Health technology assessment as a tool to support decision-making in public and universal oral health care

Avaliação de tecnologias em saúde como ferramenta para a tomada de decisão em saúde pública e serviços universais de saúde bucal

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ABSTRACT

Objective: To discuss the importance of health technology assessment (HTA) to allow oral health policies to be planned to meet the needs of prevention, promotion and recovery of patients' health. **Methods:** It is an opinion article. Oral diseases can be a considerable economic burden for the individual and for society, leading to a global impact of US$ 544.41 billion in 2015. **Results:** Brazil has made great progress in terms of oral health care after the publication of the National Policy of Oral Health (PNSB). However, the current challenge is still great, especially with regard to the management of health technologies within the PNSB. **Conclusion:** The accomplishment of HTA to support decision-making on allocation of the financial resources used may prevent the Smiling Brazil program from becoming vulnerable to the waste of the scarce resources allocated to this are, which would result in low effectiveness, inefficiency and inequity of the health system.

RESUMO

Objetivo: Discutir a importância dos estudos de avaliação econômica em saúde para permitir que as políticas de saúde bucal possam ser planejadas para atender às necessidades de prevenção, promoção e recuperação da saúde dos pacientes. **Métodos:** Este artigo se trata de um ensaio. As doenças bucais podem ser um fardo econômico considerável para o indivíduo e para a sociedade. Estima-se que, globalmente, esse impacto tenha sido de 544,41 bilhões de dólares em 2015. **Resultados:** O Brasil avançou muito em termos de cuidados em saúde bucal após a publicação da Política Nacional de Saúde Bucal. Entretanto, o desafio atual ainda é grande, especialmente no que diz respeito à gestão de tecnologias em saúde na Política Nacional de Saúde Bucal (PNSB). **Conclusão:** A realização de avaliações econômicas, para subsidiar a tomada de decisão na alocação dos recursos financeiros utilizados, pode impedir que o programa Brasil Sorridente se torne vulnerável ao desperdício dos escassos recursos que são alocados na área, o que resultaria em baixa efetividade, ineficiência e iniquidade do sistema de saúde.

Introduction

The World Health Organization (WHO) recognizes oral health as essential for general health, emphasizing that having good oral health means more than having good teeth. This is assumed to be a determining condition for quality of life (Sheiham & Watt, 2000; WHO, 2017). The inclusion of dental care as part of the universal health coverage of public health systems has been proposed to minimize the impact of oral diseases on health and contribute to the psychosocial development of individuals (Masood *et al.*, 2015; Mathur *et al.*, 2015). However, at present Brazil is the only country in the world to offer public and universal dental care to over 200 million patients, at different levels of health.

The National Oral Health Policy (PNSB) or Smiling Brazil (Brasil, 2004) is considered a milestone in collective oral health and over the last 14 years has already achieved major accomplishments. In addition to promoting access to oral health care to millions of Brazilians who had never been to the dentist, in 2018 the country counted on 26,514 oral health teams over one thousand dental specialties centers (CEO) and 1,841 regional dental prosthesis laboratories (LRPD), offering actions of promotion, prevention and recovery of oral health (Brasil, 2017).

The high cost of providing oral health care services is recognized worldwide (Tan *et al.*, 2017; Wall & Vujicic, 2015), and the accelerated development of new health technologies has been cited as one of the reasons for the increase in these expenses. However, in addition to costs, there is still concern about whether these new technologies will bring real health benefits to the assisted population. Considering this, it has been observed that public health decision-making will never be a simple process because it must be remembered that there are many players involved in setting priorities when it comes to resource allocation and decision about whether or not a certain technology should be incorporated (Chalkidou *et al.*, 2017; Downey *et al.*, 2017).

A situation such as this may involve a dispute of interests and make this process controversial, especially when the real need of the technology involved in the situation is not understood (Chalkidou *et al.*, 2017; Downey *et al.*, 2017). For example, health professionals may understand prioritization as a threat to their professional autonomy. The technology-producing industry may interpret this process as a barrier to the introduction of its products into the market, and in turn patients may believe that this is another limitation on access to services (Downey *et al.*, 2017).

At a time when the world is discussing the sustainability of universal health care systems, it is opportune to discuss decision-making as regards the management of health technologies within the PNSB, considering the importance of maintaining and expanding the progress achieved by Smiling Brazil. Although so-cial and cultural factors and the pressure of the interested parties play an important role in budget allocation, health technology assessment can contribute to planning, taking into account clinical efficacy/effectiveness and costs, as well as social preference and ethical issues on the health technologies evaluated (Downey *et al.*, 2017; Drummond *et al.*, 2015).

In the absence of such information, priorities are not established by transparent and evidence-based processes and as a result health systems become vulnerable. Therefore, consideration of the results of HTA is a key element in the conception of public health policy planning (Drummond *et al.*, 2015; Bilinski *et al.*, 2017). Added to this, priority setting in the allocation of public resources is always a political issue, and in this sense, it is necessary to strengthen rationality relative to investments in health systems and stimulate adequate expansion in the provision of services (Stenberg *et al.*, 2017). In view of the foregoing discourse, we advocated in favor of HTA for the sustainability of the Smiling Brazil program.

