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CHILDHOOD VACCINATION: CONSTRUCT VALIDATION OF A KNOWLEDGE, ATTITUDES AND PRACTICES SURVEY

Imunização infantil: construção de validação de um inquérito de conhecimento, atitude e prática

Vacunación infantil: validación del constructo de una encuesta sobre conocimientos, actitudes y prácticas

Luciana da Rocha Cabral[I]
Maria Sandra Andrade[2]
Ana Márcia Nóbrega Dantas[3]
Mônica Alice Santos da Silva[4]
Dominike de Melo Barbosa[5]
Regina Célia de Oliveira[6]

RESUMO

Objetivo: construir e validar quanto ao conteúdo e aparência um inquérito de conhecimentos, atitudes e práticas dos pais acerca da imunização infantil de 0 a 2 anos. **Métodos:** estudo metodológico de abordagem quantitativa desenvolvida em duas etapas: uma revisão integrativa para a extração dos elementos essenciais para construção do inquérito e a validação de conteúdo. Utilizou-se escala Likert, posteriormente, calculado o Índice de Validade de Conteúdo e aplicado teste Binomial para avaliar a igualdade estatística da prevalência de relevância com o valor mínimo de 0,85. **Resultados:** a versão final do inquérito resultou em 13 questões no grupo de Conhecimento, oito questões em Atitude e cinco questões no grupo de Prática. O questionário obteve valor significativo com IVC geral acima de 0,85, revelando-se boa confiabilidade e adequado aos temas abordados durante o desenvolvimento dos enunciados. **Conclusão:** o instrumento validado possibilita fortalecer estratégias capazes de melhorar a cobertura vacinal infantil.

DESCRITORES: Conhecimento; Imunização; Vacinas; Crianças.

[1,3,5] Universidade de Pernambuco, Ouricuri, Pernambuco, Brazil.
[2,4,6] Universidade de Pernambuco, Recife, Pernambuco, Brazil.

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CORRESPONDING AUTHOR: Luciana da Rocha Cabral
E-mail: luciana.rcabral@upe.br
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ABSTRACT

Objective: to construct and validate in terms of content and appearance a survey of parents' knowledge, attitudes and practices regarding immunization of children aged 0 to 2 years. **Methods:** a methodological study with a quantitative approach developed in two stages: an integrative review to extract the essential elements for constructing the survey and content validation. A Likert scale was used, then the Content Validity Index was calculated and a Binomial test was applied to assess the statistical equality of the prevalence of relevance with a minimum value of 0.85. **Results:** the final version of the survey resulted in 13 questions in the Knowledge group, eight questions in Attitude and five questions in the Practice group. The questionnaire obtained a significant value with an overall CVI above 0.85, proving to be reliable and appropriate to the topics covered during the development of the statements. **Conclusion:** the validated instrument makes it possible to strengthen strategies capable of improving childhood vaccination coverage.

DESCRIPTORS: Knowledge; Immunization; Vaccines; Children.

RESUMEN

Objetivo: construir y validar en términos de contenido y apariencia una encuesta sobre conocimientos, actitudes y prácticas de los padres en relación con la vacunación de niños de 0 a 2 años. **Método:** estudio metodológico con enfoque cuantitativo desarrollado en dos etapas: revisión integradora para extraer los elementos esenciales para la construcción de la encuesta y validación del contenido. Se utilizó una escala de Likert, luego se calculó el Índice de Validez de Contenido y se aplicó una prueba Binomial para evaluar la igualdad estadística de la prevalencia de pertinencia con un valor mínimo de 0,85. **Resultados:** la versión final de la encuesta dio lugar a 13 preguntas en el grupo de Conocimientos, ocho en el de Actitudes y cinco en el de Prácticas. El cuestionario obtuvo un valor significativo con un IVC global superior a 0,85, demostrando ser fiable y adecuado a los temas abordados durante la elaboración de los enunciados. **Conclusión:** el instrumento validado permite fortalecer estrategias capaces de mejorar la cobertura de vacunación infantil.

