

EDITORIAL

Immunoprevention: a course of decades and the challenge to tackle false information

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Abstract

Despite the growing structure of the National Immunization Program, it was possible to witness the resurgence of immunopreventable diseases that were supposed to be controlled. Such phenomenon motivates unrest and discussion in the field of public health, encouraging the academic and scientific community to seek answers, because clearly factors are interfering with the quality of the intended end product, which is the immunogenic protection of populations. In this way, it was evidenced that the media has favored the circulation of dubious and falsely articulated information, causing a fear in the population that makes it difficult to adhere to receiving vaccines. Frequently, those attitudes are based on concepts, values, philosophical and religious beliefs that hinder the effective communication of health professionals and the population eligible to receive the immunobiological. In this scenario, false news can cause health problems, hence, it is important to stand out the significance of scientific information. False publications were determinants in the worldwide expansion of the anti-vaccine movement. Indicators of morbidity and mortality are important in the delineation of coping priority in healthcare, but understanding the phenomena that permeate the decision-making of populations is of paramount importance for the design of strategies. Research methodologies with different perspective on the same topic complement each other. It is not enough to quantify the problem, but it is also necessary to look for the social changes that occur in the group and to determine the diversification of behavior in society, mixed research methodologies often propose results that broaden understanding. It is emphasized that providing false information implies the deconstruction of science, considering that scientific information supports decisions that involve the health of the population in different contexts and support the development of public health policies.

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The history of humanity over the millennia has been permeated by episodes related to infectious diseases, often ravaging communities, altering behavior patterns, determining population isolation, as happened with the yellow fever epidemics that represented high mortality in the 18th century in western Africa, the Caribbean, Central America and Europe, over the course of history the phenomenon was repeated with considerable seasonality^{1,2}, at that time the vulnerability of people consisted in the lack of tools to deal with serious epidemics¹.

In recent Brazilian history, the panic caused by the resurgence of immunopreventable diseases such as measles, yellow fever, and mumps has been observed, followed by the fear of health authorities in experiencing difficulties to control the situation. Corroborating this possibility and meeting the expectations of the World Health Organization (WHO), there was an increase of around 300% of measles cases in 2019³.

In contemporary society, a major technological breakthrough with broad scope has been envisaged, positively impacting on the quality of life of people, such technology has expanded to the pharmaceutical industry providing the production of immunobiologicals with increasing immunogenic property, particularly, biotechnology has caused a significant paradigm shift in vaccine development represented by the use of different antigens, new adjuvants, vectors and improved distribution logistics⁴.

Despite the growing structure of the National Immunization Program (NIP), it was possible to witness the resurgence of immunopreventable diseases that were supposed to be controlled, such phenomenon motivates disturbance and discussion in the field of public health, encouraging the academic and scientific community to seek answers, because, clearly there are factors interfering with the quality of the intended end product, which refers to the immunogenic protection of populations⁵⁻⁷.

In this way, it was evidenced that the media has favored the circulation of dubious and falsely articulated information, provoking in the population a fear to get the vaccines. These attitudes are based, in many cases, in philosophical and religious concepts, values, convictions that hinder the effective

communication of health professionals and the population eligible to receive the immunobiologicals^{8,9}.

From the 1970s onwards, the anti-vaccination movement emerged in Europe and the United States, intensifying in 1982, with the documentary titled “DPT: Vaccine Roulette” associating the triple bacterial vaccine with chronic brain inflammation.

Later, in 1998, the British Andrew Wakefield, published an article stating that children diagnosed with autism had symptoms two weeks after receiving the triple viral vaccine, this publication was canceled for lack of scientific evidence. False news was decisive for the worldwide expansion of the anti-vaccine movement, which is under the parents’ argument that not vaccinating reflects the care of the offspring, giving protection to iatrogenic controversy that oppose the theoretical framework that supports the actions of the NIP⁹⁻¹².

