehensive and enthusiastic responses.

Particular efforts were made to avoid rushing respondents and to give participants the opportunity to review their answers and suggest modifications after transcription and before data analysis (Lewis, 2015). Interview questions were based on (a) the framework of the HBM, (b) the significance of the health care phenomenon (i.e., low childhood vaccination rates), (c) the importance of improved vaccination rates, (d) the importance of improved health care communications regarding vaccination, and (e) states' construction of exemptions to their vaccination mandates. It is critical to gaining a better understanding of the rapid rise in antivaccination sentiment in the United States, and the perceptions parents have on childhood vaccinations. The interview questions were designed to solicit the free flow of ideas and information regarding the personal opinions of the 10 participants.

Procedure for Recruitment, Participation, and Data Collection

The participants for this study were parents. Before questioning, participant consent was obtained. Participants were asked to review and correct responses for clarity and accuracy via mail, e-mail or fax once interviews were transcribed and before data analysis began; this aspect was optional. Participants were asked to divulge both demographic indicators and personal opinions and were assured of confidentiality.

Institutional permission was granted by Walden University in order to proceed with the study. An IRB application was submitted and approved on June 1, 2016. The IRB approval number for this study is 06-01-16-0369187 with an expiration date of May 31, 2017. The IRB approval information was provided on the consent form to participants along with Walden representative's contact information.

Potential participants responding to the recruitment flyer were screened to ensure that the inclusion criteria were met. A sample size of 10 is considered optimum for an in-depth study of a phenomenon (Fink, 2012). Even if more individuals had volunteered to be part of the study, the participant pool was kept narrow to meet the sampling strategy. Following the initial participant contact continued participant interest was confirmed through a thorough explanation that interviews were scheduled at each participant's convenience and conducted electronically and over the telephone. Prior to the interviews, the participants received an informed consent form that tells the reasoning for the interview, details about the interview process, the importance of providing detailed information, and privacy-protection mechanisms to be used. This informed consent form was faxed, sent through an encrypted email, and mailed via the postal service to the participants. Also, each participant was encouraged to review the interview transcript for accuracy once it was completed. This process was optional but highly encouraged and could be completed electronically or via phone. Rapport with each participant was established to ensure that all of the participants' questions were answered. Participants received the reviewer's contact information in case they had questions outside of the interview process.

The research premise and participant expectations were explained before collecting data at the start of the interview. All participants were interviewed via Skype or telephone and asked identical questions relating to perceptions of and behaviors toward childhood vaccinations. The substantive material regarding decisions to be vaccinated was solicited via open-ended questions. The entire conversation was recorded using the

same digital audio recorder and transcribed verbatim into a Microsoft Word document. Transcripts were uploaded into NVivo version 11 for Mac software, coded, and categorized to identify key points and prevailing themes. Lewis (2015) advised that minimal notes be taken to minimize and personalize interpretation or bias regarding the responses provided during each interview. At the completion of each interview, participants were given a $10 gift card to (Starbucks or Dunkin Donuts) for their efforts in participating in the interview process and reviewing the transcripts for accuracy.

Data Analysis Plan

The interview data were coded, analyzed, evaluated, and reported in such a way that another researcher could easily follow the logic and the research model and ascertain the ways conclusions were reached. NVivo version 11 for Mac software was used to manage and integrate the transcripts from the interview process. Transcripts were imported into the software program to (a) incorporate participant interview ideas and comments, (b) identify connections in the transcripts, (c) develop coding schemes, (d) identify themes, (e) justify findings, and (f) ensure sound analysis and reporting of information (QSR International, 2012).

Data analysis was conducted following the completion of the interviews. A word-use frequency count was performed first to identify common words used by participants to build an infrastructure for theme development (Fink, 2012). Another technique identified supporting words for the background to theme development. Next, inductive reasoning identified key phrases. Open coding was employed to develop and then categorize the themes for comparing and contrasting. Based on the topics, a view of

perception towards childhood vaccination was devised. Participants were asked to review and comment on their specific responses before data analysis, although fulfillment of this request was optional. Lewis (2015) advised that participant's modifications should be included in the final transcript. As a credible researcher, with sufficient education, training, and experience regarding participant interviews, the data were reported as intended by the participants without the interjection of bias, due to the value of qualitative inquiry, inductive analysis, purposeful sampling, and holistic thinking. Extensive training and work experience in interviewing techniques ensured that high quality allowed for consistent questioning. This inquiry was planned so that sufficient information was gathered to meet the goals of the research.