DESCRIPTORES: Conocimiento, Inmunización, Vacunas, Niños.

INTRODUCTION

The National Immunization Program (PNI), created in 1973, is one of the main milestones for Brazilian public health due to the reduction in morbidity and mortality and the eradication of some vaccine-preventable diseases in the country. Over the course of half a decade, fundamental achievements have been made for community health, such as the eradication of smallpox, the control and elimination of measles, poliomyelitis, rubella, congenital rubella syndrome and neonatal tetanus.[1-2]

The historical prestige of vaccination, due to the thousands of lives saved, reflects remarkable progress with increased survival expectancy and reduced hospitalizations, especially in the child's early years.[3] Despite the scientific consensus that childhood immunization brings numerous benefits, between 2020 and 2021, a national survey revealed that no vaccine provided for in the National Vaccination Calendar for children up to 2 years old reached the recommended coverage of 95%, with most parameters estimated between 80% and 90%.[4]

Given its epidemiological relevance, vaccine hesitancy was defined by the World Health Organization (WHO) in 2019 as one of the main threat factors to global health.[5] The word hesitancy is most often used to designate the process of refusing to receive a dose of the immunizing agent due to a lack of trust in vaccines or health professionals; a lack of understanding about the risks of vaccine-preventable diseases; and/or those who, for convenience, use the reasons of lack of access or unavailability of the vaccine in health services to reinforce the non-receipt of the dose.[6]

Although vaccination is considered the most effective and economical way to prevent the spread of infectious diseases, there is still controversy about parents' understanding of immunobiologicals, demonstrated by the avoidance of this practice by some families, through delays in following up the applications or missed doses, a fact that increases not only the risk of the child becoming ill, but also the possibility of social dissemination of infection.[7]

The family is essential to ensuring the child's safety and well-being. The arrival of a child represents a developmental transition, requiring the incorporation of new knowledge and skills in order to carry out this care with mastery. Thus, maintaining and promoting child health through adequate vaccination coverage is only possible with the active and conscious participation of parents.[8]

Recognizing the fundamental role played by parents in achieving success in the process of child vaccination coverage, the following question was raised: What are parents' knowledge, attitudes and practices about vaccinating children in the first two years of life?

In order to strengthen child immunization coverage, it is important to identify the inhibiting beliefs, which generate fear and insecurity, and the promoting beliefs, based on parental duty and care, which determine adherence to child vaccination. Through the CAP survey (knowledge, attitude and practice) it is possible to diagnose parents' education about immunization in children. Knowledge reveals what people understand about a given subject; attitude describes how they feel, based on preconceived ideas; and practice describes how they behave.[9]

The lack of references on the CAP survey validated in Brazil for immunization of children up to the age of two prompted the search for a survey capable of providing academia with a technological tool capable of mapping the weaknesses, potential and needs of the obstacles in this process, with a view to contributing to educational strategies to achieve better indicators in the process of implementing infant vaccination coverage, as well as promoting safe vaccination.

The aim of this study was therefore to construct and validate the content and appearance of a survey of parents' knowledge, attitudes and practices regarding immunization of children aged 0 to 2 years.

METHODS

This is a methodological study with a quantitative approach, reported in accordance with the recommendations of the Revised Standards for Quality Improvement Reporting Excellence (SQUIRE 2.0) tool from the EQUATOR network.[10]

To carry out the study, psychometric precepts recommended by Pasquali were adopted,[11] through the construction, content validation and appearance of a survey of parents' knowledge, attitudes and practices about child immunization from 0 to 2 years, to be applied to parents of children up to 24 months. The survey was carried out between July 2022 and January 2023.

