CHALLENGES AND PERSPECTIVES OF HEALTH EDUCATION IN THE TRANSITION FROM A HOSPITAL-CENTRIC MODEL TO HEALTH PROMOTION

DESAFIOS E PERSPECTIVAS DA EDUCAÇÃO EM SAÚDE NA TRANSIÇÃO DO MODELO HOSPITALOCÊNTRICO PARA A PROMOÇÃO DA SAÚDE

DESAFÍOS Y PERSPECTIVAS DE LA EDUCACIÓN PARA LA SALUD EN LA TRANSICIÓN DE UN MODELO CENTRADO EN EL HOSPITAL A LA PROMOCIÓN DE LA SALUD

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ABSTRACT

This bibliographic review analyzes the transition from the hospital-centered (biomedical) model to the Health Promotion paradigm, focusing on the strategic role of Health Education in this process. The traditional biomedical model is criticized for its reductionist, fragmented, and financially unsustainable nature, especially in the face of the rise of chronic diseases. Health Education is presented as a central tool for this change, encompassing both traditional behavior-change approaches and emancipatory perspectives grounded in Paulo Freire. Multiple barriers to effective implementation are identified: professionals' intrapersonal beliefs, gaps in academic training, institutional resistance, systemic focus on curative care, and low community health literacy. Regarding future perspectives, the Astana Declaration (WHO), the "Health in All Policies" concept, innovative comprehensive care models such as the Two-Circle Model, and the integration of digital technologies (artificial intelligence, wearables, genomics, telehealth) stand out. The conclusion is that the effective transition requires coordinated efforts in curriculum reform, resource allocation, professional training, health literacy promotion, and ethical integration of digital technologies.

Keywords: Health Education. Health Promotion. Hospital-Centered Model. Paradigm Shift. Digital Health Technologies.

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RESUMO
Este artigo de revisão bibliográfica analisa a transição do modelo hospitalocêntrico (biomédico) para o paradigma da Promoção da Saúde, com foco no papel estratégico da Educação em Saúde nesse processo. O modelo biomédico tradicional é criticado por seu caráter reducionista, fragmentado e financeiramente insustentável, especialmente diante do crescimento das doenças crônicas. A Educação em Saúde é apresentada como ferramenta central para essa mudança, abrangendo desde abordagens tradicionais de mudança de comportamento até perspectivas emancipatórias fundamentadas em Paulo Freire. São identificadas múltiplas barreiras para a implementação efetiva: crenças intrapessoais dos profissionais, deficiências na formação acadêmica, resistência institucional, foco sistêmico no cuidado curativo e baixo letramento em saúde da comunidade. Quanto às perspectivas futuras, destacam-se a Declaração de Astana (OMS), o conceito de "Saúde em Todas as Políticas", modelos inovadores de cuidado integral como o Modelo de Dois Círculos, e a integração de tecnologias digitais (inteligência artificial, wearables, genômica, telessaúde). Conclui-se que a transição efetiva requer esforços coordenados em reforma curricular, alocação de recursos, capacitação profissional, promoção do letramento em saúde e integração ética de tecnologias digitais.

Palavras-chave: Educação em Saúde. Promoção da Saúde. Modelo Hospitalocêntrico. Mudança de Paradigma. Tecnologias Digitais em Saúde.

RESUMEN
Este artículo de revisión bibliográfica analiza la transición del modelo hospitalario (biomédico) al paradigma de la promoción de la salud, centrándose en el papel estratégico de la educación para la salud en este proceso. El modelo biomédico tradicional es criticado por su carácter reduccionista, fragmentado e insostenible económicamente, especialmente ante el aumento de las enfermedades crónicas. La educación para la salud se presenta como una herramienta fundamental para este cambio, abarcando desde enfoques tradicionales para el cambio de comportamiento hasta perspectivas emancipadoras basadas en Paulo Freire. Se identifican múltiples barreras para una implementación efectiva: creencias intrapersonales de los profesionales, deficiencias en la formación académica, resistencia institucional, un enfoque sistémico en la atención curativa y baja alfabetización en salud en la comunidad. En cuanto a las perspectivas futuras, se destacan la Declaración de Astana (OMS), el concepto de "Salud en todas las políticas", modelos innovadores de atención integral como el Modelo de los Dos Círculos y la integración de tecnologías digitales (inteligencia artificial, dispositivos portátiles, genómica, telesalud). Se concluye que una transición efectiva requiere esfuerzos coordinados en la reforma curricular, la asignación de recursos, la formación profesional, la promoción de la alfabetización en salud y la integración ética de las tecnologías digitales.

