Cogitare Enfermagem

REVIEW

VACCINE HESITANCY OF PARENTS AND FAMILY MEMBERS OF CHILDREN AND THE CONTROL OF IMMUNOPREVENTABLE DISEASES*

HIGHLIGHTS

1. Parents and family members of children hesitate to vaccinate their children.
2. Lack of knowledge about vaccines is a major reason for hesitation.
3. Indecision and lifestyle influence this decision.
4. Nurses need to create a bond of trust with these family members.

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ABSTRACT

Objective: to analyze, in scientific productions, the reasons that lead parents and family members of children to vaccine hesitancy in the context of control of immunopreventable diseases. **Method:** integrative review using the following informational resources: Scientific Electronic Library Online, Latin American and Caribbean Literature on Health Sciences, Nursing Database, *Índice Bibliográfico Español en Ciencias de la Salud*, Medical Literature Analysis and Retrieval System Online, and Cumulative Index to Nursing and Allied Health Literature. A time cut-off from 2016 to 2021 was used. **Results:** Twenty-four articles comprised the final sample, and two categories emerged: Un(knowledge) about vaccines; and In(decision) and lifestyle. **Conclusion:** this study contributes to professional practice, encouraging health units' managements to establish strategies for interventions with the hesitant. Vaccine refusal or delay in vaccination should be considered by these professionals a window of opportunity to approach parents and family members.

DESCRIPTORS: Vaccination Refusal; Vaccines; Parents; Family; Child.

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INTRODUCTION

The National Policy for Comprehensive Care of Child Health (PNAISC-in Portuguese) covers the care of child from a comprehensive perspective and brings actions of promotion, prevention, and assistance in case of diseases in seven strategic axes. These actions occur transversally in the various levels of care[1].

The third strategic axis of this policy, called Promotion and monitoring of growth and full development, consists of surveillance and encouragement of full growth and development of the child, especially "Early Childhood Development ("ECD")", by Primary Health Care. The axis follows the guidelines of the Child Health Handbook, including actions to support families to strengthen family ties[2].

In this context, the follow-up of the child's growth and development must include vaccination actions from the perspective of preventing immunopreventable diseases for comprehensive care. Primary care health teams must monitor the vaccination coverage of children in their area, control and actively search for those with delayed vaccination, since delayed vaccination may indicate difficulties in access or other cases of vulnerability faced by families[3].

A organização das políticas públicas de vacinação, no Brasil, deu-se a partir da criação do Programa Nacional de Imunizações (PNI) em 1973 pelo Ministério da Saúde (MS), sendo instituída em 1975, pela Lei 6.259. Objetiva coordenar as ações de imunizações administradas rotineiramente nos serviços de saúde, alcançar as coberturas vacinais e erradicar ou controlar diversas doenças imunopreveníveis, e representou um avanço de extrema importância para saúde pública, em especial, para a saúde infantil[4].

The organization of public policies on vaccination in Brazil began with the creation of the National Immunization Program (PNI, in Portuguese) in 1973 by the Ministry of Health (MH) and was instituted in 1975 by Law 6,259. It aims to coordinate the immunization actions routinely administered in health services, to achieve vaccination coverage, and to eradicate or control several immunopreventable diseases, and represented a significant advance for public health, especially for children's health[4].

Despite the impact of the PNI on the reduction of immunopreventable diseases in recent decades, anti-vaccine movements can have a direct impact on child growth and development. This phenomenon occurs especially when parents and family members of children refuse to be vaccinated.

A meeting held in 2011 by the Strategic Advisory Group of Experts (SAGE) on Immunization, of the World Health Organization (WHO), demonstrated the growing impact of resistance to vaccination uptake present in developed and developing countries. Given the growing concern about vaccination coverage, the term vaccine hesitancy has gained prominence in this issue[5]. SAGE then defined vaccine hesitancy as a delay in vaccine acceptance or refusal, even with availability in health systems[6].