In this context, the dialogue between the scientific community and health institutions has been essential in unveiling the national scenario, permeating the problem of preventable diseases. Epidemiological studies have, over the decades, measured the behavior of health issues, as they quantitatively study the phenomenon health and disease in populations through association measures^{13,14}.

Clinical trials, properly monitored by the National Surveillance Agency (ANVISA), are essential in the production of vaccines. Recent estimates indicate around 390 million dengue infections worldwide each year, with 96 million being symptomatic infections of any severity. The goal of the World Health Organization (WHO) is to reduce this amount by 50%, currently there is only one formulation available in Brazil of dengue vaccine developed by Sanofi Pasteur, some others are in various stages of development, so the knowledge production must be a continuous process that will corroborate the improvement of the population’s quality of life¹⁵.

Indicators of morbidity and mortality are important in the delineation of coping priority in health, but understanding the phenomena that permeate the decision-making of populations is of paramount importance for the design of strategies, research methodologies complement

each other as they provide different perspective on the same discussion. It is not enough to quantify the problem, it is also necessary to search for the social changes that occur in the group and to determine the diversification of behavior in society, mixed research methodologies often propose results that broaden understanding¹⁵.

In this scenario, the importance of scientific information is highlighted which are published in journals such as the Journal of Human Growth and Development which each year address important topics in evidence-based

practices. This latest issue brings topics such as child health care in the social and institutional context¹⁶⁻²⁶, health problems associated with life cycles²⁷⁻²⁹, research methods³⁰ and others relevant matters.

It is noteworthy that providing false information implies the deconstruction of science, considering that scientific information supports decisions that involve the health of the population in different contexts, and support the development of public health policies.

■ REFERENCES

1. Gurgel CBFM, Silvestre MB, Teixeira DF, Romão M. Fragmentos da História da Higiene e Saúde Pública: a febre amarela em Campinas-SP no Século XIX. *Rev Patol Trop.* 2014;43 (2):111-20. DOI: <http://doi.org/10.5216/rpt.v43i2.31109>
2. Bynum WF. *Science and the Practice of Medicine in the Nineteenth Century.* New York: Cambridge University Press, 2006.
3. World Health Organization (WHO). *Measles and Rubella Surveillance Data.* Geneva: 2019.
4. Diniz MO, Ferreira LCS. Biotecnologia aplicada ao desenvolvimento de vacinas. *Estud Av.* 2010;24(70):19-30. DOI: <http://dx.doi.org/10.1590/S0103-40142010000300003>
5. Brasil. Ministério da Saúde. Fundação Nacional de Saúde. Centro Nacional de Epidemiologia. Programa Nacional de Imunizações: PNI 25 anos. Brasília: Ministério da Saúde, 1998.
6. Domingues CMAS, Woycicki JR, Rezende KS, Henriques CMP. Programa Nacional de Imunização: a política de introdução de novas vacinas. *Rev Eletr Gestão Saúde.* 2015;6 (Supl. 4):3250-74.
7. Silveira LTC, Tura B, Santos M. Systematic review of dengue vaccine systematic review of dengue vaccine efficacy. *BMC Infec Dis.* 2019;19:750. DOI: <https://doi.org/10.1186/s12879-019-4369-5>
8. Henriques CMP. A dupla epidemia: febre amarela e desinformação. *Rev Eletron Comun Inf Inov Saúde.* 2018;12(1):9-13. DOI: <http://dx.doi.org/10.29397/reciis.v12i1.1513>
9. Barbieri CLA, Couto MT, Aith FMA. A (não) vacinação infantil entre a cultura e a lei: os significados atribuídos por casais de camadas médias de São Paulo, Brasil. *Cad Saúde Pública.* 2017;33(2):e00173315. DOI: <http://dx.doi.org/10.1590/0102-311x00173315>
10. Zorzetto R. Manipulação de dados: fraude em estudo sobre vacina reabre discussão acerca das práticas de pesquisa. *Pesq Fasep.* 2011;(181).
11. Pinto Junior VL. Comunicação breve: Anti-vacinação, um movimento com várias faces e consequências. *Cad Ibero-Amer Dir Sanit.* 2019;8(2):1-132. DOI: <http://dx.doi.org/10.17566/ciads.v8i2.542>
12. Andre FE, Booy R, Bock HL, Clemens J, Datta SK, John TJ, et al. Vaccination greatly reduces disease, disability, death and inequity worldwide. *Bull World Health Organ.* 2007;86(2):140-6. DOI: <http://dx.doi.org/10.2471/BLT.07.040089>
13. Poland GA, Jacobson RM. The age-old struggle against the antivaccinationists. *New Engl J Med.* 2011;364(2):97-9. DOI: <http://dx.doi.org/10.1056/NEJMp1010594>
14. Jacques PB. Saúde em retrospectiva e prospectivas. *Rev Bras Promoç Saúde.* 2017;30(4): 1-2. DOI: <http://dx.doi.org/10.5020/18061230.2017.7305>
15. Brasil. Ministério da Saude. Agência Nacional de Vigilância Sanitária (ANVISA). Farmacovigilância de vacinas. [cited 2019 Dec 11]. Available from: <http://portal.anvisa.gov.br/vacinas>
16. Fernandes FCGM, Santos EGO, Barbosa IR. Age of first pregnancy in Brazil: data from the national health survey. *J Hum Growth Dev.* 2019;29(3):304-312. DOI: <https://doi.org/10.7322/jhgd.v29.9523>
17. Gracioli SMA, Linhares MBM. Neonatal and temperament variables predict behavior problems of preterm children at toddlerhood. *J Hum Growth Dev.* 2019; 29(3):313-324. DOI: <https://doi.org/10.7322/jhgd.v29.9527>