Palabras clave: Educación para la Salud. Promoción de la Salud. Modelo Hospitalario. Cambio de Paradigma. Tecnologías Digitales en Salud.

1 INTRODUCTION

The history of global public health is marked by paradigmatic transformations that reflect changes in the conceptions of health, disease and care. For much of the twentieth century, the biomedical model, centered on disease and hospital care, dominated health systems globally.[1][2] This model, derived from germ theory and grounded in a reductionist approach, was extremely successful in eliminating infectious diseases and increasing life expectancy, which in the United States went from 49 years in 1901 to 78 years in 2007.[2]

However, with the epidemiological transition and the increase in the prevalence of chronic non-communicable diseases, the limitations of the hospital-centered model have become evident. This model, characterized by the fragmentation of care, emphasis on cure to the detriment of prevention, and exclusive focus on biological factors, proved to be insufficient and financially unsustainable to respond to the complex health needs of contemporary populations.[1][3][4]

In contrast, the Health Promotion paradigm emerged, consolidated internationally by the Ottawa Charter in 1986, which defines health promotion as "the process of empowering people to increase control over their health and improve it".[5][6] This new paradigm broadens the concept of health beyond the absence of disease, recognizing the social, environmental, economic, and behavioral determinants of health, and proposing intersectoral and participatory strategies.[6][7][8]

In this context of paradigmatic transition, Health Education assumes a fundamental strategic role. Unlike the simple transmission of information about diseases, contemporary health education is conceived as a continuous, dynamic and complex teaching-learning process, implemented through an equitable partnership between professionals and users, aiming to empower individuals and communities to promote behavioral changes and achieve positive health outcomes.[9]

The objective of this article is to critically analyze the challenges and perspectives of Health Education as a central strategy in the transition from the hospital-centered model to the Health Promotion paradigm, examining the theoretical bases, practical barriers and future trends that can consolidate this transformation in health systems.

2 THE HOSPITAL-CENTERED MODEL AND ITS LIMITATIONS

The hospital-centered model, based on the biomedical paradigm, is characterized by a reductionist approach that explains all disease in biological terms, often neglecting psychological, social, and environmental factors.[1][2] This model reflects a mind-body dualism in which "mental" disorders are excluded from the central concerns of Western

medicine unless they can be explained by some underlying biological defect.[2]

While it has produced remarkable successes, including antibiotics, vaccines, organ transplants, and cures for some cancers, the biomedical model has also generated expensive, marginally useful, or even useless interventions.[10] The prestige earned by their successes has created a public presumption of rigorous scientific efficacy, which can drive suboptimal care when reductionist thinking, often coupled with the commercial imperatives of product development, triggers the search for unique solutions that produce questionable benefits at rising costs.[10]

The fragmentation of care is another critical limitation of this model. Health care organized around medical specialties and hospital procedures results in care discontinuity, loss of information, and compromise of comprehensive care.[11][12] Studies have shown that the transition of patients between different levels of care and professionals represents moments of high risk for errors and adverse events.[12]

From an economic point of view, the hospital-centric model has become financially unsustainable. In the United States, chronic diseases whose prevention and management are neglected in this model represent 75% of health costs.[2] The emphasis on highly complex curative interventions, to the detriment of lower-cost preventive and promotional actions, contributes to the unsustainable escalation of health spending observed globally.[3][13]

In addition, the focus on deviations from biological norms rather than patients' needs is one of many factors underpinning the widespread lack of patient involvement in therapeutic decisions and goals.[10] This focus can lead to neglect of patients' cognitive and emotional needs, individual preferences, underutilization of behavioral therapies and counseling, and neglect of social and public health strategies for disease prevention.[10]