Given this continuous growth in vaccine hesitancy, 7,718 cases of measles were confirmed in Brazil in 2020. Of this total, the incidence by age group in vaccination strategies was 34.66 per 100,000 inhabitants, in children under 5 years old[7].

The growing vaccine hesitancy throughout the world has become a major public health problem coupled with the pandemic of the new coronavirus in 2020, which had its emergence, in China, in December 2019 through the "Severe Acute Respiratory Syndrome Coronavirus-2", or SARS-CoV-2. Thus, the regime of social distancing was adopted, and, in this context, the face-to-face attendance at health care units decreased dramatically in several countries, including for childhood vaccination[8]. Parents' concern about their children's exposure to the virus when taking them to health care units for vaccination contributed to the decrease in vaccination coverage[9].

From the perspective of monitoring the growth and development of the child with vaccination actions, the increase in vaccine hesitancy can decrease childhood vaccination coverage. Therefore, although vaccination is considered a safe and essential procedure for the control of immunopreventable diseases, it is complex when analyzed from the perspective of parents and family members of children. Thus, the challenge of facing the hesitant groups persists. Considering these considerations, the study aimed to analyze in scientific productions the reasons that lead parents and family members of children to vaccination hesitation in the context of control of immunopreventable diseases.

METHOD

We chose an Integrative Review (IR), which is one of the methods used in Evidence-Based Practice (EBP)[10]. EBP defines methodologies and processes for identifying evidence that a given treatment is effective, provides strategies for evaluating the quality of studies and mechanisms for implementation in care[11].

The study followed the six steps proposed by the IR[10]. In the first step, the development of the research question and the database search were performed thanks to the PICO strategy, defined as an acronym for Patient/Population/Problem, Intervention, Comparison and Outcomes. EBP considers these four elements essential in the research question and in the design of the question for the literature search for evidence[11]. In this research, "C" does not apply because no comparison between interventions will be performed.

The search and selection of articles was performed in June and July 2020, based on the following information resources: SciELO (Scientific Eletronic Library Online), LILACS (Latin American and Caribbean Literature on Health Sciences), BDENF (Nursing Database), IBECS (Índice Bibliográfico Español en Ciencias de la Salud), MEDLINE (Medical Literature Analysis and Retrieval System Online) and CINAHL (Cummulative Index to Nursing and Allied Health Literature).

The Health Sciences Descriptors (DeCS) in SciELO, LILACS, BDENF and IBECS were used. The Medical Subject Headings (MeSH) from MEDLINE and the CINAHL Titles from the CINAHL database were used to determine search terms. The search terms used, combined with the Boolean operators OR and AND, were elucidated in the search strategy (Chart 1). A second search was conducted in February 2021, using the same information resources and descriptors.

Chart 1 - Search strategy in the databases. Niterói, RJ, Brazil, 2021

PICO	DeCS	MeSH	CINAHL Titles
P	Parents *OR* Family *OR* Child	*Parents OR Family OR Child*	*Parents OR Family OR Child*
	AND	*AND*	*AND*
I	Vaccination	*Vaccination*	*Immunization*
	AND	*AND*	*AND*
C	-	-	-
O	Vaccination Refusal	*Vaccination Refusal*	*Vaccination Refusal*

Source: The authors (2021).

The following research question was devised. What are the reasons that lead parents and family members of children to vaccine hesitancy?

In the second stage, the inclusion criteria were defined: articles available in full text in English, Portuguese, and Spanish that addressed the topic of vaccine hesitancy among parents and family members of children, who were the research participants. A time frame from 2016 to 2021 was used, due to WHO's concern, as of 2016, with groups that refuse vaccination and its influence on the population and vaccination coverage rates[12]. And, as exclusion criteria: editorials, opinions and/or comments, dissertations, theses, articles in duplicate in the information resources, and articles that had health professionals as research participants.