Issues of Trustworthiness

Trustworthiness or rigor refers to the accuracy of reporting the participants' account of the phenomenon under study (Petrova, Dewing, & Camilleri, 2014). According to Fink (2012) a researcher should show sensitivity around the topic of discussion and alter their way of thinking in order to relate to the participants (Fink, 2012). Additionally, concepts should be aligned with the identified theory also to ensure sensitivity (Fink, 2012). Therefore, the data collected during this research study was based on the participants' experiences of a particular phenomenon, namely the decision to have their children receive or not receive childhood vaccines. It was necessary to ensure that participants can recollect and report their thoughts, ideas, and actions about vaccinations. If, through screening, participants could not voice or express their thoughts or actions about vaccinations, they were eliminated from the participant pool. Because a

researcher's interactions with participants could influence data collection and data analysis, it is important for a researcher to have enough self-awareness to avoid affecting the research participants (Fink, 2012). Credibility also involves allowing for complete and thoughtful responses and detailed accounts from the participants (Fink, 2012).

Transferability (External Validity)

Transferability of qualitative research findings refers to the ability of the researcher to explain the phenomenon so that others can utilize the information for related studies or testing a particular model or theory. This type of research could be repeated to increase immunizations in general among children or other groups. The information can also be used in conjunction with other studies to validate current theories or models of health belief or to gain a more meaningful understanding of health behaviors in parents or other populations (Lydon et. al., 2015).

Ethical Procedures

Because there are some ethical concerns surrounding research, Fink (2012) advices that specific steps should be taken into consideration. First, all participants were informed about the objectives of the study, the confidentiality of the participants and their responses, and that participation was voluntary. Secondly, the participants were informed that all results obtained were used only for research, and that the study did not pose any threat to the safety or wellbeing of the participants.

Before the start of the interviews, participants were given disclosure forms to complete. A quick script was used to ensure everyone received the same historical facts to alleviate any bias. To reduce any inadvertent creation of bias during the interviews, a

scripted interview with identical questions was used with every participant. To increase validity, and researcher bias, the effects were minimized, by putting aside assumptions about vaccine participation to view the phenomenon through the eyes of each participant. Also by capturing meaningful and thorough information from each participant. Avoiding interpretation errors and ensuring accurate findings were achieved through careful interviewing and sampling techniques as well as rigorous data analysis. Several strategies were used to reduce researcher bias. Those included ensuring certain participants were not selected to prove the research objective, allowing enough time for participants to respond to and expand on the interview questions, ensuring the confidentiality of respondents, and accurately recording their responses (Fink, 2012).

To attract and maintain participation throughout the data gathering and reporting process, a nominal monetary incentive, a $10 gift card was offered to participants. The award amount was intended to show good faith for complete participant engagement but was not high enough to encourage participation by those who were not affected by the phenomenon under study.

Member checking was used to control bias. According to Rubin (2014), during the interview process, if a participant's response is not understandable, the participant should be asked to repeat the response in order to minimize misunderstanding and maximize completeness. Allowing participants to affirm or correct their statements provided them an opportunity to volunteer additional information to clarify their responses. After the transcription of the interviews, participants were mailed and emailed their transcript and was asked to review and approve or make changes if necessary.

Summary

A qualitative, phenomenological methodology was developed to explore participants' vaccination decisions for their children and describe their views and perceptions. These observations may help improve vaccination rates in their communities and even throughout the United States. The researcher's role, the data collection instrument, trustworthiness, and data analysis were also explained in this chapter. The interviews and data collection were conducted so that they are repeatable and confidential. Participants' identities and personal information were safeguarded at all times during this research process. The interviews were designed to reveal factors that affect the participants' behaviors and perceptions of childhood vaccinations. This study helped me to assess factors that lead to the parental apprehension of and barriers to childhood immunization. The interviews can assist in the development of better messaging techniques that might facilitate an increase in vaccination rates among children in the United States.

Chapter 4: Results

Introduction

The purpose of the study was to explore parents' perspectives of childhood vaccines. It was imperative to find out why some parents refuse to vaccinate their children. This phenomenological study was based on the parents' perception of childhood vaccines, with children age 3 to 8 years old who reside in Oregon. The data collected in this study aimed to answer the central research question.

The central question in this study was how do parents perceive the dangers posed to their children by childhood vaccination? In order to address this research question, a qualitative approach was utilized to collect and analyze the data. This chapter includes descriptions of the data collection, data analysis, and results of the study. The setting in which the study took place is described followed by the demographics of the participants. The steps in the data collection process along with the data analysis process are also described in this chapter. This will be followed by a description of the evidence that supported the trustworthiness of this study. The research question and data to support each finding are addressed in this chapter, and a summary of the answer to the research question concludes the chapter.

Setting

Participants were interviewed in the settings of their choice, and all interviews were done either via Skype or telephone. There are times during a study where there are circumstances beyond the researcher's control that may impact the participants and thus affect the study. There were no apparent organizational or personal conditions that

influenced the study participants during the interview process. Additionally, none were mentioned by any of the participants.