The theoretical basis for constructing the survey was based on an integrative review,[12] which extracted the essential elements for constructing the survey: parental education;[13-15,19] personal experiences;[15,19,22] relationship with the health team;[15,17,18,21,22] beliefs and fears;[16,18-22] knowledge about vaccines.[14-15,17,20-21]

Eight judges took part in the content validation. The Fehring Model was used to select the judges, as it is viable for use in nursing research of the same methodological nature, with a minimum score of 6 points.[23] The first judge was invited by identifying the coordinating professor of the child health discipline at the Nossa Senhora das Graças Nursing School at the University of Pernambuco. For recognition, the snowball sampling technique was used, which allows the sample to be defined by reference.[24]

All meetings were face-to-face, in a private room, at the judges' workplaces, scheduled in advance by telephone or e-mail. In order to analyze whether the items were understandable to the target population and representative for achieving the objective, each item was evaluated in terms of the criteria of clarity of language, theoretical relevance and practical pertinence using a Likert-type scale, scored from one to four, where: 1 = not relevant/not representative; 2 = item needed major revision to be representative; 3 = item needed minor revision to be representative; 4 = item was relevant/representative.[11] A space was left in each item for the judges to include suggestions and/or modifications.

To analyze the data, a database was built in the Microsoft Excel® 2010 spreadsheet, which was exported to the Statistical Package for the Social Science (SPSS) software, version 18, where the analysis was carried out. To validate the content of the proposed instrument, the CVI (Content Validity Index) was calculated for each item individually and for the total set of items in the instrument, and a Binomial test was applied to assess the statistical equality of the prevalence of relevance of each variable in the study, with a minimum reference value of 0.85. [25] All conclusions were drawn considering a significance level of 5%.

For the validation of appearance, the eight judges participating in the content validity answered the Suitability Assessment of Materials (SAM) in the version adapted and translated into Portuguese to assess content; literacy requirements; illustrations; layout and learning motivation. The questionnaire items are rated on a scale of zero to two, 2= Good (O); 1= Adequate (A) and 0= Not Adequate (NA) and should be applied after reading the text.[26] The acronym (NE) was used for factors that were impossible to assess because they did not fit the structure of the survey.

The total score was calculated from the sum of the scores obtained, divided by the total number of items in the questionnaire and multiplied by 100 to transform it into a percentage. This is categorized as: 70 - 100% superior material; 40 - 69% adequate material; and 0 - 39% inadequate material.[26]

The study was submitted to the Research Ethics Committee of the Oswaldo Cruz University Hospital and approved under opinion 5.306.505.

RESULTS

Table 1 shows the distribution of the judges' personal profile and training factors. The majority of the professionals were female (75.0%). In terms of time since graduating, all the participants attested to more than 10 years since graduating in nursing, half of them between 11 and 20 years (50.0%) and the others with more than 20 years' training. As for the most prevalent degrees and experiences, they all hold a master's degree, followed by having supervised academic work on vaccine-preventable diseases and/or immunization and/or child health in the last two years (87.5%), a doctorate (75%) and participation in a scientific event on vaccine-preventable diseases and/or immunization and/or child health in the last two years (75%).

Table 1 - Distribution of the personal profile and training of the professionals evaluated. Recife, PE, Brazil, 2023

Factor evaluated	n	%
Gender		
Male	2	25,0
Female	6	75,0
Length of training		
Up to 10 years	0	0,0
Between 11 and 20 years	4	50,0
Over 20 years	4	50,0
Degree / experience*		
Master's degree	8	100
Doctorate	6	75,0
Clinical practice in the area of vaccine-preventable diseases and/or immunization and/or child health in the last 5 years.	4	50,0
Participation in a scientific event in the last 2 years on vaccine-preventable diseases and/or immunization and/or child health.	6	75,0
Publication in the last 2 years on vaccine-preventable diseases and/or immunization and/or child health.	5	62,5
Supervision of academic work on vaccine-preventable diseases and/or immunization and/or child health in the last 2 years.	7	87,5

Note: *multiple answer question.

The instrument included 17 questions in the Knowledge group, eight questions in the Attitude group and five questions in the Practice group. The judges' evaluations were tabulated in spreadsheets in order to identify those with a CVI >0.80, as shown in Table 2.

