



NURSING TEAM'S PERCEPTIONS AND KNOWLEDGE OF THE IMMUNIZATION PROCESS

Percepções e conhecimentos da equipe de enfermagem sobre o processo de imunização

Percepciones y conocimientos del equipo de enfermería sobre el proceso de inmunización

Roberta Farias Aragão 

Federal University of Ceará (Universidade Federal do Ceará - UFC) - Sobral (CE) - Brazil

Izabelle Mont'Alverne Napoleão Albuquerque 

Vale do Acaraú State University (Universidade Estadual Vale do Acaraú - UVA) - Sobral (CE) - Brazil

Marcos Aguiar Ribeiro 

Federal University of São Paulo (Universidade Federal de São Paulo - UNIFESP) - São Paulo (SP) - Brazil

Raissa Mont'Alverne Barreto 

Federal University of Ceará (Universidade Federal do Ceará - UFC) - Sobral (CE) - Brazil

Jaciara Alves de Sousa 

Vale do Acaraú State University (Universidade Estadual Vale do Acaraú - UVA) - Sobral (CE) - Brazil

ABSTRACT

Objective: To analyze the nursing team's perceptions, knowledge and attitudes regarding the immunization process. **Methods:** This is a qualitative exploratory and descriptive study in which data were collected through semi-structured interviews with 15 vaccinating nursing technicians and seven nurses in 2016 in Sobral, Ceará, Brazil. The interviews contained questions about the nursing team's perceptions, knowledge and attitudes regarding the immunization process and the data underwent thematic analysis. **Results:** The categories that emerged showed that the nursing team does not get feedback from the Health Secretariat regarding the importance of the measured indicators; therefore, it is necessary to intensify the permanent training of the team with regard to possible adverse situations resulting from immunization. There were some facilitating aspects related to user embracement by the team and its commitment to advise on the importance of immunization to promote autonomy and empower users for self-care. **Conclusion:** The results showed limiting factors that negatively impact the service provision. Thus, it is necessary to propose adjustments in the training process to favor changes that allow the good development of activities in the vaccine room.

Descriptors: Immunization Coverage; Immunization Programs; Mass Vaccination; Primary Health Care.

RESUMO

Objetivo: Analisar as percepções, conhecimentos e atitudes da equipe de enfermagem sobre o processo de imunização. **Métodos:** Trata-se de um estudo exploratório, descritivo, com abordagem qualitativa, no qual se coletaram dados por meio de entrevistas semiestruturadas com 15 técnicos de enfermagem vacinadores e sete enfermeiros, no ano de 2016, no município de Sobral, Ceará, Brasil. As entrevistas abordaram questões sobre percepções, conhecimentos e atitudes da equipe de enfermagem sobre o processo de imunização, avaliando-se os dados por meio de análise temática. **Resultados:** Das categorias que emergiram, observou-se que a equipe de enfermagem não tem o retorno da Secretaria de Saúde em relação a importância dos indicadores coletados, de modo que faz-se necessário intensificar o processo de educação permanente da equipe em relação às possíveis situações adversas advindas da imunização. Observaram-se alguns aspectos facilitadores relacionados ao acolhimento e à implicação da equipe em orientar quanto à importância da imunização para promover a autonomia e capacitar os usuários para o autocuidado. **Conclusão:** Os resultados evidenciaram fatores limitantes que impactam negativamente na oferta do serviço, sendo necessária, assim, a proposição de ajustes no processo de capacitação para o favorecimento de mudanças que permitam o bom desenvolvimento das atividades em sala de vacina.

Descritores: Cobertura Vacinal; Programas de Imunização; Imunização; Atenção Primária à Saúde.



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RESUMEN

Objetivo: Analizar las percepciones, los conocimientos y las actitudes del equipo de enfermería sobre el proceso de inmunización.

Métodos: Se trata de un estudio exploratorio, descriptivo y de abordaje cualitativo en el cual se recogieron los datos a través de entrevistas semiestructuradas con 15 técnicos de enfermería que aplican vacunas y siete enfermeros en el año 2016 en el municipio de Sobral, Ceará, Brasil. Las entrevistas abordaron cuestiones sobre las percepciones, los conocimientos y las actitudes del equipo de enfermería sobre el proceso de inmunización y los datos han sido evaluados a través del análisis temático.