For the selection of articles, we used the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) document, created to improve the quality of systematic reviews and meta-analyses of randomized clinical trials and non-randomized studies[13]. In this review, the PRISMA checklist was followed to increase the reliability of the research (Figure 1). Thus, after reading the titles and abstracts and applying the exclusion criteria, we went to the second moment, in which the articles were read in their entirety and then excluded those that did not answer the research question, totaling a *corpus* of analysis of 24 publications.

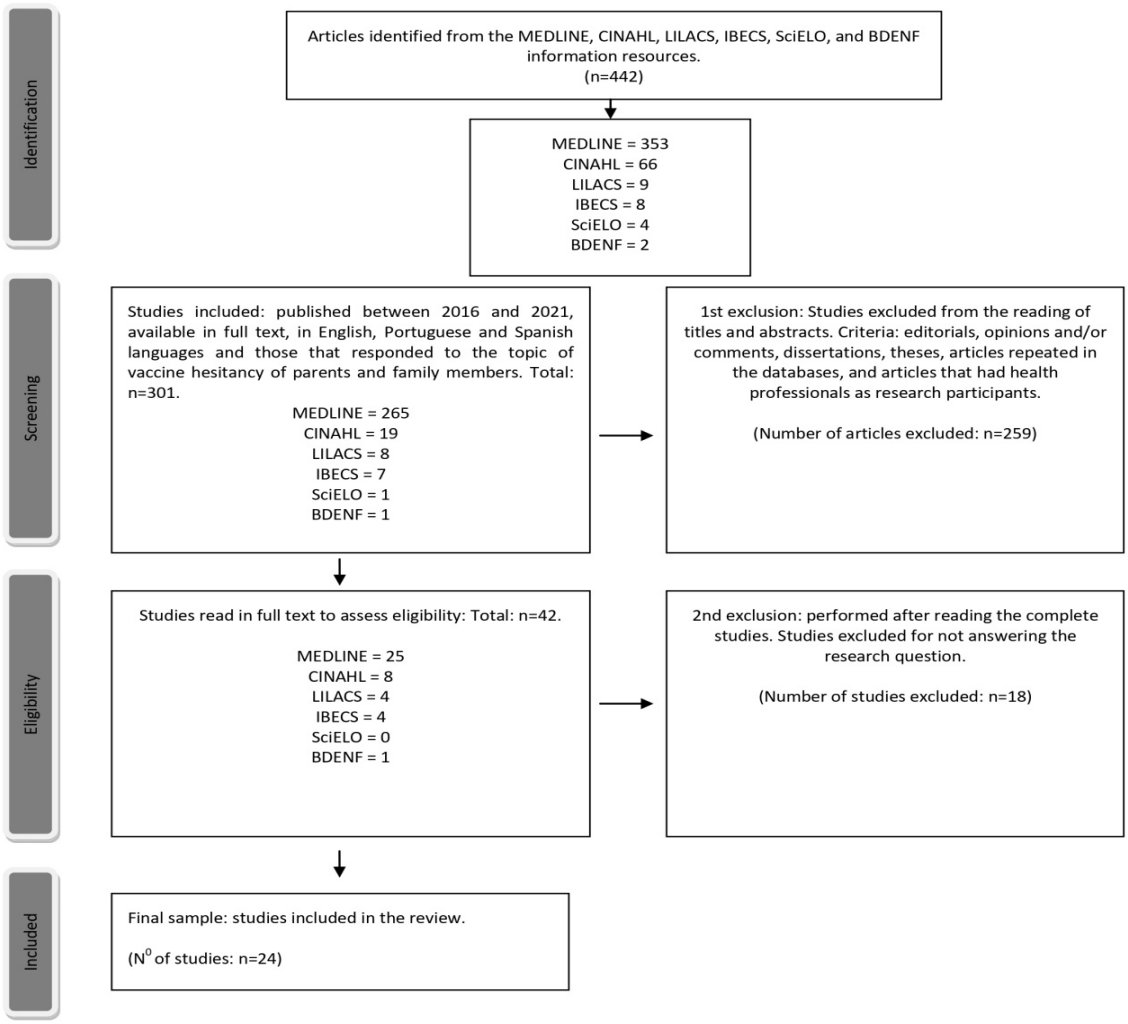

Figure 1 - Flowchart of the process of identification, selection and inclusion of studies based on the PRISMA recommendation. Niterói, RJ, Brazil, 2021

Source: The authors (2021).