Table 2 - CVI analysis of CAP-related items. Recife, PE, Brazil, 2023

	Issues assessed	CVI	p-value
COD	**KNOWLEDGE**		
Cod01	Do you know how many vaccinations your child receives at birth?	0,875	0,657
Cod02	Do you know which vaccines a baby receives at birth?	0,875	0,657
Cod03	Do you know the protection offered by the BCG vaccine?	1,000	0,272
Cod04	Do you know in which arm the BCG vaccine is administered?	0,750	0,343
Cod05	After the birth vaccines, at how many months will the baby be vaccinated again?	1,000	0,272
Cod06	Do you know how many vaccinations your child receives at two months?	0,875	0,657
Cod07	After the two-month vaccinations, at how many months will the baby be vaccinated again?	0,875	0,657
Cod08	Do you think it's wrong to give your baby more than one vaccine at the same time?	0,750	0,343
Cod09	After the three-month vaccinations, at how many months will the baby be vaccinated again?	0,875	0,657
Cod10	After the four-month vaccinations, at how many months will the baby be vaccinated again?	0,875	0,657
Cod11	After the five-month vaccinations, at how many months will the baby be vaccinated again?	0,875	0,657
Cod12	After the six-month vaccinations, at how many months will the baby be vaccinated again?	0,875	0,657
Cod13	Which vaccine causes the most adverse reactions (expected events) in babies up to the age of six months?	0,750	0,343
Cod14	Do you know if it is permissible to offer any medication before administering the vaccine?	1,000	0,272
Cod15	Can you tell which adverse events (expected reactions) occur after receiving the vaccine?	0,875	0,657
Cod16	Do you usually know when your child is due for a vaccine?	0,875	0,657
Cod17	Can you tell if there is an age limit for receiving a dose of the vaccine, in case of delay?	0,875	0,657
	CVI domain	0,868	0,332
	ATITUDE		
Cod18	Do you take your child to childcare?	1,000	0,272
Cod19	Do you usually ask questions about vaccination during childcare appointments?	0,875	0,657
Cod20	Do you believe that the guidance you receive during childcare is sufficient for you to understand your child's vaccinations?	0,875	0,657
Cod21	Do you keep track of your child's vaccination dates?	0,875	0,657
Cod22	Do you seek the opinion of family members about your child's vaccinations?	1,000	0,272
Cod23	Before vaccinating your child, do you ever think about the reaction to the vaccine?	0,875	0,657

	Issues assessed	CVI	p-value
COD	**KNOWLEDGE**		
Cod24	Do you ever ask about adverse events (expected reactions) to the vaccines your child is receiving?	0,875	0,657
Cod25	Do you have a good relationship with your health team?	0,875	0,657
	CVI domain	0,906	0,136
	PRACTICE		
Cod26	Do you usually medicate your child with any medication before the vaccine, in order to prevent an adverse vaccine event?	0,875	0,657
Cod27	Do you use any compresses after your child has been vaccinated?	0,875	0,657
Cod28	Have you ever regretted having vaccinated your child?	1,000	0,272
Cod29	Have you ever felt insecure about vaccinating your child?	1,000	0,272
Cod30	Do you ever check your child's vaccination booklet to see if there are any vaccines overdue?	0,875	0,657
	CVI domain	0,925	0,130
	Total CVI	0,888	0,058

[1]p-value of Binomial test H0: CVI ≥ 0.85 x H1: CVI < 0.85.

It can be seen that items Cod04, Cod08 and Cod13 have a CVI below the minimum reference value and are therefore excluded. Even though a lower CVI value was found for the items mentioned, the binomial test was not significant for all the items evaluated (p-value greater than 0.05), indicating that the CVI of the items is statistically equal to or greater than the reference value. In the CVI by domain and total, the binomial test was not statistically significant, indicating that the CVI value is statistically similar to or higher than the reference value.

The qualitative analysis of the suggestions written by the judges during the content validation phase indicated small changes in the writing of some items, with the removal of the treatment pronoun "you". The judges then validated the appearance by applying the SAM scale. As it did not contain illustrations, factor 3 could not be assessed. Interpretation of Table 3 reveals that the survey lacks examples, which may explain the low score for motivation. This finding is justified by the fact that it is a questionnaire-type survey, and the organization of examples for the questions extends the time it takes to apply the instrument, making it difficult to get people to take part.