Participant Demographics

The participants in the study lived in Oregon. Participants were selected from physicians' offices and church-based organizations, with the help of physicians who handed out flyers (Appendix B) to their patients who met the criteria. The criteria were that parents have a child or children between the ages of 3 to 8 years, who either decided not to have their children vaccinated or have not obtained vaccines for their children within the last few years. Church-based organizations also aided in recruiting participants by posting flyers (Appendix B) throughout their facility. Ten parents were purposefully selected for this study of which seven were women, and three were men. All 10 participants were over the age of 18. Four participants received a flyer from a health care provider, and six participants received information about the study from a flyer posted in a church-based organization. After obtaining written informed consent from all the participants, individual qualitative interviews were conducted. The demographic data sorted was obtained via the use of hand coding using Microsoft Word; Excel spreadsheet, and NVivo version 11 for Mac software. Further detail on this process is provided later in this chapter.

Data Collection

As explained in Chapter 3, an interview guide was followed during each of the 10 individual interviews that took place either via Skype or telephone. The interviews took place during a 5-week time frame with an average of two interviews each week. The

interviews took between 8-20 minutes each. There were no back-to-back interviews, therefore allowing time for transcription immediately following each interview, as recommended by (Myers & Newman, 2007). Each interview was recorded using a digital voice recorder. I also took handwritten notes during the interview.

Participants chose the date and time for the interview, along with the location of the interview, and whether or not they preferred Skype or a telephone interview. Each participant was asked to ensure the interview location would be quiet and not distracting. Individual participant interviews began with introductions, assurance of privacy for information collected and validation that the participants were comfortable, able to participate in the interview, and had ample time to devote to the interview. Before each interview, participants were given the consent forms to review and sign and told the reasoning for the interview, details about the interview process, the importance of the providing detailed information, and privacy-protection mechanisms to be used. During transcription, the interviews were played back on the voice recorder and compared to the handwritten notes in order to ensure that I captured the participants' responses accurately. The transcripts were provided to each participant via email, fax and via postal mail for review and agreement. It took longer than expected to obtain transcript approval from participants however, it was important not to rush respondents and to give participants the opportunity to review their answers and suggest modifications after transcription and before data analysis. When I received confirmation from the participants that the transcription was accurate, the transcripts were uploaded into NVivo version 11 for Mac software, coded, and categorized to identify key points and prevailing themes.

When I received confirmation from the participants that the transcription was accurate hand coding was conducted on each interview. The significant phrases were placed in the margin of the word document and were used to develop codes. This process was done for all 11 questions in all 10 interviews immediately following the interview.

To organize the data captured I utilized an Excel spreadsheet. I also used the spreadsheet to manage actively and analyze the data during the collection process. The significant phrases identified in Microsoft Word were used to create categories in Excel. This allowed for identification and development of codes and themes as the data were collected. Based on the common themes and codes identified during this process, I, in collaboration with my dissertation committee determined that the 10 interviews completed yielded sufficient reliable data. The data collected allowed me to confidently identify themes that aided in describing the participants' perspectives and views on childhood vaccines. All participants were offered a gift card for participating. There were no unusual circumstances encountered during the data collection process.

Table 1

Participant Contact Details (2016)

Participant	Date Responded	Date Interviewed	Interview Length	Transcript Approved
Participant #1	June 15	June 22	11:28	July 2
Participant #2	June 19	June 24	13:12	July 2
Participant #3	June 24	June 30	15:05	July 13
Participant #4	June 25	July 1	11:52	July 16
Participant #5	June 29	July 6	8:30	July 20
Participant #6	June 29	July 8	9:05	July 22
Participant #7	July 9	July 8	15:15	July 29
Participant #8	July 11	July 20	10:08	July 30

Participant #9	July 11	July 20	20:50	Aug 1
Participant #10	July 11	July 20	19:26	Aug 3

Note. Lengths of interviews stated in minutes and seconds.

Data Analysis

In addition to using Microsoft Word and Excel to organize the data, I used NVivo version 11 for Mac software as an aid to integrate and develop reporting ideas from the responses as detailed in the interview transcripts. Transcripts were imported into the software program in order to analyze the data. Analysis included developing response coding schemes, identifying themes, justifying findings, and ensuring sound analysis and reporting of information. All 11 questions of the interview answered the central research question.

I analyzed the data by using the query function in NVivo. For instance, I ran the query under each of the parent nodes. Word frequency and common phrases were the first steps of this analysis. Key phrases and statements that were directly related to the phenomenon were identified and treated with equal weight as a way of coding responses. Next, irrelevant, repetitive and vague expressions were eliminated, which led to the identification of the invariant constituents (codes) associated with each research question. Invariant constituents were then clustered by relatedness and validated across the 10 participants to develop themes associated with the research question.