18. Prado R, Camacho JCA, Paredes RAM, Coutinho FM, Ribeiro MAL, Riera ARP. Preterm newborns undergoing selective correction surgery of the patent ductus arteriosus: is there still space for these procedures? *J Hum Growth Dev.* 2019; 29(3):325-337. DOI: <https://doi.org/10.7322/jhgd.v29.9528>
19. Souza ACFS, Casais-e-Silva LL, Sena EP. Description of linguistic and neurological findings of preterm twins at 2 years of age. *J Hum Growth Dev.* 2019; 29(3):338-345. DOI: <https://doi.org/10.7322/jhgd.v29.9529>
20. Taglia-Ferre KD, Lisboa S, Salviano LDS, Costa ACC, Monteiro SL, Campos HS, et al. Is there an association between the forced expiratory volume value in the first second and the Asthma Control Test and the degree of control proposed by the Global initiative for Asthma in asthmatic children and adolescents treated with inhaled corticosteroids? *J Hum Growth Dev.* 2019; 29(3):346-353. DOI: <https://doi.org/10.7322/jhgd.v29.9530>
21. Moimaz SAS, Amaral MA, Miotto AMM, Garbin CAS, Saliba TA. Parents' perception of allergic or foodintolerant children in relation to disease. *J Hum Growth Dev.* 2019; 29(3):354-364. DOI: <https://doi.org/10.7322/jhgd.v29.9533>
22. Mazzocante RP, Corrêa HL, Queiroz JL, Sousa BRC, Sousa IRC, Santos MAB, et al. The relationship of sports practice with motor performance, selective attention, cognitive flexibility and processing speed in children aged 7 to 10 years. *J Hum Growth Dev.* 2019; 29(3):365-372. DOI: <https://doi.org/10.7322/jhgd.v29.9534>
23. Ferreira ABM, Medeiros JA, Medeiros RCSC, Serrano LAR, Pinto VCM, Dantas M, et al. Level of physical activity and motor coordination of schoolchildren in different maturational stages. *J Hum Growth Dev.* 2019; 29(3):373-380. DOI: <https://doi.org/10.7322/jhgd.v29.9536>
24. Shigaki GB, Batista MB, Paludo AC, Zambrin LF, Serassuelo Junior H, Ronque ERV. Secular trend of physical fitness indicators related to health in children. *J Hum Growth Dev.* 2019; 29(3):381-389. DOI: <https://doi.org/10.7322/jhgd.v29.9537>
25. Franciscato SJ, Janson G, Machado R, Lauris JRP, Andrade SMJ, Fisberg M. Impact of the nutrition education program Nutriamigos® on levels of awareness on healthy eating habits in school-aged children. *J Hum Growth Dev.* 2019; 29(3):390-402. DOI: <https://doi.org/10.7322/jhgd.v29.9538>
26. Del Ciampo LA, Louro AL, Del Ciampo IRL, Ferraz IS. Sedentary lifestyle among adolescents living in the city of Ribeirão Preto (SP). *J Hum Growth Dev.* 2019; 29(3):403-409. DOI: <https://doi.org/10.7322/jhgd.v29.9539>
27. Pereira SM, Rocha BEM, Szarfarc SC, Gallo PR, Bertoli CJ, Leone C. Family Health Strategy and prevalence of anemia in women in an urban region of high Human Development Index. *J Hum Growth Dev.* 2019; 29(3):410-415. DOI: <https://doi.org/10.7322/jhgd.v29.9540>
28. Álvarez CCS, Hans Filho G. Leprosy and Physiotherapy: a necessary approach. *J Hum Growth Dev.* 2019; 29(3):416-426. DOI: <https://doi.org/10.7322/jhgd.v29.9541>
29. Holanda MN, Câmara OF, Silva DD, Bernarde PS, Silva AM, Lima MVM, et al. Accident and vascular injury with stingray in the Alto Juruá, Acre, Brazil: a case report. *J Hum Growth Dev.* 2019; 29(3):427-432. DOI: <https://doi.org/10.7322/jhgd.v29.9542>
30. Camargo LMA, Silva RPM, Meneguetti DUO. Research methodology topics: Cohort studies or prospective and retrospective cohort studies. *J Hum Growth Dev.* 2019; 29(3):433-436. DOI: <https://doi.org/10.7322/jhgd.v29.9543>