Table 3 - Content validation by judges. Recife, PE, Brazil, 2023

Factor to be rated	O	A	NA	NE	Score
1 - Content					
1.1 Is the purpose clear?	7	1	-	-	87,5
1.2 Does the content address behaviors?	7	-	1	-	87,5
1.3 Is the content focused on purpose?	8	-	-	-	100

Factor to be rated	O	A	NA	NE	Score
1.4 Does the content highlight the main points?	6	2	-	-	75
2 - Literacy requirement					
2.1 Reading level	8	-	-	-	100
2.2 Uses writing in the active voice	8	-	-	-	100
2.3 Uses vocabulary with common words in the text	8	-	-		100
2.4 Context comes before new information	6	2	-	-	75
2.5 Learning is facilitated by topics	8	-	-	-	100
3 – Illustrations					
3.1 The purpose of the illustration in relation to the text is clear				8	-
3.2 Types of illustrations	-	-	-	8	-
3.3 Figures/illustrations are relevant	-	-	-	8	-
3.4 Lists, tables, figures etc. are explained	-	-	-	8	-
3.5 Illustrations have a caption	-	-	-	8	-
4 - Layout and presentation					
4.1 Characteristics of the layout	8	-	-	-	100
4.2 Font size and type	7	1	-	-	87,5
4.3 Subheadings are used	8	-	-	-	100
5 - Learning motivation					
5.1 Uses interaction	8	-	-	-	100
5.2 Guidelines are specific and give examples	2	3	3	-	25
5.3 Motivation and self-efficacy	5	2	1	-	62,5
5.4 Factor to be rated	8	-	-	-	100
6 -Cultural fit					
6.1 Similar to your logic, language and experience	7	1	-	-	87,5
6.2 Cultural image and examples	6	1	1	-	75
General					86,8

Legend: O (excellent), A (adequate), NA (not adequate), NE (does not fit).

Finally, the final version of the survey resulted in 13 questions in the Knowledge group, eight questions in Attitude and five questions in the Practice group, showing content and appearance validity for the public studied.

The questionnaire obtained a significant value with an overall CVI above 0.85, proving to be suitable for the topics covered during the development of the statements. In this research, the instrument was validated in terms of content by qualified judges, through a critical evaluation of the tool, which allows for a more pertinent analysis of the instrument.

DISCUSSION

Drawing up a CAP survey on child immunization is an important technology, given the threat to achieving vaccination coverage targets. The factors associated with

vaccine hesitancy are multifaceted, whether social, political, economic or demographic. It is therefore imperative to map and understand the determinants in parents' perceptions of childhood vaccination, so that we can foster health strategies aimed at improving care with a view to eliminating and controlling vaccine-preventable diseases, as well as protecting and promoting child and collective health.[27]

When constructing measuring instruments, the items in the questionnaire should not be drawn up haphazardly, it is essential to anchor the content in a literature review, as was done in this study, and the language used should be simple and straightforward. Another important aspect is the selection of judges. Eligibility criteria must be established to ensure the expertise of specialists. Validation studies show that there is a prevalence of nurses on the panel of judges, and that there are more women than men, which is similar to the results of this study.[28]

Nursing is a key player in the NIPP and has contributed to the program's global success over time. In addition to applying their technical, scientific and ethical skills in their work process, this professional category promotes health education, disseminating information about vaccination with content adapted to society's level of understanding.[29]

Knowledge about vaccines is a determining factor in reducing vaccine hesitancy, since the modifiable determinants of negative attitudes towards vaccines are mainly caused by a lack of knowledge. Thus, health education contributes positively to access to information while mitigating external forces such as community voices, social trends and the opinions of religious leaders that can contribute to vaccine hesitancy.[19-21]

Furthermore, following the essential elements identified for the construction of the survey, it can be seen that the relationship with the health team is crucial for vaccine adherence. Studies have shown that better patient-professional communication is significantly associated with greater knowledge, better attitude and practice regarding childhood immunization. Better knowledge was significantly associated with better attitude, while better knowledge and attitude were significantly associated with better practice.[15,17,18,21,22]

Given that the KAP survey allows us to understand what people know, feel and how they behave in relation to a given topic,[18] the development of this questionnaire resulted in an instrument capable of providing valid and reliable indicators to verify the KAP of the target audience, allowing us to design and develop more effective training, subsidizing the planning of interventions on this subject.