For the development of the analysis, an instrument was prepared to characterize the studies, where each one received a numbering (1 to 24) containing the following items: author/title, design and level of evidence and country/journal/year (Chart 2).

The level of evidence of the studies was classified according to the Agency for Healthcare Research and Quality (AHRQ): level 1 - systematic review or meta-analysis of controlled clinical trials; level 2 - well-designed randomized controlled trial; level 3 - non-randomized controlled trial; level 4 - well-designed cohort or case-control studies; level 5 - systematic review of qualitative and descriptive studies; level 6 - descriptive or qualitative studies and level 7 - opinion of authorities or experts[14].

After successive readings in full of the 24 selected articles by two reviewers, a third reviewer was consulted in case of doubts. The data were analyzed and interpreted to align the findings according to their similarities and differences. Then, a synthesis of the published knowledge was prepared, resulting in the presentation of the evidence found.

RESULTS

The final sample comprised 24 articles (Chart 2), with 95.8% originating from international journals and 4.2% from national journals. The countries of origin were: United States (16.6%), Spain (12.5%), Canada (8.3%), China (8.3%), Italy (8.3%), Nigeria (8.3%), Australia (4.2%), Brazil (4.2%), Colombia (4.2%), South Korea (4.2%), Ethiopia (4.2%), France (4.2%), Malaysia (4.2%), Pakistan (4.2%) and Portugal (4.2%). Regarding the country of origin, only one (4.2%) article published in Brazil was found. Regarding the year of publication, 41.6% were published in 2018.

As for the design, most, 17 (70.8%), were cross-sectional studies, four (16.7%) were qualitative studies, one (4.2%) was a quantitative cohort study, one (4.2%) was an integrative review, and one (4.2%) was a case-control study. It was observed that most publications presented level of evidence 4 (79.1%), followed by level 6 (16.6%), and level 5 (4.2%).

Chart 2 - Description of the studies included in the integrative review, according to author/title, design and level of evidence and country/journal/year. Niterói, RJ, Brazil, 2021

N°	Author/Title	Design and level of evidence	Country/Journal/ Year
1	KHATTAK et al / *Prevalence of Parental refusal rate and its associated factors in routine immunization by using WHO Vaccine Hesitancy tool: A Cross sectional study at district Bannu, KP, Pakistan*[15]	Quantitative cross-sectional study / level 4	Pakistan - *International Journal of Infectious Diseases* - 2021
2	REUBEN et al / *Mistrust of the medical profession and higher disgust sensitivity predicts parental vaccine. hesitancy*[16]	Quantitative cohort study / level 4	Canada - *PLOS ONE* - 2020
3	LO VECCHIO et al / *Determinants of low measles vaccination coverage in children living in an endemic area*[17]	Quantitative cross-sectional study / level 4	Italy - *European Journal of Pediatrics* - 2019
4	GUAY et al / *Determinants of vaccine hesitancy in Quebec: a large population-based survey*[18]	Quantitative cross-sectional study / level 4	Canada - *Human vaccines & immunotherapeutics* - 2019