Resultados: De las categorías que emergieron se observó que el equipo de enfermería no tiene la devolución de la Secretaría de Salud respecto a la importancia de los indicadores recogidos de manera que se hace necesario la intensificación del proceso de educación permanente del equipo sobre las posibles situaciones adversas de la inmunización. Se observaron algunos aspectos facilitadores relacionados a la acogida y la implicación del equipo para orientar sobre la importancia de la inmunización para la promoción de la autonomía y capacitación de los usuarios sobre el autocuidado. **Conclusión:** Los resultados evidenciaron los factores limitantes que impactan de manera negativa para la oferta del servicio con la necesidad de proponer ajustes para el proceso de capacitación que favorezca los cambios que permitan el desarrollo adecuado de las actividades de vacunación.

Descriptores: Cobertura de Vacunación; Programas de Inmunización; Inmunización; Atención Primaria de Salud.

INTRODUCTION

The National Immunization Program (*Programa Nacional de Imunizações – PNI*), created in 1973, is responsible for the organization of the National Immunization Policy, which is aimed at the control, eradication and elimination of preventable diseases⁽¹⁾. The policy strengthened the municipalities by decentralizing the management of health services and actions related to immunization so that Primary Health Care (*Atenção Primária à Saúde - APS*) became responsible for the entire process of administration of these activities⁽²⁾.

However, the scientific literature shows important deficiencies in vaccine rooms (VR), especially with regard to the conservation of immunobiologicals and adherence to the rules and guidelines established by the PNI as well as restrictive aspects related to VR supervision, which may compromise the effectiveness of the PNI and the quality of the immunobiologicals available as supervision is an instrument for assessing the quality of care provided to the population^(3,4). In addition, the Ministry of Health (*Ministério da Saúde - MS*) recommends that this supervision should take place systematically in order to assess the conditions of the physical space and the compliance with standards aimed at guaranteeing the quality of immunobiologicals from their manufacture and proper conservation to their administration⁽¹⁾.

Thus, in order to promote and maintain the quality of immunization services it is necessary to understand the whole process that involves effective vaccination as this is the main strategy for preventing vaccine-preventable diseases and promoting health⁽⁵⁾.

Given the relevance and unquestionable impact that immunization has on the health of populations, it is essential to conduct studies aimed at knowing and assessing immunization services to implement safe practices that support the achievement of the PNI goals.

From this perspective, the objective of this study was to analyze the nursing team's perceptions, knowledge and attitudes regarding the immunization process.

In the meantime, this study is considered relevant because the continuous analysis of work processes is believed to enable reflection and guides health professionals and managers towards the organization of services to redirect their actions. Thus, the effective management of a program requires knowledge of how these services are being produced and the conditions given for their real implementation.

METHODS

This exploratory and descriptive study was carried out using a qualitative approach, which allows understanding the information and knowledge about the research object by working with the universe of meanings, motives, aspirations, values, beliefs and attitudes inherent to the social reality⁽⁶⁾.

This study was developed in 2016 in the municipality of Sobral, Ceará, Brazil, located in the semiarid region of Ceará. Participants were 15 nursing technicians and seven nurses who vaccinate and work in VR of Basic Health Units (*Unidade Básica de Saúde - UBS*) centers. The inclusion criterion was: having at least six months of professional experience in VR. The exclusion criterion was: being on vacation, sick leave or any other leave during the period of data collection.

Data were collected through semi-structured interviews to analyze the perceptions, knowledge and attitudes of the team regarding the immunization process in that municipality. Thus, the interviews were scheduled in advance at dates, time and place chosen by the participants. The interviews were recorded for later transcription and thorough analysis. We also used a field diary with notes of relevant events from the planning to the performance of the interviews.

It should be noted that data collection was terminated after verifying that the data collected were enough to meet the study objective using the method proposed based on the principle of theoretical saturation.

The information collected was submitted to thematic analysis⁽⁶⁾ following the data organization stages in order to assess: the objective of the study; the exploration of empirical material through a thorough reading of the records; the separation of information according to convergences and divergences; and the classification and aggregation of data into themes.

To ensure the anonymity of the participants and systematize the discourses analyzed, the nursing technicians were identified with the letter V, corresponding to vaccinator, and the nurses were identified with the letter N followed by sequential numbers from 1 to 15 for the vaccinators and from 1 to 7 for the nurses.

The research was approved by the Scientific Committee of the Sobral Municipal Health Secretariat and by the Research Ethics Committee of the Vale do Acaraú State University (*Universidade Estadual Vale do Acaraú - UVA*) according to Resolution 466/2012 (Approval No. 1.143.315).