The evaluation by experts attested to the content and appearance validity of the survey with an overall CVI of 0.88 and a SAM scale score of more than 85, which corresponds to excellent content and appearance validity, indicating that the instrument is organized according to the proposed theme, follows a logical sequence and shares information with accurate, clear and enlightening content.[27] The result is consistent with methodological research that addresses the topic of PHC.[30]

The final version of the questionnaire covered the three proposed dimensions (knowledge, attitude and practice), proving to be a technology based on the current theoretical framework, and was perceived as relevant to the practice of helping to develop strategies capable of improving children's vaccination coverage.

CONCLUSION

The questionnaire obtained a significant value with an overall CVI above 0.85 validated in terms of content, and obtaining a score above 85 on the SAM scale affirms the validity of appearance. Minor changes were made to the body of the survey text, as suggested by the experts.

An instrument capable of measuring the Knowledge, Attitude and Practice of parents in relation to child immunization was developed and validated, which showed good reliability and may favour the practice of researchers and health professionals.

The validated instrument helps managers to better understand the shortcomings of this public's PAC, making it possible to strengthen actions in the area of children's health, through the development of strategies, especially by nurses, as they are the category responsible for the vaccine room, capable of improving children's vaccination coverage. It is also hoped that this tool will be used to identify the needs of parents in this experience.

Although the development and validation of this instrument is based on a robust methodology, this research has some limitations: although the sample size is in line with the literature for validation studies, a sample selected by the snowball technique was used; in addition, it is suggested that the study be continued for semantic and construct validation with the target population, with a view to improving the material.

REFERENCES

1. Pércio J, Fernandes EG, Maciel EL, Lima NVT. 50 years of the Brazilian National Immunization Program and the Immunization Agenda 2030. Epidemiol Serv Saude. [Internet]. 2023 [cited 2024 may 25];32(3):e20231009. Available from: 10.1590/S2237-96222023000300001.

2. Ministério da Saúde (BR). Secretaria de Vigilância em Saúde. Calendário Nacional de Vacinação[Internet]. Brasília: Ministério da Saúde; 2022 [acesso em 23 de maio 2024]. Disponível em: https://www.gov.br/saude/pt-br/assuntos/saude-de-a-a-z/c/calendario-nacional-de-vacinacao.

3. Omar M, Muhsen K. A narrative review of nonspecific effects of pediatric vaccines on child mortality and morbidity. Hum Vaccin Immunother. [Internet]. 2021 [cited 2024 may 25];17(12). Available from: 10.1080/21645515.2021.1996150.

4. Barata RB, França AP, Guibu IA, Vasconcellos MTL, Moraes JC, Grupo ICV 2020. Inquérito Nacional de Cobertura Vacinal 2020: métodos e aspectos operacionais. Rev Bras Epidemiol. [Internet]. 2023 [acesso em 23 de junho 2024];26:e230031. Disponível em: https://doi.org/10.1590/1980-549720230031.2

5. World Health Organisation (WHO). Ten threats to global health in 2019. World Health Organization. [Internet]. 2019 [cited 2024 may 20]. Available from: https://www.who.int/news-room/spotlight/ten-threats-to-global-health-in-2019.

6. Kfouri RA, Levi GC. Controvérsias em imunizações 2021. 1 ed. São Paulo: Segmento Farma Editores; 2022.

7. Melovic B, Jaksic Stojanovic A, Vulic TB, Dudic B, Benova E. The Impact of Online Media on Parents' Attitudes toward Vaccination of Children—Social Marketing and Public Health. International Journal of Environmental Research and Public Health. [Internet]. 2020 [cited 2024 may 20];17(16). Available from: https://doi.org/10.3390/ijerph17165816.