5	YU HU et al / *Measuring childhood vaccination acceptance of mother in Zhejiang province, East China*[19]	Quantitative cross-sectional study / level 4	China - *Human vaccines & immunotherapeutics* - 2019
6	ABUBAKAR et al / *Outbreak of suspected pertussis in Kaltungo, Gombe State, Northern Nigeria, 2015: the role of sub-optimum routine immunization coverage*[20]	Quantitative case-control study / level 4	Nigeria - *Pan Africa Medical Journal* - 2019
7	YU HU et al / *Reliability and validity of a survey to identify vaccine hesitancy among parents in Changxing county, Zhejiang province*[21]	Quantitative cross-sectional study / level 4	China - *Human vaccines & immunotherapeutics* - 2019
8	PIQUERAS et al / *Reticencia vacunal: análisis del discurso de madres y padres con rechazo total o parcial a las vacunas*[22]	Qualitative study (semi-structured interview and focus groups) / level 6	Spain - *Gaceta Sanitaria* - 2019
9	CHANG e LEE / *Why do some Korean parents hesitate to vaccinate their children?*[23]	Quantitative cross-sectional study / level 4	South Korea - *Epidemiology and Health* - 2019
10	UMEH et al / *Attitude and subjective wellbeing of noncompliant mothers to childhood oral polio vaccine supplemental immunization in Northern Nigeria*[24]	Quantitative cross-sectional study / level 4	Nigeria - *BMC Public Health* - 2018
11	KROK-SCHOEN et al / *Belief About Mandatory School Vaccinations and Vaccination Refusal Among Ohio Appalachian Parents: Do Demographic and Religious Factors, General Health, and Political filiation Play a Role?*[25]	Quantitative cross-sectional study / level 4	United States - *The Journal of Rural Health* - 2018
12	NAPOLITANO et al / *Investigating Italian parents' vaccine hesitancy: A cross-sectional survey*[26]	Quantitative cross-sectional study / level 4	Italy - *Human Vaccines & Immunotherapeutics* - 2018
13	PONCE-BLANDÓN et al / O movimento anti-vacinação como problema de saúde pública: uma revisão integrativa da literatura[27]	Integrative review / level 5	Brazil - *Revista de Enfermagem da UFSM* - 2018
14	FONSECA et al / Recusa da vacinação em área urbana do norte de Portugal[28]	Quantitative cross-sectional study / level 4	Portugal - *Scientia Medica* - 2018
15	CHAN et al / *Trends in Vaccination Refusal in Children Under 2 Years of Age in Kedah, Malaysia: A 4-Year Review From 2013 to 2016*[29]	Quantitative cross-sectional study / level 4	Malaysia - *Asia Pacific Journal of Public Health* - 2018
16	BROWN et al / *Vaccine confidence and hesitancy in Brazil*[30]	Quantitative cross-sectional study / level 4	Brazil - Cadernos de Saúde Pública - 2018
17	NAVIN et al / *Vaccine Education, Reasons for Refusal, and Vaccination Behavior*[31]	Quantitative cross-sectional study / level 4	United States - *American Journal of Preventive Medicine* - 2018
18	MASTERS et al / *Vaccine hesitancy among caregivers and association with childhood vaccination timeliness in Addis Ababa, Ethiopia*[32]	Quantitative cross-sectional study / level 4	Ethiopia - *Human vaccines & immunotherapeutics* - 2018
19	REY et al / *Vaccine hesitancy in the French population in 2016, and its association with vaccine uptake and perceived vaccine risk–benefit balance*[33]	Quantitative cross-sectional study / level 4	France - *Euro Surveill* - 2018

20	ESCOBAR-DÍAZ et al / *Motivos de no vacunación en menores de cinco años en cuatro ciudades colombianas*[34]	Qualitative study (interviews and focus groups) / level 6	Colombia – *Revista Panamericana de Salud Pública* - 2017
21	WARD et al / *Understanding the perceived logic of care by vaccine-hesitant and vaccine-refusing parents: A qualitative study in Australia*[35]	Qualitative study (semi-structured interview) / level 6	Australia - *PLOS ONE* - 2017
22	PÉREZ et al / *Consulta de asesoramiento en vacunas: el encuentro es posible*[36]	Quantitative cross-sectional study / level 4	Spain – *Anales de Pediatría* - 2016
23	CAMERON et al / *Missed Opportunity: Why Parents Refuse Influenza Vaccination for Their Hospitalized Children*[37]	Quantitative cross-sectional study / level 4	United States - *Hospital Pediatrics* - 2016
24	BLAISDELL et al / *Unknown Risks: Parental Hesitation about Vaccination*[38]	Qualitative study (semi-structured interview and focus groups) / level 6	United States - *Medical Decision Making* - 2016

Source: The authors (2021).