The final part of this analysis involved constructing a written description of the phenomenon as experienced by the research participants using their responses to the research question. Question 1 of the data collection instrument was used to determine

whether a health care provider distributed the flyer, and if so, were any information about vaccines discussed with the participant. Codes were developed to represent four or more of the same responses for a particular question (see Table 2).

Themes

There were four themes that I identified from the findings: (a) perceptions, (b) education needed, (c) contributing factors, and (d) waivers. These themes include are described in Table 2.

Table 2

Summary of Themes

Themes	Codes Associated
Perceptions	Too many vaccines are required too soon in an infant The content of what are in the vaccines are dangerous I should have the right to decide if I want to have my children vaccinated I think its all a money-making scheme The doctor's are not being forthright about the true dangers of vaccines I believe the vaccines expose kids to too many dangers The vaccine schedules are too aggressive
Education Needed	More public information/education was needed Dispel misinformation Healthcare providers are not honest with the vaccine information Healthcare providers are not always accessible to people in sparsely populated areas
Contributing Factors	Fear of side effects from childhood vaccines Aggressive vaccine schedules Parent's past experiences Toxins in vaccines Healthcare providers are dishonest with the potential side effects Exemption laws easy to obtain Media/personal opinions
Religious Exemptions/Waivers	I have requested vaccination exemption based on religion

Theme 1: Perceptions/attitudes. The theme for perceptions was identified through the findings in the research question. In the data analysis of the responses to the interview questions about how parents perceive childhood vaccinations, results showed

that all 10 participants had a negative reaction towards childhood vaccination and felt that either the vaccine schedule was too aggressive or contained dangerous toxins that may have side effects.

Eight out of the 10 participants are opposed to vaccines. With the other two participants, felt that even though they were not opposed to vaccines, frequency for the administration of the vaccines is too aggressive. They expressed concerns that too many vaccines are required too soon and children's bodies are not strong enough for the rigorous vaccination schedules. As such, vaccines should be administered when children are older and their bodies are strong enough to withstand side effects. Nine out of the 10 participants had concerns about vaccines while one of the participants believed that vaccines do work but should be given to children when their bodies are strong enough and better able to fight off diseases to maybe then vaccines can be administered.

Theme 2: Education needed. Lack of education was identified in the findings as to how parents perceive the dangers posed to their children by childhood vaccination. Six of the 10 participants have not received health education directly from a health care provider regarding childhood vaccination, while four participants of the 10 participants have. With the four participants that did receive health education regarding childhood vaccination, two participants felt that the details were not understandable.

In analyzing and reviewing the data identified, I noticed that there was no uniformed manner in which training was given. For example, there are online training modules to receive a vaccine education certificate that residents living in Oregon must complete if they are seeking nonmedical vaccine exemptions. Two of six participants did

not receive health education directly from a health care provider; however, they took the online modules to receive the nonmedical vaccine exemption.

According to the two participants, the modules contained information for parents about the importance of childhood vaccines. The modules come in English, Spanish and Russian and a certificate was presented after the successful completion of the modules. Eight participants recommended that healthcare providers make more of an effort to reach individuals that live in sparsely populated areas and that do not have direct access to health care to provide education on vaccination. Eight participants also recommended that even though the online modules were a good way to provide educational outreach, it should be available even to parents that are not seeking medical vaccine exemptions. Receiving a vaccine education certificate is not yet available for residents seeking medical exemptions and it is not certain when that option will be available. In fact the Oregon Health Policy Board believe that eliminating nonmedical exemptions would help strengthen the state vaccination law (Terry, 2015).

Theme 3: Contributing factors. Contributing factors such as side effects from childhood vaccines, parent's past experiences, the media and other people's opinions all were identified in the findings to how parents perceive childhood vaccinations. All 10 of the participants agreed that they believe there are side effects from childhood vaccines. They also indicated that other people's opinions and the media all play a role in how they perceive childhood vaccination. The participants also identified that other people opinions about the dangers and uncertainty of vaccines all play in their decision-making on vaccinating their children. Some parents are exposed to stories and personal accounts

of children that have allegedly been hurt by a vaccine. Balancing these different types of information was difficult, likely causing a greater sense of concern or worry about vaccination (Diekema, 2014).

According to Janz and Becker (1984) peers have the ability to influence one's choices and knowledge on an issue, and on the problems associated with that matter. According to Diekema (2014) parents are exposed to various sources of information that may change their perceptions of the potential risks and benefits to vaccination. The perception of risk and benefit to vaccines was most dramatically changed for parents who are exposed either to accounts of allegedly vaccine-hurt children, or who are exposed to children hurt by disease (Diekema, 2014).