8. Barata RB, França AP, Guibu IA, Munhoz G, Domingues CMA, Teixeira MG, et al. Hesitação vacinal e consequências para a cobertura vacinal em crianças aos 24 meses de idade, 2017-2018, residentes nas capitais, no Distrito Federal e em 12 cidades do interior do Brasil. Epidemiol. Serv. Saúde. [Internet]. 2024 [acesso em 23 de novembro 2024];33(esp2):e20231097.Disponível em: https://scielosp.org/pdf/ress/2024.v33nspe2/e20231097/pt.

9. Kaliyaperumal K. Guideline for conducting a knowledge, attitude and practice (KAP) study. AECS Illumination. [Internet]. 2004 [cited 2024 may 20];4(1). Available from: https://v2020eresource.org/content/files/guideline_kap_jan_mar04.pdf.

10. Squire. Revised Standards for Quality Improvement Reporting Excellence SQUIRE 2.0. [Internet]. 2018 [cited 2023 jun 02]. Available from: http://squirestatement.org/index.cfm?fuseaction=Page.ViewPage&PageID=471.

11. Pasquali L. Validade dos testes psicológicos: será possível reencontrar o caminho? Psicol (Univ. Brasilia,Online). [Internet]. 2007 [acesso em 20 de maio 2024];23(spe). Disponível em: https://doi.org/10.1590/S0102-37722007000500019.

12. Soares CB, Hoga LAK, Peduzzi M, Sangaleti C, Yonekura T, Silva DRAD. Integrative Review: Concepts And Methods Used In Nursing. Rev esc enferm USP. [Internet]. 2014 [cited 2024 may 20];48(2). Available from: https://doi.org/10.1590/S0080-6234201400002000020.

13. Al-Regaiey KA, Alshamry WS, Alqarni RA, Albarrak MK, Alghoraiby RM, Alkadi DY, et al.. Influence of social media on parents' attitudes towards vaccine administration. Human Vaccines & Immunotherapeutics. [Internet]. 2021 [cited 2024 aug 20];18(1). Available from: https://doi.org/10.1080/21645515.2021.1872340.

14. Sinuraya RK, Kusuma ASW, Pardoel ZE, Postma MJ, Suwantika AA. Parents' Knowledge, Attitude, and Practice on Childhood Vaccination During the COVID-19 Pandemic in Indonesia. Patient Prefer Adherence. [Internet]. 2022 [cited 2024 aug 20];16. Available from: https://doi.org/10.2147/PPA.S339876.

15. Balgovind P, Mohammadnezhad M. Factors affecting childhood immunization: Thematic analysis of parents and healthcare workers' perceptions. Hum Vaccin Immunother. [Internet]. 2022 [cited 2024 aug 20];18(6):2137338. Available from: https://doi.org/10.1080/21645515.

16. Restivo V, Palmeri S, Bono S, Caracci F, Russo Fiorino G, Foresta A, et al. Knowledge and attitudes of parents after the implementation of mandatory vaccination in kindergartens of Palermo, Italy. Acta Biomed. [Internet]. 2020 [cited 2024 aug 20];91(3-S). Available from: https://doi.org/10.23750/abm.v91i3-S.9415.

17. Matta P, El Mouallem R, Akel M, Hallit S, Fadous Khalife MC. Parents' knowledge, attitude and practice towards children's vaccination in Lebanon: role of the parent-physician communication. BMC Public Health. [Internet]. 2020 [cited 2024 aug 20];20(1). Available from: https://doi.org/10.1186/s12889-020-09526-3.

18. Gkentzi D, Tsagri C, Kostopoulou E, Fouzas S, Vantarakis A, Dimitriou G, Varvarigou A. Attitudes and beliefs of parents about routine childhood vaccination in Greece. Hum Vaccin Immunother. [Internet]. 2021 [cited 2024 aug 20];17(9). Available from: https://doi.org/10.1080/21645515.2021.