The reasons for vaccine hesitancy by parents and family members of children were grouped into two categories: Un (knowledge) about vaccines and In (decision) and lifestyle.

Un (knowledge) about vaccines

This category demonstrated the reasons why parents and family members of children were hesitant to vaccinate their children. The reasons were lack of knowledge about vaccines, actions motivated by fake news, fear of adverse events and side effects, and underestimation of the lethality of immunopreventable diseases[15, 17, 21, 23-24, 26-30, 32, 34, 36-38].

Articles 1024 and 1630 brought the perception of parents and family members regarding vaccine safety and previous experiences. Mothers, not satisfied with the immunization service, were more likely to refuse the vaccines offered due to doubts and concerns about their safety[24]. The reasons for vaccine hesitancy of family members were related to the safety or efficacy of the vaccine and previous bad experiences[30].

The false perception of severity and contagion of the disease is present in the parents' imagination[27]. Parents, because they perceive that the disease is no longer common, think their children no longer need the vaccine that protects from the specific disease[32], and parents who showed vaccine hesitancy perceived the risks of vaccination as higher than the immunopreventable disease itself[38].

Article 15[29] discussed vaccine hesitancy and social networking. It showed that during the four years of the study there was an increase in the number of mothers who considered the opinions of others, the internet, and who had doubts about the effectiveness of the vaccine.

Nine studies[15, 17, 21, 23, 26, 28, 34, 36, 37] linked fears of adverse events and side effects with vaccine hesitancy. A cross-sectional study15 of 610 parents of children in a city in Pakistan showed that 1/3 of them had ever refused to vaccinate their children. Of these, 60.6% believed that vaccinations caused serious adverse events, and 50.6% did not agree that vaccines can protect their children. Article 3[17], in estimating the coverage of the triple viral vaccine in a city in Italy, identified that 22.2% of children were not adequately vaccinated for their age. Reasons for not vaccinating children included fear of side effects.

In article 9[23] of 129 parents in a city in South Korea, 86 had vaccine hesitancy whose main concern was fear of adverse reactions. Article 12[26] identified that vaccine hesitancy was significantly more common among those concerned about their child developing a serious adverse event after vaccine administration. Of 150 parents of children and adolescents in a city in Portugal who refused to vaccinate their children at least once between the period 2009 and 2015, 86 pointed to fear of vaccine side effects[28].

In the 20[34] article, most parents and family members reported fear of post-vaccine reaction. In a California hospital center, children were elected to get the influenza vaccine, but almost 50% of the parents refused to accept the vaccination, with the main reason being concern about side effects[37]. It was also shown in article 7[21] that 34.7% of parents had this same fear.

In article 22[36], on the other hand, the majority (80%) of the children did not get any vaccines, and 45% of the parents of these children showed outright refusal of vaccination, one of the main reasons being fear of the risk of the child developing autism.

In(decision) and Lifestyle

This category showed that the lifestyle of parents and family members influences, or does not influence, the decision to vaccinate their children. Healthy habits, alternative medicine, religion, and social characteristics justify these choices[15-16, 18-20, 22, 25, 29-31, 33-35].

Articles 4[18], 8[22], and 21[35] addressed vaccine hesitancy based on the family member's lifestyle and preference for alternative medicine. Parents believed that a healthy lifestyle and the practice of alternative medicine can eliminate the need for vaccination[18]). Article 8[22] also reported parents who are against the biomedical paradigm, preferring to adopt actions such as good nutrition, breastfeeding as long as possible, etc., and if they get sick, they give preference to alternative medicine (herbal medicine, homeopathy, and acupuncture). Article 21[35] brought the concept of "salutogenic parenting," parents believe that health-promoting practices such as breastfeeding, eating organic and homemade foods, reducing their children's exposure to toxins, and promoting physical activity replace the need for vaccines.