RESULTS AND DISCUSSION

In the process of immersion of the study the results inferred from the information collected gave rise to three thematic categories: professionals' knowledge and attitudes regarding immunization indicators and adverse situations and user embracement and immunization health education, which will be discussed below.

Knowledge and attitudes regarding immunization indicators

Vaccination coverage rates and abandonment rates in the territory were found to be completely unknown by the professionals working in immunization facilities. None of the interviewees demonstrated knowledge about immunization indicators in their territories. The centralization of information in the Health Secretariat/PNI was observed in the participants' interviews:

"I know nothing about vaccination coverage, all that is in the secretariat. We seek to meet the demand and when there is no demand the Community Health Agent (Agente Comunitário de Saúde - ACS) looks for patients. In the end of every month I see who did not come and tell the nurse so that the ACS can perform an active search." (V8)

A similar result was found in a study conducted in Belo Horizonte where it was observed that the interviewed professionals do not value the monitoring of vaccination coverage as a strategy for the management and programming of health care actions in UBS centers. However, it is emphasized that proper information management is linked to the institutional culture of valuing information, that is, the feeling of participation and responsibility for the production and use of information⁽⁷⁾.

In this context, the vaccination coverage indicator represents an important tool for decision making in the different management spheres as controlling or keeping vaccine-preventable diseases under surveillance in a condition of elimination or eradication is only possible through adequate coverage. In addition to being adequate, vaccination coverage needs to be homogeneous as this factor is an important indicator of the PNI performance⁽⁸⁾.

With regard to actions to obtain greater vaccination coverage and lower abandonment rates in the territory, the respondents report common acts of analysis of the vaccination status, especially in children, to health teams:

"In the end of every month the nurse meets with the ACS. They collect information and conduct an active search if it is delayed." (V3)

"Usually, the ACS will warn and call when it is delayed. If the mother does not come, the nurse pays a visit to her. And in the morning screening the nurse talks about the vaccines." (V12)

The statements show the vaccinators' interest in and concern about guiding users on the importance of immunization and the scheduling of subsequent vaccines. Thus, it is understood that all professionals working in health care facilities should be prepared to act as vaccination educators, which takes more than just the contact with nurses or physicians so that any contact with a worker in a primary health care center becomes an opportunity to address the user's vaccination status⁽⁹⁾.

Studies have shown that certain intervention strategies such as health education and home visits targeted at users may increase vaccine coverage. Evidence-based discussion aimed at translating knowledge to community members by health professionals may be more effective than conventional information strategies^(10,11).

From this perspective, the analysis of the vaccination status through information collected during home visits by ACS brings data that – in addition to helping to better understand the health indicators of the population – refer to issues related to the relationship between health professionals and users. Moreover, childcare consultations become important allies in this transfer of information as data on the absence of children in childcare consultations show a greater chance for delays in their vaccines⁽¹²⁾.

Knowledge and attitudes regarding adverse events following immunization

Adverse events are known to occur following vaccination. However, the risks of serious related complications are much lower than those of the diseases against which they protect. It must be borne in mind that people's trust in the vaccines offered is key to the success of the PNI and that the vaccines available today are considered safe but not without occasional risk⁽⁸⁾.

The health professionals' statements show superficial knowledge of both the measures to be taken in case of adverse events and of the existence of the Handbook of the Reference Centers for Special Immunobiologicals (*Centros de Referência para Imunobiológicos Especiais – CRIE*):

“When the child comes for the vaccine, the mother is informed of the reaction that may happen. If it happens, the child is sent to the hospital and then returns to the UBS center and then the reaction is notified by the nurse. The notification is sent to the Health Secretariat and there they send it to Fortaleza for them to send the vaccine that will replace the one that caused the reaction.” (V4)

Furthermore, the vaccinators' difficulties in performing quality health care practices due to the poor training offered to them were highlighted:

“Sometimes I have a lot of doubts when it comes to vaccinating because the schedule changes a lot and I have to call on the nurse to be sure. If we had more moments to talk about the updates, I think it would make our situation easier.” (V3)

Other studies also highlight the lack of preparedness of vaccinators regarding their activities in the vaccine room and emphasize this deficiency as a major challenge in health services as improper vaccination practices can harm users and compromise quality and credibility of immunobiologicals^(13,14).

Given that, it is clear that there is a need for updating knowledge and acquiring new information, which refers to the process of continuing education. However, from the perspective of practice transformation, critical awareness should be developed in health professionals and enhanced by the acquisition of new knowledge gained through changes in attitudes resulting from lived experiences and their personal, professional and social transformation, which can be translated into continuing education⁽⁹⁾.