19. Tal O, Ne'eman Y, Sadia R, Shmuel R, Schejter E, Bitan M. Parents' attitudes toward children's vaccination as a marker

of trust in health systems. Hum Vaccin Immunother. [Internet]. 2021 [cited 2024 aug 20];17(11). Available from: https://doi.org/10.1080/21645515.2021.1971472.

20. Abdalla SM, Ahmad MS, Saleem Al-Baradie NR, Mohammed Alshuwaish LA, Ahmad Al-Issa RA, Suwaylih Alrashidi SN. Assessment of parent knowledge and perception towards the importance of child immunization in Sudair region, Saudi Arabia. Eur Rev Med Pharmacol Sci. [Internet]. 2022 [cited 2024 aug 20];26(6). Available from: https://doi.org/10.26355/eurrev_202203_28323.

21. Lewandowska A, Lewandowski T, Rudzki G, Rudzki S, Laskowska B. Opinions and Knowledge of Parents Regarding Preventive Vaccinations of Children and Causes of Reluctance toward Preventive Vaccinations. Int J Environ Res Public Health. [Internet]. 2020 [cited 2024 aug 20];17(10). Available from: https://doi.org/10.3390/ijerph17103694.

22. McGregor S, Goldman RD. Determinants of parental vaccine hesitancy. Can Fam Physician. [Internet]. 2021 [cited 2024 aug 20];67(5). Available from: https://doi.org/10.46747/cfp.6705339.

23. Melo RP, Moreira RP, Fontenele FC, Aguiar ASC, Joventino ES, Carvalho EC. Critérios de seleção de experts para estudos de validação de fenômenos de enfermagem. Rev Rene. [Internet]. 2011 [acesso em 20 de maio 2024];12(2). Disponível em: http://www.redalyc.org/pdf/3240/324027975020.pdf.

24. Vinuto J. A amostragem em bola de neve na pesquisa qualitativa: um debate em aberto. Temat. [Internet]. 2014 [acesso em 20 de maio 2024];22(44). Disponível em: https://econtents.bc.unicamp.br/inpec/index.php/tematicas/article/view/10977.

25. Polit DF, Becker CT. Pesquisa em enfermagem: gerando e avaliando evidências para a prática de enfermagem. Porto Alegre: Artmed; 2017. 456p.

26. Sousa CS, Turrini RNT, Poveda VB. Tradução e adaptação do instrumento "Suitability assessment of materials" (SAM) para o português. Rev enferm UFPE on line. [Internet]. 2015 [acesso em 20 de maio 2024]; 9(5). Disponível em: https://doi.org/10.5205/reuol.6121-57155-1-ED.0905201515.

27. Lima MMO, Silveira AO, Aureliano APSC, Rocha HCC, Moura LM, Santos SR. Parents' or legal guardians' beliefs and attitudes about childhood vaccination: a scoping review. Rev Bras Enferm. [Internet]. 2024 [cited 2024 aug 20];77(4):e20240126. Available from: https://doi.org/10.1590/0034-7167-2024-0126pt.

28. Cunha GH, Fontenele MSM, Lopes MVO, Lima MAC, Galvão MTG, Gomes MEC. Inquérito de Conhecimento, Atitude e Prática sobre estilo de vida saudável em pessoas com HIV. Esc Anna Nery. [Internet]. 2023 [acesso em 20 de maio 2024];27:e20220082. Disponível em: https://doi.org/10.1590/2177-9465-EAN-2022-0082pt.

29. Godinho ML-SC, Silva SA, Pietrafesa GAB. Nursing as a player in tackling vaccine hesitancy and refusal. Rev Bras Enferm. [Internet]. 2024 [cited 2024 nov 20];77:e77suppl101. Available from: https://doi.org/10.1590/0034-7167.202477suppl101.

30. Chaves T de V, Guedes TG, Perrelli JGA, Albuquerque NLS de, Mangueira S de O, Linhares FMP. COVID-19 nas prisões: validação de um inquérito de conhecimento, atitude e prática. Acta paul enferm. [Internet]. 2024 [acesso em 20 de novembro 2024];37:eAPE002811. Disponível em: https://doi.org/10.37689/acta-ape/2024AO00000281.