Finally, the hospital-centered model is inadequate to respond to the current prevalence of chronic diseases. With these conditions accounting for the majority of morbidity and mortality in Western countries, health systems designed around acute biomedical care models face difficulties in improving patient-reported outcomes and reducing costs.[4] The growing proportion of health care resources dedicated to chronic disorders and the concomitant need to improve patient outcomes require urgent action.[4]

3 HEALTH EDUCATION AS A STRATEGY FOR CHANGE

Health Education represents a fundamental strategy for the transition from the hospital-centered model to Health Promotion. Conceptually, health education is defined as a continuous, dynamic, complex and planned teaching-learning process throughout life and in different contexts, implemented through an equitable and negotiated partnership between

client and health professional, to facilitate and empower the person to promote/initiate behavioral changes related to lifestyle that promote positive health outcomes.[9]

The theoretical bases of contemporary Health Education are based on multiple references. Theories of behavioral change, such as the Health Belief Model, Bandura's Social Cognitive Theory, the Theory of Planned Behavior, and the Transtheoretical Model, provide frameworks for understanding and influencing health-related behaviors.[14][15][16] These theories emphasize constructs such as self-efficacy, behavioral intention, perception of risk and benefits, and stages of readiness for change.[16][17]

Particularly relevant is the contribution of Paulo Freire's pedagogy to emancipatory health education. Freire's philosophy of "education for critical consciousness" takes on special relevance in the context of health systems, proposing a dialogical approach to change that emphasizes action based on critical reflection by people.[18][19] This perspective contrasts fundamentally with traditional health education, characterized by the simple dissemination of information for behavioral change — an approach that, despite being the cornerstone of traditional health education practice, demonstrates limited effectiveness in improving public health.[20]

Popular health education, also known as Freirean or emancipatory education, has been successfully used to create a more equitable playing field around the world for more than 50 years.[19] Its use to improve health has been documented in the public health literature since the early 1980s, although it remains largely unknown and its potential unrealized in mainstream public health circles in the industrialized world.[19]

The fundamental distinction between traditional and emancipatory education lies in their goals and methods. While traditional education focuses on the one-way transmission of information about diseases and risk behaviors, emancipatory education seeks to develop critical awareness, autonomy, and individual and collective empowerment.[21][22][23] The emancipatory perspective considers health literacy as a key element in promoting autonomy and empowerment among individuals and population groups, enabling them to recognize their fundamental right to health and their role as citizens.[22]

Qualitative studies demonstrate that popular education is an effective method for increasing empowerment and improving health.[19][24] The Freirean approach integrated with theories of cognitive and behavioral change can develop comprehensive health education programs aimed at both individual and community change.[24]

In the context of primary health care, health education plays a crucial role. Primary care is ideally positioned to manage conditions that restrict educational or employment opportunities in the short term, but it also acts through prevention and early intervention

throughout the life course.[8] Health education in primary care contributes to the achievement of the Sustainable Development Goals by not only improving health (SDG 3), but also promoting education, reducing inequalities and fighting poverty.[8][25]

4 CHALLENGES IN PUBLIC HEALTH PRACTICE

The transition from the hospital-centered model to Health Promotion faces multiple barriers that operate at different levels of the health system. A meta-ethnographic synthesis identified factors that affect the implementation of primary prevention and health promotion activities in primary care, organized in a five-level ecological model: intrapersonal factors, interpersonal processes, institutional factors, community factors, and public policies.[26]

At the intrapersonal level, professionals' beliefs about prevention and health promotion, experiences, skills, knowledge, and self-concept constitute significant barriers.[26] Many health professionals maintain traditional conceptions focused on the disease, demonstrating resistance to the incorporation of preventive and promotional practices into their routine.[26][27]

Academic training represents a critical challenge. Medical education and other health care professionals remain predominantly focused on the biomedical model and curing disease.[25][26] University curricula devote limited importance to primary prevention and health promotion, resulting in professionals inadequately prepared to implement these actions.[26] In addition, the health workforce is not trained in multisectoral actions, and already experiences workloads of an overwhelming nature.[25]