It should be noted that in order to do so the managers and the nurse responsible for the vaccination room must support the processes of continuous training of vaccinators. However, the results of this study and other studies show that training does not take place in the same proportion as changes in the national agenda^(15,16).

Thus, it is necessary that the managers know the main barriers faced by professionals in the vaccination room on a daily basis to think of strategies for enhancing and changing practices so that improvements can occur in the work process in the vaccine room.

The participants' discourses boil down to the completion of tasks assigned by the Epidemiological Surveillance, which does not praise professionals for carrying out health education activities in the community, thereby limiting them to breaking the chain of infection in situations of vaccine-preventable diseases in the territory, as shown below:

“There was only measles and we blocked it in the neighboring blocks. The only way to prevent this is to block it, and we follow the patient, run serological tests and advise on treatment and prevention.” (N6)

The results of a study on users' perceptions of the access to vaccination revealed that their lack of knowledge about immunization emerged as a factor that compromises access to this service. Although the use of media as a source of information on preventive measures has been increasingly evident, there is a need to strengthen health

education actions to reach different social strata. The authors also emphasize that the continuous learning process provokes new conceptions and attitudes in the recreation of their own way of being and caring. In addition, effective information and communication are essential for achieving vaccination as a measure to protect individual and collective health⁽¹⁷⁾.

User embracement and immunization health education

According to the interviewees, all the staff of the UBS center receive information about the importance of vaccination and refer clients to VR despite having no specific knowledge about the available vaccines. The statements demonstrate this reality:

“From the watchman to the kitchen helper, everyone who looks for a vaccine they’ll know how to direct the person to the room. They know how to embrace users.” (V6)

“During the meetings the manager always harps on the same string: we have to give the right information. Everyone is responsible for the health of the community.” (N7)

In this study, professionals from other fields were found to refer the user to VR, which is a relevant attitude to increase immunization coverage. One cause of low vaccination coverage is the loss of opportunities to vaccinate. Thus, the sensitization of team professionals to engage in vaccination activity is a fundamental strategy to overcome this obstacle⁽¹⁸⁾.

The results of the present study showed that health education actions related to immunization are developed at specific times during childcare consultations, user embracement and triage, social groups and pre-vaccination periods. Nevertheless, the discourses do not show intensity and the strategies are limited in most of the UBS centers analyzed:

“On the day of childcare we talk... There is also the day of HIPERDIA, when there are older people and adults. In the groups we have here, we always talk about vaccines, especially in the prenatal and childcare groups.” (N4)

“It is more often done by community health workers... Sometimes we go to the radio to talk about the campaign... Unfortunately, we do not take much collective action, we are failing that.” (N3)

Thus, it is observed that these professionals maintain the dichotomy between the practice of technical nursing procedures and health education, which should be integrated during the execution of the immunization process. This can lead users to non-compliance with periodic vaccination and drop out of the vaccination process. However, it is important to note that in the context of health the educational practice targeted at users is considered a technology for the implementation of SUS as it allows discussions and recommendations that make it possible to increase the capacity for self-care⁽¹⁹⁾.

There is reflection on the importance of incorporating new educational technologies in the health education process today, which should contribute to the democratization of communication, education and knowledge based on the cultural reality of individuals. The use of audiovisual techniques has been increasing in experimental research in recent times. This feature allows care strategies to be rethought and even be included in the therapeutic process in many approaches⁽²⁰⁾.

Thus, it is believed that investment in immunization technologies and educational strategies can enhance the service and facilitates access in order to reinforce the concepts of a new way of producing health that can transform a reality and contribute to improving the quality of health care⁽²¹⁾.

Finally, the results show the need for greater appreciation and strengthening of educational activities by professionals as well as support for the proposition of adjustments in the training process so that changes can be made to allow the proper development of the activities in vaccine room.

FINAL CONSIDERATIONS

This study identified restrictive aspects regarding the development of specific health education actions, lack of knowledge of data and indicators of the service, and adverse reactions following immunization. In addition, the discourses revealed facilitating aspects regarding user embracement by the health team and their awareness in guiding users about the importance of immunization in various activities and moments in UBS centers in order to promote autonomy and empower users for self-care.

Thus, these restrictive aspects imply the provision of a fair service that has the potential to achieve a desired level of quality with the continuous strengthening of continuing education of the nursing staff working in vaccine rooms.