Theme 4: Religious exemptions/waivers. Religious exemptions/waivers were also identified as another common theme as seven of the 10 participants said that they did request religious exemption/waiver from childhood vaccines. The definition of religious belief for the purpose of exemptions is “any system of beliefs, practices or ethical values”. The new Oregon law no longer allows signed religious exemptions from parents in place of school-required immunizations (Diekema, 2014). To receive religious exemption or nonmedical exemption parents either have to go through mandatory vaccine education online or get an education certificate at a doctor’s office in order to qualify for the exemption.

Evidence of Trustworthiness

In qualitative research trustworthiness of the data depends largely on the responses provided by participants. Elo et al. (2014) suggested that if participants are

comfortable with the researcher they are more likely to provide honest answers to the interview questions. The trustworthiness or accuracy of reporting the participants' accountings was critical since interviews formed the sole basis for the data in this study. Both the phone and Skype interviews, recordings were completed, and then transcribed verbatim, after which I analyzed for patterns and similarities. The transcriptions were approved as accurate representations of what was said by all participants before being used.

Transferability (External Validity)

The information can be used in conjunction with other studies to validate current theories or models of health belief or to gain a more meaningful understanding of health behaviors in parents or other populations (Lydon et. al., 2015). The results could also be used to gain a better understanding on how parents perceive childhood vaccinations and the process of how those vaccines are administered.

Confirmability

The interview data were collected, coded, analyzed, evaluated and reported in such a way that another researcher could easily follow the logic and the research process used in this study to ascertain how conclusions were reached. According to de Casterie et al. (2012), confirmability is achieved by ensuring the experiences and thoughts of the research participants were not influenced by thoughts of the researcher. This is consistent with the methods used in this study.

Dependability

I provided a very rich description of the study to ensure its transferability. It is likely that the research could vary in results if it were repeated with other participants, however the methods could easily be replicated. The data selection process and participant selections were completed using the same steps for each participant.
See the checklist for missing content: transferability, dependability, and confirmability.

Results

The study's research question was addressed through the analysis of codes developed from the participants' responses to the interview questions. I used the identified codes to develop overall themes for the central research question. In this section I will discuss the findings concerning each research question.

The research question was: How do parents perceive the dangers posed to their children by childhood vaccination. I used interview questions 1-11 to induce the theme that relates to parent's perceptions on the childhood vaccines. The findings reported in this chapter showed that parents had preconceived notions and ideas concerning childhood vaccines. All 10 participants stated that they had concerns with vaccines and are opposed to vaccines because of unknown or potential side-effects. All 10 of the participants also felt that there were contributing factors such as other people's opinions, or the media that contributed or played a role in their decision to not vaccinating their children. Six of the 10 participants did not receive the MMR vaccine while six of the 10 participants' children received childhood vaccines that included, Hepatitis A and B, DTaP (diphtheria, tetanus, and pertussis), Influenza and MMR.

Only three of the participants had a personal adverse/negative experience when their child was administered childhood vaccination. For example, one participant shared that their child experienced seizures, while two other participants shared that their child broke out in a skin rash and a fever after receiving their MMR vaccine. One participant did share that even though they did not have any personal experiences with childhood vaccination, it was against their religion. The participant's ideas and thoughts were candid and helpful to the learning process.

Summary

This information was used to present the processes of data collection, the development of themes from the responses, and qualitative data analysis. The data from the interviews provided a brief description of how parents perceive the dangers posed to their children by childhood vaccination. Data analysis was explained, and four themes that emerged were discussed in detail. Evidence of trustworthiness was explained, and the results to the research question were explored.

The research findings showed that parents had their preconceived notions about childhood vaccinations that in turn led to their unwillingness not to have their children vaccinated. The parents who included waivers requested vaccination exemption based on religion. In the legislature, two bills in the Oregon Senate would overhaul the state's current laws around vaccination waivers (Reiss, 2015). One measure would require schools to post data on the number of children exempted from vaccination while a separate bill would require a parent to meet with a physician to discuss the risks and benefits of immunization before obtaining a waiver (Diekema, 2014).

The information presented in Chapter 4 represented the data collected and findings from the interviews of 10 parents residing in Oregon. The interviews conducted explored the experiences and ideas of the participants and their perceptions of childhood vaccination. Participants provided a wide range of ideas and shared their thoughts, concerns, and suggestions concerning the aggressive schedule that parents have to follow for the childhood vaccines along with the potential side-effects. The information presented in chapter 5 discusses recommendations for future research and provides a detail discussion on the interpretation of findings. The chapter includes the implications for social change, interpretation of the findings regarding the theoretical context of the study, and recommendations for practice.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this qualitative phenomenological study was to explore parents' perspectives on childhood vaccines to understand the reasons some parents are refusing to have childhood vaccines administered to their children. A qualitative approach was used to understand some reasons in parent's decision-making regarding vaccines. There were 11 interview questions asked to the parents, and their responses were used to answer the central research question.

