


LETTER



Vaccine literacy is undervalued

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ABSTRACT

Despite weak health literacy is considered a concause of vaccine hesitancy, it is rarely taken into account when discussing about this subject. The association between health literacy skills and vaccine acceptance has been shown to be uneven when using general measures, also depending on the population settings and type of vaccine considered. Vaccine literacy has been built on the same idea of health literacy, but very few specific measuring tools have been developed until now. It is desirable that more of these instruments are validated and extensively used with the objective of assessing peoples' vaccine literacy skills and defining interventions aimed at their improvement.

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Health literacy concerns the knowledge and abilities to meet the complex demands of health in modern society. In particular, it involves the personal and social skills which determine the ability of individuals to gain access, understand, appraise and use information, to promote and maintain good health.¹ Weak health literacy has been shown to result in less healthy choices, riskier behavior, poorer health, less self-management, and more hospitalization. Different studies have shown that up to half of the adult American and European population are affected with limited health literacy, with the consequent risk of social inequalities and higher health costs.^{2,3}

The concept and the definition of health literacy have been originally associated with health education and focused on the individual ability to understand health information and services needed to make appropriate health decisions. More recently, the need to move beyond the individual focus has become evident: health literacy is now considered as the result of the interaction between peoples' skills and the demands of the health system. Moreover, integrated models have been proposed including not only the domain of health care but also those related to disease prevention and health promotion. This evolution from the individual toward the population permits the integration of the medical concept of health literacy with a larger public health perspective and brings the potential to impact on preventable pathologies, to promote good health and to reduce the burden of diseases.⁴ Actually, disease prevention and health promotion include main public health challenges, such as the containment of costs and eventually social equity and the achievement of persons' empowerment.

The first tools developed to measure health literacy levels have been built for testing purposes, mainly in clinical care, often without or with limited alignment to specific health literacy definitions and theories. Nevertheless, these tests, such as the Rapid Estimate of Adult Literacy in Medicine (REALM)

and the Test of Functional Health Literacy in Adults (TOFHLA), have demonstrated high predictive validity.⁵ In line with the evolving concept of health literacy, the development of the newer tools has become more lined up to specific definitions, although many of these instruments need to be more widely used to assess the skills of the populations and allow the design of proper interventions to improve them.

The concept of vaccine literacy has been built on the same idea of health literacy: it has been defined as “not simply knowledge about vaccines, but also developing a system with decreased complexity to communicate and offer vaccines as sine qua non of a functioning health system”.⁶ Nevertheless, when reviewing the factors of vaccine hesitancy, limited vaccine literacy is rarely taken into account, although it is considered a component of vaccination convenience and a concause of low uptake of vaccines, and the success of communication strategies is limited by the difficulties in interesting low-literate individuals.⁷ On the other hand, it is true that a constant association between health literacy skills and vaccine acceptance has not been demonstrated up to now: according to some studies, it has been shown to be positive, while it is negative or missing according to others. It is possibly influenced by different factors, including the various population settings, the type of vaccine under evaluation, and the characteristics of the test administered.⁸ But, it is important to underline that the tools used in these studies are intended for general health literacy, not exactly vaccines': so far, very few tools have been implemented to assess vaccine literacy and no one specific for vaccination or immunization appears in the reference database, the inventory of health literacy instruments of the Boston University.⁹

One tool (Ishikawa test for chronic diseases)¹⁰ has been adapted from the clinical to the preventive field, aimed at addressing not only the functional, but also the interactive and critical vaccine literacy: according to the results of this study, contrary to expectations, parents with higher skills

appear to be more at risk of not vaccinating their children.¹¹ These results match with previous observations where highly educated persons showed lower vaccine acceptance. Good levels of education do not always correspond to suitable abilities of critical interpretation of the information: people with appropriate levels of functional, interactive or even critical literacy, can risk incurring in errors of evaluation, sometimes due to an overload of information.¹² These observations show why vaccine literacy should be more considered, and development of specific measuring tools should be encouraged.

Disease prevention and health promotion share many goals with overlaps between the two realms. The relevance of vaccine literacy in the domain of disease prevention is obvious, as vaccination aims at preventing infectious diseases in individuals and within the population as a whole (herd immunity). Moreover, it is also relevant to health promotion as the process of empowering people to increase control over their health. The nature of immunization is changing: the introduction of newer vaccines inducing protection from strain-specific instead of disease-specific infections (for example, pneumococcal vaccines) is transforming vaccination from preventive intervention to health promotive too, at a time when the prevalence of those specific diseases is low, differently than for older vaccines whose success has been proven targeting highly prevalent and visible diseases.¹³ However, this is also true for other antigenically variable pathogens, such as flu, where the immunization history of subjects can have a role in efficacy.¹⁴ Thus, yearly flu vaccination represents a prevention but also a promotive intervention despite vaccines' effectiveness can be low, due to strain mismatch or other reasons. It is important to the public to be "vaccine literate" so as to comprehend and appraise these aspects, when choosing to be vaccinated.

Health communication and health literacy are sometimes misperceived: while communication is a process, health (and vaccine) literacy can be considered as a tool mediating the transfer of information and facilitating the attainment of outcomes. Reasons behind vaccine hesitancy are complex and include more than just an insufficient knowledge. Providing the public with evidence is critical, but not enough to induce a change in the beliefs of who is against or doubtful about vaccination. On the contrary, documented data can be self-defeating if the interlocutor is saturated with emotional rejections or is overloaded with information. Therefore, communication about vaccination should be lined up to peoples' vaccine literacy.

Health operators are a trusted source of information on vaccines and play a key role in driving vaccine acceptance. Yet, the relevance of health professionals' communication skills is still underestimated, as well as their knowledge about vaccines and about the relevance of health literacy as a barrier to care and prevention. Unfortunately, communication and vaccinology, including vaccine literacy, are frequently considered minor subjects or even omitted in undergraduate education.

Progressing from simple functional measures, more specific instruments aimed at assessing interactive as well as critical vaccine literacy are under development¹⁵ linking their construct to precise definitions and exploiting the

prospects offered by the recent integrated health literacy models. It is desirable that more of these tools are implemented and validated for extensive use, with the objective of assessing peoples' vaccine literacy skills and defining interventions aimed at their improvement.

Disclosure of potential conflicts of interest

The authors have no conflicts of interest to declare.

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