Finally, given the importance of immunization as a strong instrument for health protection, it is essential to conduct further studies to deepen issues that address the gaps found in this study in order to ensure the quality of vaccines available to the population and achieve targets set by the National Immunization Program.

CONFLICTS OF INTEREST

The authors declare that there were no conflicts of interest regarding the conception of this study.

CONTRIBUTIONS

Roberta Farias Aragão, Izabelle Mont'Alverne Napoleão Albuquerque and **Marcos Aguiar Ribeiro** contributed to the conception and design; data analysis and interpretation; the writing of the manuscript; the critical review and approval of the version to be published. **Raissa Mont'Alverne Barreto** and **Jaciara Alves de Sousa** contributed to the writing of the manuscript and approval of the version to be published.

REFERENCES

1. Ministério da Saúde (BR). Secretaria de Vigilância em Saúde. Departamento de Vigilância de Doenças Transmissíveis. Manual de Normas e Procedimentos para Vacinação. Brasília: ministério da saúde; 2014.
2. Oliveira VC, Gallardo MDPS, Arcêncio RA, Gontijo TL, Pinto IC. Avaliação da qualidade de conservação de vacinas na Atenção Primária à Saúde. *Cien Saúde Colet* [Internet]. 2014 [accessed on 2019 Apr 26];19(9):3889-98. Available from: http://www.scielo.br/scielo.php?pid=S1413-81232014000903889&script=sci_abstract&lng=pt
3. Luna GLM, Vieira LJES, Souza PF, Lira SVG, Moreira DP, Pereira AS. Aspectos relacionados à administração e conservação de vacinas em centros de saúde no Nordeste do Brasil. *Cien Saúde Colet* [Internet]. 2011 [accessed on 2018 May 15];16(2):513-21. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1413-81232011000200014
4. Oliveira VC, Gallardo PS, Gomes TS, Passos LMR, Pinto IC. Supervisão de enfermagem em sala de vacina: a percepção do enfermeiro. *Texto & Contexto Enferm* [Internet]. 2013 [accessed on 2019 Apr 27];22(4):1015-21. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S010407072013000400018&lng=en. <http://dx.doi.org/10.1590/S0104-07072013000400018>.
5. Cunha JO, Oliveira IMB, Santos AD, Cunha MWN, Santos FJ, Santos JM. Avaliação da padronização dos procedimentos nas salas públicas de vacinas do município de Itabaiana, Sergipe, Brasil. *Rev Bras Pesqui Saúde* [Internet]. 2018 [accessed on 2019 June 15];20(1):70-8. Available from: <http://periodicos.ufes.br/RBPS/article/view/20610/13855>. <https://doi.org/10.21722/rbps.v20i1.20610>
6. Minayo MCS. O desafio do conhecimento: pesquisa qualitativa em saúde. 12ª ed. São Paulo: Hucitec; 2010.
7. Lages AS, França EB, Freitas MIF. Profissionais de saúde no processo de vacinação contra hepatite B em duas unidades básicas de Belo Horizonte: uma avaliação qualitativa. *Rev Bras Epidemiol* [Internet]. 2013 [accessed on 2018 Oct 28];16(2):364-75. Available from: http://www.scielo.br/scielo.php?pid=S1415-790X2013000200364&script=sci_abstract&lng=pt
8. Ministério da Saúde (BR). Coberturas Vacinais no Brasil: Período: 2010 - 2014. Brasília: Ministério da Saúde; 2015.
9. Assad SGB, Corvino MPF, Santos SCP, Cortez EA, Souza FL. Educação permanente em saúde e atividades de vacinação: revisão integrativa. *Rev Enferm UFPE* [Internet]. 2017 [accessed on 2018 Oct 28];11(Suppl. 1):410-21. Available from: <https://periodicos.ufpe.br/revistas/revistaenfermagem/article/view/11922>
10. Oyo-Ita A, Wiysonge CS, Oringanje C, Nwachukwu CE, Oduwole O, Meremikwu MM. Interventions for improving coverage of child immunisation in low- and middle-income countries. *Cochrane Database Syst Rev* [Internet]. 2016 [accessed on 2018 Oct 22];10;7:CD008145. doi: 10.1002/14651858.CD008145.pub3. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/27394698>