The research question of how parents perceive the dangers posed to their children by childhood vaccination was answered by interview questions 1-11. The findings indicated that parents had preconceived notions and ideas concerning childhood vaccines. Four themes developed showed that the majority of participants had a negative reaction towards childhood vaccination and felt that either the vaccine schedule was too aggressive or contained dangerous toxins that may have side effects.

Interpretation of Findings

Despite the importance of vaccination, there has been a rapid rise in anti-vaccination support in the United States. Some of the factors contributing to antivaccination include public apprehension of potential side effects from vaccines, religious and philosophical beliefs, state immunization mandates, and the controversial link between vaccinations and autism, among other concerns (Jolley & Douglas, 2014). There was a gap in the literature regarding parents' perception towards childhood vaccinations and why some parents remain opposed to vaccinating their children. There

is little information as to whether parents receive educational outreach before their children need to be vaccinated, and how this awareness or lack thereof influenced their decision. It was important to obtain a detailed understanding of the consequences and side effects of vaccines, how much parents know and believe about childhood vaccines, the anxiety over possible side effects, differences in priorities, and vaccination exemption laws. Answering the research question provided information related to understanding parents' attitude towards having their children vaccinated.

Nine out of the 10 participants in this study had concerns about vaccines containing dangerous toxins and causing side effects. One participant believed that vaccines do work, but should be given to children when their bodies are strong enough and better able to fight off diseases. This information could be used to acquire an understanding of parents' perceptions and experiences' regarding childhood vaccines. For instance, Smith et al. (2011) concluded that parents' worry about vaccine safety or necessity is the most common reason they decide not to have them vaccinated. The finding in this study added to that of Smith's study by seeking to understand educational interventions that can help with the safety concerns of parents.

There was little information in the literature as to whether parents received educational outreach about childhood vaccination, and how this outreach or lack thereof influenced their decision. Only a few studies focused on the methods of parental outreach and education on childhood vaccination and whether it was effective. There is little found on what methods health care providers use to educate parents regarding the importance of childhood vaccination and its relative effectiveness. Do parents have an understanding of

childhood vaccinations or are they just vaccinating their children because school requirement? Parents need reassurance and a sense of security when it comes to knowing the most accurate information on childhood vaccination.

In order to improve immunization rates in Oregon, recent changes have been made to the school immunization law. Old religious exemptions prior to 2014 are no longer valid (AAP, 2014). Parents will be required to vaccinate their children or adhere to one of the two options to claim a religious or nonmedical exemption. A parent can talk to their healthcare provider in order to receive a vaccine education certificate, or watch an online education module. This recent change fit in with this study, as the online module will allow parents the opportunity to receive education on childhood vaccination. Also with parents having to talk with a doctor in order to receive a nonmedical exemption can be an opportunity for healthcare providers to provide vital information. Healthcare providers can use the information in this study as a resource to determine the needs, views and perspective of the parents. That will allow for a more honest and informative dialogue. All of the study participants spoke about the need for more information and better educational strategies to improve communication efforts around childhood vaccination.

Many also spoke about the need to dispel myths and misinformation. These views supported the findings of Bystrom et al. (2014), when the authors noted possible factors for low vaccination rates were concerns about harm, and matters of distrust and accessibility issues, such as access to health care. Study participants recommended that healthcare providers make more of an effort to reach individuals who reside in sparsely

populated areas and that do not have direct access to health care to provide education on vaccination.

Healthcare providers would benefit from this information on various ways to reach parents that either refuse or show a delay in vaccinating their children could use this information. Behrmann (2010), Jolley and Douglas (2014), and Smith et al. (2011) also reported that some parents believe that their children will get sick after receiving a vaccine shot. The findings in this study showed that all of the study participants believed there are side effects from childhood vaccines and that other people's opinions and the media all play a role in how they perceive childhood vaccination.

The study participants identified that other people's opinions (including the media, family members and word of mouth personal experiences from a friend or from someone they heard in the media regarding the dangers and uncertainty of vaccines) all played a decision in whether or not they should have their children vaccinated. These views supported the findings of Jolley and Douglas (2014) who found that increasing numbers of parents are pursuing sanctioned exemptions to avoid immunization. This can be due to fear of the possible negative consequences of vaccination, and damaging media headlines about the various illnesses linked to vaccination.

Religious exemptions/waivers were identified as a common theme as seven of the 10 participants said that they did request religious exemption/waiver from childhood vaccines. These views supported the findings of Jain et al. (2015) and Diekema (2014), who found that there has been an increase in recent years of vaccine religious exemptions and that children were unvaccinated because their parents took advantage of the vaccine

exemption waiver. As such, 190 of 277 parents (69%) of parents requested exemptions (Jain et al., 2015).