The relationship of vaccine hesitancy with religion has been shown in five studies[16, 25, 29, 30, 33]. The article 2[16] developed a survey, in Canada, with 484 parents and family members of children and identified that the higher the level of religiosity, the higher the level of hesitancy. Article 11[25] showed that religious parents were significantly more likely to have ever refused a vaccine.

Also, a study in Malaysia found that 99% of mothers who refused vaccinations for their children were Muslim[29]. The article16[30] indicated that children whose parents participated in an educational session received the vaccine they had previously refused at higher rates (39.2%) than those who refused for religious reasons (4.4%). And the results of the 19[33] article indicated that Muslim and Protestant religions were real predictors of delayed vaccinations.

Education, family income, marital status, and working hours were noted as characteristics of parents and family members who were hesitant to vaccinate their children[15, 18-20, 31, 34]. In article 6[20], children whose mothers had informal education were 4.7 times more likely to have pertussis infection by not completing the vaccination schedule.

In article 1[15], parents who had a higher level of education were less willing to refuse to vaccinate their children. Contrary to this finding, article 20[34] found that vaccine hesitancy was more present in parents with a higher level of education. The findings of article 4[18] linked vaccine hesitancy to low family income.

Article 17[31] related hesitation to a low level of education and single marital status. The research of article 5[19] showed that 15.2% of mothers found it difficult to vaccinate their children due to incompatibility with their work schedule.

DISCUSSION

The reading of the corpus of articles and the analysis of their results and discussions showed that each vaccine refusal or delay in acceptance of vaccination should be seen as an opportunity to clarify doubts and concerns with parents and family members of children. This is the most opportune moment for this type of intervention, in which to take advantage of the contact with this hesitant family member.

The results of this review indicated that the lack of knowledge of children's parents and family members about vaccines can lead to their hesitation. In this sense, doubts about the need for vaccines, fear of adverse events, and the spread of false information create a scenario in which families, and even health professionals, are unclear about the importance of vaccine application[39].

The professional role in sharing information is paramount since the results of this review indicated that many parents and family members still have low knowledge about vaccines. This same condition was identified in a Brazilian study conducted with mothers in Pará, in 2018, which pointed out that the lack of knowledge of guardians about the benefits of vaccination and its importance for the prevention of immunopreventable diseases contributes to incomplete vaccination schedule, indicating that educational actions in health about vaccination have the potential to increase adherence and knowledge for disease prevention[40].

Another reason for vaccine hesitancy found in this review was that because some immunopreventable diseases become less frequent, the attention of parents and family members is focused more on the possible adverse events of the vaccine than on the disease it prevents. The lack of memory of diseases such as polio, diphtheria, and *Haemophilus Influenza* meningitis, and of the severity and sequelae, makes one underestimate the real need for prevention[40]. Moreover, the idea that the risk of a particular disease is low may be linked to several factors, among them, the priorities of life and health at that time[41].

Therefore, a study conducted with 15 couples classified the participants into three groups: vaccinators, selective vaccinators, and non-vaccinators. The last two groups thought that immunopreventable diseases had been eliminated in Brazil, and some reported that there was no need to vaccinate their children based on a layman's interpretation of the epidemiological risk and severity of immunopreventable diseases[42].

From this perspective, the risks associated with vaccine use do not justify refusal or delay in vaccine uptake, as they are less than the risks of not vaccinating and are a growing concern in several countries. The lack of knowledge about adverse events noted as reasons for vaccine hesitancy in this review is not always linked to vaccine use. Adverse events after the individual receives the vaccine are rarely causally related to the use of the vaccine, and when present and scientifically proven, they occur at a very low frequency[43].