Resumo

Apesar da estruturação crescente do Programa Nacional de Imunização, foi possível testemunhar o ressurgimento de doenças imunopreveníveis que supostamente estariam controladas. Tal fenômeno motiva a inquietação e a discussão no âmbito da saúde coletiva, instigando a comunidade acadêmica e científica a buscarem respostas, pois claramente existem fatores interferindo na qualidade do produto final pretendido, que se trata da proteção imunogênica das populações. Nesse percurso, foi evidenciado que a mídia tem favorecido a circulação de informações dúbias e falsamente articuladas, provocando na população um temor que dificulta a adesão ao recebimento das vacinas; atitudes sedimentadas, em muitos casos, em conceitos, valores, convicções filosóficas e religiosas que dificultam a comunicação efetiva dos profissionais de saúde e a população elegível ao recebimento do imunobiológico. No cenário apresentado, onde falsas notícias podem provocar agravos à saúde, destaca-se a importância das informações científicas. Publicações falsas foram determinantes para a expansão mundial do movimento anti-vacina. Indicadores de morbidade e mortalidade são importantes no delineamento de prioridade de enfrentamento no âmbito da saúde, mas entender os fenômenos que permeiam a tomada de decisão das populações é de suma importância para o delineamento de estratégias, as metodologias de pesquisas se complementam na medida que proporcionam um olhar diferenciado para a mesma discussão, não basta quantificar o problema, igualmente se faz necessário buscar as mudanças sociais que ocorrem no grupo e determinar a diversificação dos comportamentos na sociedade, metodologias de pesquisas mistas muitas vezes propõem resultados que ampliam o entendimento. Ressalta-se que prover informações falsas implica na desconstrução da ciência, considerando que as informações científicas subsidiam decisões que envolvem a saúde da população nos diferentes contextos e respaldam a elaboração de políticas públicas de saúde.

Palavras-chave: imunização, vacinas, pesquisas.

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