Health Belief Model (HBM)

The constructs of the HBM (perceived susceptibility, perceived severity, perceived benefits and perceived barriers) were affirmed in this particular study. The results are as follows:

The themes developed in this study supported the use of the HBM framework towards affecting actions regarding health. The majority of participants in this study believed that their children would be at high risk if they were vaccinated. These thoughts addressed *perceived susceptibility* as described by (Rosenstock et al., 1988).

Nine of the10 participants believed that their children either had a negative reaction or may have a negative reaction to vaccination. These thoughts addressed *perceived severity* as described by (Rosenstock et al., 1988). The significant phrases, related meaning, and clustered ideas that themes were based on were consistent with the HBM, as described by the study participants. Their responses supported Rosenstock et al. (1988) ideas of how people will take health-related actions if they think a negative health condition can be avoided.

Limitations of the Study

This study had limitations that should be noted. For instance, the study was conducted in the Southwestern part of Oregon, specifically the Rogue Valley area and that may limit its ability to be generalized to other states as well as urban areas. The research findings can be used as a starting point to support other research surrounding

parent's perspective on childhood vaccination. The study was also limited to interviews with parents that either refused or showed a delay in vaccinating their children. That in turn limits the findings to the experiences of only the parents. As such, healthcare providers, school administrators, daycare providers and teachers are all part of the community/social system. This extended social system plays an imperative role in the outreach and education of childhood vaccination throughout Oregon and other states. The perspective of the healthcare providers, school administrators, daycare providers and teachers would provide additional information on their views and opinions of childhood vaccination.

Recommendations

In this study, identifying the views and perspectives of parents as well as the factors that aided in the decisions of parents not to vaccinate their child or children revealed a need for further investigation. Understanding barriers is important and that information can be used to develop strategies that might work to encourage childhood vaccination. Additional qualitative studies could be done with this population to continue to explore and validate effective ways to reach parents and encourage vaccine uptake in Oregon and other states.

Recruitment for this study could be done in a broader way. For example, advertising in professional journals, going to meetings of professional organizations, paying participants more than a $10 gift card could encourage a more diverse parent population to participate. Additionally this study did not focus directly on the impact of

how states can go about changing their vaccination exemption law to create mandated and strict laws regarding childhood vaccination waivers.

Future childhood vaccination efforts could include early message development to encourage vaccination and the use of easy to understand information on the benefits and safety of childhood vaccination. Healthcare providers can be used as key players in encouraging vaccination among parents through their strong since of health advocacy, and creating honest and simple ongoing communication. Developing childhood vaccine communication strategies that include healthcare providers would be an effective tactic for public health agencies.

Implications

Findings from this study may be used to influence strategies to increase the rates of childhood immunization and thereby lead to positive social change. Additionally, organizations and researchers might use these identified themes to test or validate ideas to improve childhood vaccination rates among children in Oregon and the public.

Public health conditions can be vastly improved through vaccination administration. The entire community, including infants and those with pre-existing conditions, are susceptible to infection from one non-vaccinated individual (CDC, 2013). This investigation has the potential of providing ways to inform better parents on the benefits of vaccination, dispelling the fears associated with possible side effects, and creating a more transparent industry where these types of false information induced panics is eliminated. Through a more open industry, where parents are informed, and health care providers work as advocates for not only the individual patient but for the

community as a whole, the number of children not receiving life-saving immunizations may be drastically decreased.

In addition the findings from this study can be used to inform policy makers, key stakeholders, and future implementers, to potentially produce social change on a national level. For example the findings inform them of what they can do better to improve implementation and compliance. For instance, results from the study showed that all of the study participants had a negative reaction towards childhood vaccination and felt that the vaccine schedule was too aggressive. By sharing the results on the local and national level, policy makers, state and county entities and other implementers of policy may be able to effectively implement effective and less aggressive vaccination schedules for children ages 3 to 8 years old.

Potential Social Change

This study has the potential to impact social reform and create positive social change. The study pertains to eliminating or settling parent's fears of perceived adverse health effects from vaccines and ensuring that immunization rates in children 3 to 8 years increase. Translating the data from this study into practice could change the way health care providers provide outreach and education and around childhood immunizations by creating easy to understand resources so that parents can fully understand the implications of childhood vaccines. This study could also help in creating a less aggressive vaccination schedule for children. Understanding parent's fears and hesitation due to the uncertainty of side-effects could hopefully change the way vaccination

schedules are implemented. Creating a less aggressive vaccination schedule could help eliminate some fears around childhood vaccines.