At the institutional level, primary care is perceived as well positioned to implement prevention and health promotion, but the overload of work, lack of time and reference resources, and the predominance of the biomedical model (which prioritizes the treatment of diseases) make it difficult to implement these activities.[26] The effectiveness of financial incentives and tools such as guidelines and reminders/alarms is conditioned by practitioners' attitudes toward them.[26]

Institutional resistance is also manifested in the allocation of resources. Resources allocated to health promotion are often diverted to other programs, resulting in disconnection between national and provincial levels, which impedes communication and opportunity to develop a shared vision and coherent program.[27][28] Inadequate government spending on health is exacerbated by the small proportions allocated to primary health care.[25]

Systemic barriers include the traditional focus of health systems on a "responsive" rather than "proactive" approach to the health of individuals and populations.[29] Within the context of the consultation, factors such as lack of time, lack of clinician expertise, logistical

difficulties, lack of patient interest, other pressing concerns, inadequate remuneration, and patient concerns regarding interventions may play a role.[29]

Recent policy analyses identify persistent barriers to prevention caused by: limited clarity as to what it means in practice, limited congruence with routine policy delivery, and limited capacity to sustain important change.[30] Challenges include short-termism, financial and operational pressures, routine limits on cooperation, untapped community assets, and limited opportunities for peer learning.[30]

Institutional capacity for health promotion remains limited. Evaluations show that the capacity to develop long-term and sustainable health promotion interventions is limited at all levels.[28] There is limited collaboration between national and provincial health promotion levels, limited monitoring of health promotion indicators in the health information system, and coordination of health promotion efforts between different sectors largely absent.[28]

Finally, community factors include patients' social and cultural characteristics (religion, financial resources, etc.), local referral resources, mass media messaging, and pharmaceutical industry campaigns.[26] Health literacy is common among the population, even in developed countries, representing an additional barrier to the effective implementation of health promotion programs.[25]

5 PERSPECTIVES AND FUTURE TRENDS

The consolidation of the transition to the Health Promotion paradigm depends on the integration of robust public policies with emerging technologies and new models of care. Several promising trends are emerging that can accelerate and sustain this transformation.

In the field of public policies, the reaffirmation of the principles of the Ottawa Charter through the 2018 Astana Declaration redefines the three functions of primary health care as: provision of services, multisectoral actions, and empowerment of citizens.[25] This framework explicitly recognizes that health-related sustainable development goals cannot be achieved by the provision of health services alone, requiring joint efforts between local, national, and international partners, and public awareness (health literacy) about preventable diseases.[25]

The "Health in All Policies" approach represents a fundamental strategy to institutionalize health promotion beyond the health sector.[5][31] This perspective recognizes that all sectors have a role in promoting and coordinating efforts to improve health by addressing social, environmental, and economic determinants.[8][31]

Innovative models of care are emerging to integrate prevention and treatment. The Two-Circle Model of Whole-Person Care, developed for the U.S. Department of Veterans Affairs, integrates the current disease-focused, transaction-based model of care with a

person-centered, relationship-based, health-promoting and recovery-focused model.[32] This framework rebalances the current disease-focused approach with a person-centered, relationship-based, and recovery-focused one, demonstrating improvements in Quadruple Aim outcomes across multiple systems.[32]

Emerging digital technologies have transformative potential for health promotion and preventive medicine. The era of future digital health will be characterized by the shift to predictive, preventive, personalized, and participatory (P4) medicine, with an emphasis on health promotion over disease treatment.[33] This "shift to the left" toward preventive care is anticipated to redefine health by emphasizing health promotion over the treatment of disease.[33]

Specific technologies include: genomics for personalized risk assessment; artificial intelligence for screening, early diagnosis, and health counseling; bioengineering and wearable devices for continuous monitoring of physiological parameters; and telemedicine to expand access to health promotion services.[33][34][35] Wearable devices provide health-related data that has grown in the numbers and types of data available over the past two decades, with applications in prevention including activity trackers to promote physical fitness (primary prevention), mobile electrocardiogram devices to detect arrhythmias (secondary prevention), and continuous glucose monitoring to improve glycemic control in type 2 diabetes (tertiary prevention).[36]