The SAGE Group interrelates factors regarding vaccine hesitancy and modified perceptions of illness, which have become known as the "3 Cs" model: trust, compliance, and convenience. Trust is related to the efficacy and safety of vaccines, the health care system that offers them, and the desires of managers. Complacency results from the low perceived risk of contracting the disease, so that vaccination would not be considered necessary. And convenience analyzes physical availability, geographical accessibility, ability to understand, and access to health information[41], corroborating one of the findings of this review, of which breaking the daily routine by reconciling work hours with those of the

vaccination units is a relevant factor for vaccination delay.

This review also showed that parents and family members of children are motivated by false news in the media, leading them to believe that vaccines can cause autism. Social media search engines, using hashtags and algorithms, direct people to the content that interests them. Consequently, opinions are reinforced and lies are unchallenged[44]. Thus, information or misinformation about vaccines communicated by social media influences parents' decision-making about vaccinating, or not vaccinating, their children.

Data from a study[45] identified that 14.3% of parents and family members believed that vaccines cause autism. Contrary to this finding, a study[46] showed that there is no relationship between vaccination and the development of autism.

This review evidenced that parents who have a lifestyle with the practice of natural and organic food, physical activity, and use of alternative medicine thought they did not need to vaccinate their children. Here we highlight the concept of Salutogenesis, introduced in the 1970s by Aaron Antonovsky, which is considered a new approach to health promotion and a resource that strengthens the capacity of individuals, communities, and populations to stay healthy. This methodology recognizes the talents, interests, abilities, and experiences of each individual[47]. However, a lifestyle choice based on healthy habits is not opposed to the use of vaccines as a form of protection and safety because immunization is one of the mechanisms that has contributed most to reducing infant mortality and morbidity from immunopreventable diseases.

Parents' and family members' choice of alternative medicine is one of the findings of this review and related this fact to their children's vaccine hesitancy. In this regard, one study[45] identified that more than half of the parents thought that alternative medicine was more efficient and were more likely to have delayed vaccination.

This review, too, showed that it is common for parents and family members' religion to be linked to their children's vaccination refusal. In 48 of the 50 states in the United States, vaccine refusal due to religious reasons is allowed. Passages in religious texts are open to free interpretation for each religious in their traditions. Thus, some groups refuse all medical interventions, while others have specific beliefs about components of vaccines[47].

Social factors of parents and family members emerged in this review, so that some of them, such as family income and education, influence their children's vaccine hesitancy. Recent research has shown that the higher the family income, the greater are the ideas of that family against vaccines[46]. On the other hand, a study that analyzed the nurses' perception of the parents' knowledge about vaccination highlighted that the level of education is a barrier to complete assimilation of the immunization goals[48].

It should be noted that the WHO has included vaccine hesitancy in the list of the ten greatest risks to global health, due to the threat of reversing the progress made in the fight against immunopreventable diseases[49]. The discontinuation of vaccination during the pandemic of COVID-19 increased the number of susceptible individuals and the likelihood of outbreaks of immunopreventable diseases, and consequently, led to increased morbidity and mortality among children from these diseases[50]. In this sense, the success that the Brazilian National Immunization Program has acquired over 47 years in reducing immunopreventable diseases does not allow for retrocession.

One limitation of this study is that, even though it was analyzed by three reviewers, it is subject to bias as in any research. Bias includes any and all distortions throughout the research process, which can happen in any type of design.

CONCLUSION

This review showed the diverse reasons for vaccine hesitancy among parents and family members of children. Such reasons were related to dis (knowledge) about vaccines (fake news, fear of adverse events, underestimation of the lethality of immunopreventable diseases) and in (decision) and lifestyle (healthy habits, alternative medicine, and religion).

By understanding the reasons for non-vaccination, this study contributes to professional practice, as it encourages health care facility managements to establish appropriate intervention strategies with hesitant. Vaccine refusal or delay in vaccination should be considered by these professionals a window of opportunity to approach parents and family members.

Thus, further studies are needed to investigate how professionals welcome the experiences, fears and beliefs of parents and family members. These should signal how guidance needs to be for the decision on whether to vaccinate children, since vaccination coverage rates in the child population are decreasing and vaccination hesitancy is increasing over the past few years.

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