This investigation has the potential of providing ways to better inform parents on the benefits of vaccination, dispelling the fears associated with possible side-effects, and creating a more transparent industry where these types of false information induced panics is eliminated. Having a more open industry, where parents are informed, and health care providers work as advocates for the community as a whole may decrease the number of children not receiving life-saving immunizations. In the future, I plan to publish this manuscript in order to share the data and resources to other researchers who may be interested in building on this subject.

Conclusion

According to Mikulah (2012), childhood immunizations save millions of lives each year. Although some parents understand the importance of childhood vaccination, parents also believe that there are side-effects associated with these vaccines and that the schedule is too aggressive for children in that age bracket. Lack of proper education from outreach workers and health care providers also play a role in parents not vaccinating their child or children. The four themes developed in this study showed that all of the participants had a negative reaction towards childhood vaccination and felt that vaccines contained dangerous toxins that may have side effects.

Therefore, the information in this study could be used to assist health care providers in creating best practices through the way they educate and in how they communicate to parents. Parents want honesty and clear and concise communication with

their health care providers around the potential side-effects of vaccines. This could possibly bring about a change in the way parents perceive childhood vaccinations.

The findings in this study could hopefully bring about a change in the vaccination schedules for children 3 to 8 years old and the way healthcare providers provide outreach to parents based on the recommendations in this study may help increase the childhood vaccination rates in Oregon for children 3 to 8 years old and throughout the public as well.

Vaccinations have proven to be the most effective method for minimizing loss of life Lee et al. (2013) and efforts to encourage the vaccination of children ages 3 to 8 years old is a public health function of significant importance. An effort to encourage vaccination and to ensure that everyone is immunized is a public health mission (CDC, 2012). This research highlights parent's perceptions and beliefs around childhood vaccinations. Looking to the future it is significant to continue the study of parents not vaccinating their children so that there can be best practices on ways to improve childhood vaccination rates in the United States.

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Appendix A: Recruitment Letter/Email message to Physicians' Offices

Good Morning/Afternoon/Evening,

My name is Karen Charles and I am a doctoral student attending Walden University, working toward a Ph.D. in Community Health Education and Advocacy. I am currently developing my dissertation proposal, which will look at parents' perceptions on vaccinating children against childhood diseases. I am writing you today to inquire about the possibility of recruiting potential study participants through your practice. I am looking for participants that either decide not to have their child or children ages 3 to 8 vaccinated or parents whose child or children has not been vaccinated within the last few years and show a delay in receiving those vaccines. I would like to know if you would be able to distribute the flyers to your patients that fall within the categories specified above to see if they may have an interest in participating in this study. If they are interested, I would greatly appreciate it if you would give them a flyer that I will provide to you via email. Due to the nature of the study I am requesting that the flyer be handed out to the interested parent by the health care provider only.

If you are willing to distribute the flyers to your patients or would like more information about this study, please send an email to karen.charles@waldenu.edu. I can also be reached by phone at (301) 467-9222. I would be happy to have an extended conversation with you regarding the specifics of this research.

Thank you in advance for your consideration. I look forward to hearing from you soon.

Sincerely,

Karen Charles, MHA

Appendix B: Flyer to Recruit Participants

RESEARCH PARTICIPANTS NEEDED

Needed: Ten participants who are parents or guardians of children between the ages of three through eight years old that either have not obtained vaccines within the last few years for their children or parents who decide not to vaccinate their children. As a participant in this study you will be asked a series of questions that will take approximately 15 to 30 minutes and a transcript of the interview will be forwarded to you for review to ensure your responses were captured correctly.

My name is Karen Charles and I am a student attending Walden University School of Health Sciences. I am working on my dissertation study that looks at the perception of parents in regards to childhood vaccinations.

Further information and instructions will be given to the participants via a consent form. If you are interested, please send an email to karen.charles@waldenu.edu. I can also be reached by phone at (301) 467-9222.

Flyer dated 03/24/2016

Appendix C: Questions to Participants

Questions for Parents

1. Were you given a flyer by a health care provider? If so did the health care provider discuss anything about vaccinations at the time the flyer was issued?
2. Have your child ever received any childhood vaccines? If so do you know the names of the vaccines?
3. Have your child or children received the MMR vaccine?
4. What are your personal experiences with childhood vaccination?
5. Do you oppose to vaccines? If so, why?
6. Do you have any concerns about vaccines?
7. What is your attitude, and (or) perspective towards childhood vaccination?
8. Do you have any religious beliefs that prevent you from getting your child vaccinated?
9. Have you ever requested and received vaccination exemption based on religion?
10. Have you ever received health education regarding childhood vaccination from your health care provider? If so, is the information about vaccination detail and understandable?
11. Do you believe that there are contributing factors such as other people's

opinion, vaccine exemption laws, or the media that contribute or play a role in your decision not to vaccinate your child or children?