11. Esposito S, Principi N, Cornaglia G. Barriers to the vaccination of children and adolescents and possible solutions. *Clin Microbiol Infect* [Internet]. 2014 [accessed on 2015 Sep 04];20(5):25-31. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/24354949>.
12. Fernandes ACN, Gomes KRO, Araújo TME, Moreira-araújo RSR. Análise da situação vacinal de crianças pré-escolares em Teresina (PI). *Rev Bras Epidemiol* [Internet]. 2015 [accessed on 2018 Oct 30];18(4):870-82. Available from: http://www.scielo.br/scielo.php?pid=S1415790X2015000400870&script=sci_abstract&lng=pt.
13. Silva SS, Oliveira VC, Ribeiro HCTC, Alves TGS, Cavalcante RB, Guimarães EAA. Análise dos eventos adversos após aplicação de vacinas em Minas Gerais, 2011: um estudo transversal. *Epidemiol Serv Saude* [Internet]. 2016 [accessed on 2019 June 15];25(1):45-54. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S2237-96222016000100045.
14. Santos CAPS, Costa RS, Silva JLM, Santos MRF, Gomes BLF. Conhecimento, atitude e prática dos vacinadores sobre vacinação infantil em Teresina-PI, 2015. *Epidemiol Serv Saude* [Internet]. 2017 [accessed on 2018 Oct 29];26(1):133-40. Available from: http://www.scielo.br/scielo.php?pid=S2237-96222017000100133&script=sci_abstract&lng=pt.
15. Ferreira AV, Freitas PHB, Viegas SMF, Oliveira VC. Acesso à sala de vacinas da estratégia saúde da família: aspectos organizacionais. *Rev Enferm UFPE* [Internet]. 2017 [accessed on 2019 June 15];11(10):3869-77. Available from: <http://bases.bireme.br/cgi-bin/wxislind.exe/iah/online/?IsisScript=iah/iah.xis&src=google&base=BDENF&lang=p&nextAction=Ink&exprSearch=33061&indexSearch=ID>.
16. Oliveira VC, Rennó HMS, Santos YR, Rabelo AFG, Gallardo MDPS, Pinto IC. Educação para o trabalho em sala de vacina: percepção dos profissionais de enfermagem. *Rev Enferm Cent-Oeste Min* [Internet]. 2016 [accessed on 2018 Oct 28];6(3):2331-41. Available from: <http://www.seer.ufsj.edu.br/index.php/recom/article/view/1180>
17. Duarte DC, Oliveira VC, Guimarães EAA, Viegas SMF. Acesso à vacinação na Atenção Primária na voz do usuário: sentidos e sentimentos frente ao atendimento. *Esc Anna Nery Rev Enferm* [Internet]. 2019 [accessed on 2019 June 16];23(1):e20180250. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1414-81452019000100203&lng=en&nrm=iso&lng=pt
18. Tertuliano GC, Stein AT. Atraso vacinal e seus determinantes: um estudo em localidade atendida pela Estratégia Saúde Família. *Cien Saúde Colet* [Internet]. 2011 [accessed on 2019 June 15];16(2):523-30. Available from: http://www.scielo.br/scielo.php?script=sci_abstract&pid=S1413-81232011000200015&lng=en&nrm=iso&lng=pt
19. Moutinho CB, Almeida ER, Leite MTS, Vieira MA. Dificuldades, desafios e superações sobre educação em saúde na visão de enfermeiros de saúde da família. *Trab Educ Saúde* [Internet]. 2014 [accessed on 2018 Oct 28];12(2):253-72. Available from: http://www.scielo.br/scielo.php?pid=S1981-77462014000200003&script=sci_abstract&lng=pt
20. Interaminense INCS, Oliveira SC, Leal LP, Linhares FMP, Pontes CM. Tecnologias educativas para promoção da vacinação contra o papiloma vírus humano: Revisão integrativa da literatura. *Texto & Contexto Enferm* [Internet]. 2016 [accessed on 2019 June 17];25(2):e2300015. Available from: <http://www.scielo.br/pdf/tce/v25n2/0104-0707-tce-25-02-2300015.pdf>
21. Oliveira VG, Pedrosa KKA, Monteiro AI, Santos ADB. Vacinação: o Fazer da Enfermagem e o saber das mães e/ou cuidadores. *Rev Rene* [Internet]. 2010 [accessed on 2019 June 18];11:133-41. Available from: http://www.repositorio.ufc.br/bitstream/riufc/12577/1/2010_art_vgoliveira.pdf

Mailing address:

Roberta Farias Aragão
Universidade Federal do Ceará - UFC
Rua Cel. Estanislau Frota, 563
Bairro: Centro
CEP: 62010-560 - Sobral - CE
E-mail: robertaaragao@hotmail.com

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