Why does oral health matter?

Major oral diseases afflict people of all ages and are a considerable economic burden for the individual and for society (Righolt *et al.*, 2018; Kassebaum *et al.*, 2017; Marcenes *et al.*, 2013). They affect around 3.9 billion people worldwide, and untreated dental caries are the most prevalent morbid condition among all diseases (Marcenes *et al.*, 2013). The burden of oral diseases on public health has been confirmed to be a significant problem for both developed and developing countries (Mathur *et al.*, 2015).

Globally, the economic impact of oral diseases in 2015 was estimated at US\$ 544.41 billion, of which US\$ 356.80 billion was due to direct treatment costs and US\$ 187.61 billion due to loss of productivity (Righolt *et al.*, 2018). Considering that many of these affections are preventable (Mathur *et al.*, 2015), current health systems face the dual responsibility of devising appropriate prevention strategies and dealing with the problems already present in a large part of the population.

Given this, it is evident that increasing knowledge about the economic impacts of dental diseases will certainly require rational prioritization of appropriate programs or interventions for the control of diseases (Baâdoudi *et al.*, 2017), a fact that will contribute to improving the performance of public health systems based on principles of universality and equity.

Health technology assessment and oral health planning

Numerous challenges are identified in health management, especially in terms of barriers to the expansion of provision and coverage of services, incorporation and continued use of technologies with no effect or with deleterious outcomes, as well as the low use of effective technologies or their use outside

the conditions in which they would present the best cost-effectiveness ratio.

Since resources allocated to health care are scarce and finite and demands are large and growing such failures or waste may result in low effectiveness, inefficiency and inequity of health systems (Maynard & McDaid, 2003). In this context, health economic evaluations (HEEs) are outstanding among HTAs as tools for evaluating the benefits and costs of preventive, diagnostic or therapeutic interventions, by optimizing decisions regarding resource allocation and incorporation of technology in a more equitable way.

The HEEs consider issues of equity and impact on health (Downey *et al.*, 2017; Jamison *et al.*, 2018) and can be used for planning in the most diverse areas of health, including dentistry. Despite all these advantages, economic evaluation studies in dentistry are still scarce. In a rapid search of the PubMed database using the terms "health economic evaluation" AND "dental technology" and the filter for "systematic reviews", we found only 18 studies. The most recently published systematic review (Hettiarachchi *et al.*, 2018) of economic evaluations in oral health included only 23 studies dealing with a variety of topics, with the main ones being oral cancer, prostheses and dental caries, and no statistical analysis of the findings was possible (Hettiarachchi *et al.*, 2018).

In addition to the small number of studies and methodological differences, quality is a critical point, as well as the need for evaluations applied to the context of each country. Planning high quality public health services in the era of universal coverage, such as the Smiling Brazil project, requires information continuously provided by economic evaluation studies. However, this is still an incipient field in dentistry, which impacts on planning, since in parallel with the scarcity of public resources there is the coexistent problem of lack of evidence to guide clinical decision-making and management of available technologies.

Health technology assessment and Smiling Brazil: perspectives of the HTA impact

There is a large and continuous need to improve the routine reporting of information on oral health, use of dental services, benefits achieved and associated economic impacts (Righolt *et al.*, 2018). In an ideal oral health care system, care provision must be monitored over time relative to its performance and costs, because the circumstances, materials, demand and supply of the workforce can also change (Tomar & Cohen, 2010).

It is common for policy- and decision-makers to give lower priority to the treatment of diseases such as oral conditions, about which there is little information concerning their economic impacts, than for diseases with a more comprehensive documentation (Righolt *et al.*, 2018). Furthermore, although dental care is an important area for the world's population

health, it is often neglected by governments when it comes to public health systems (Baâdoudi *et al.*, 2017).

From the perspective of Smiling Brazil, this presents a rich field for research, capable of contributing to the decision-making and strengthening of the PNSB. Moreover, while the Smiling Brazil experience may be considered unique, a look at this policy and the impacts achieved on the population could serve as a reference for other countries in defense of access to oral health in universal health systems.

Considering the oral health teams and the various dental specialties within the context of the Unified Health System, we list below some questions of interest that could be answered by well-designed HTA studies:

- How much does a local oral health team cost? And how effective is it?
- What is the impact of oral health assistants' and oral health technicians' participation on the costs of dental care?
- What is the cost-effectiveness of the most varied technologies used in the area?

In addition to these study perspectives, we can also work to bring the National Committee for Health Technology Incorporation (Conitec) closer to the management of Smiling Brazil in order to produce, for example, clinical protocols and therapeutic guidelines to establish criteria for the diagnosis, recommended treatment, clinical management and follow-up of various oral pathologies. Despite advances in the work of Conitec, there is no study to contribute to this important Brazilian policy. In addition, we must invest in disseminating the results of all these efforts between managers and professionals.

Conclusions

HTA is still little used in the decision-making by oral health managers. HTA is an indispensable tool to support management decisions regarding the provision of quality oral health care in a socially sustainable way. Therefore, public policies linked to Smiling Brazil can have adequate governance and greater efficiency in public spending.

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