Artificial intelligence is transforming health promotion and disease reduction through improved early detection, encouraging healthy lifestyle modifications, and mitigating economic pressure on health systems.[34] Recent reviews demonstrate positive outcomes for process outcomes (acceptability, engagement), cognitive and behavioral outcomes (confidence, step count), and health outcomes (blood glucose, blood pressure).[34]

However, significant challenges remain. Data security and privacy risks, health inequities amplified by the digital divide and device biases, and limitations of artificial intelligence (reproducibility, opacity or "black box" issues, and unclear legal liability) must be addressed.[35][37] Future success depends on robust privacy protections, inclusive design, diverse real-world validation, and refined regulatory frameworks to ensure equitable and sustainable implementation.[35]

Digital transformation will increasingly find its way into the various process phases over the next five years, with particular expectation of technologies for behavioral change in hybrid formats.[38] The use of technology in the future can lead to more participation, partnerships, empowerment and equity in contexts, but on the other hand it can also reinforce exclusion and injustice if adequate underlying conditions are not provided.[38]

Finally, the integration of genomics, behavioral change, and digital health solutions represents a promising approach to globally transform approaches to the prevention and management of chronic diseases across the lifespan.[39] Personalized prevention, using polygenic and multifactorial risk prediction tools, advanced prevention and management of chronic diseases based on behavioral change, and digital health systems to support greater efficiency in population-scale health prevention and intervention programs, offers a promising conceptual framework, although additional research is needed to investigate the effects of its integration at the population level.[39][40]

6 FINAL CONSIDERATIONS

The transition from the hospital-centered model to the Health Promotion paradigm represents both an epidemiological and economic imperative for contemporary health systems. The biomedical model, despite its historical successes, has proven inadequate to respond to the current prevalence of chronic diseases and the complex social, environmental, and behavioral determinants of health. Its emphasis on fragmentation of care, exclusive focus on biological factors, and prioritization of treatment over prevention has resulted in systems that are financially unsustainable and unable to significantly improve population health outcomes.

In this context, Health Education emerges as a central strategy and engine of transformation. Based on solid theoretical bases, from theories of behavioral change to Paulo Freire's emancipatory pedagogy, contemporary health education transcends the simple transmission of information, constituting a dialogical process for the construction of autonomy, critical awareness and individual and collective empowerment. This approach aligns perfectly with the principles of Health Promotion established by the Ottawa Charter: community participation, equity, intersectoral action, and focus on the social determinants of health.

However, significant challenges persist at multiple levels. Professional training remains predominantly focused on the biomedical model; institutional resistance is manifested in the inadequate allocation of resources for prevention; systemic barriers include work overload, lack of time, and predominance of curative care incentives; and community factors such as low health literacy and social inequalities limit the reach and effectiveness of interventions.

The future prospects are, however, promising. The integration of robust public policies such as the Health in All Policies approach with emerging technologies including artificial intelligence, wearable devices, telemedicine and genomics offers unprecedented

opportunities to consolidate the paradigmatic transition. Innovative models of comprehensive care for the person demonstrate feasibility and effectiveness in integrating prevention and treatment, health promotion and recovery.

The sustainability of health systems in the twenty-first century depends fundamentally on the ability to implement this paradigmatic transition. Health Education, in its emancipatory and dialogical perspective, is not only a technical tool, but also a political and social process of transformation. Its role as an engine of public health sustainability lies precisely in its ability to develop critical awareness, autonomy and active participation of individuals and communities in the construction of healthier and more equitable living conditions.

For this transition to be fully implemented, coordinated efforts are needed on multiple fronts: curricular reformulation in the training of health professionals; reallocation of financial resources prioritizing prevention and promotion; development of institutional capacity for multisectoral actions; strengthening of literacy in population health; and ethical and equitable implementation of digital technologies. Only through this comprehensive and integrated approach will it be possible to fully realize the transformative potential of Health Education and consolidate truly health-promoting, equitable and sustainable health systems.

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