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Article

Pharmaceutical services and health promotion: how far have we gone and how are we faring? Scientific output in pharmaceutical studies

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The objective of this study was to investigate the scientific output on health promotion within the pharmaceutical field and its relation with the development of pharmaceutical services within health systems. A comprehensive review of published scientific articles from the Medline and Lilacs databases was carried out. The review comprised articles published until December 2011, and used combinations of the terms 'health promotion' or 'health education' and 'pharmacy', 'pharmacist' or 'pharmaceutical'. The articles were selected according to inclusion and exclusion criteria. A total of 170 full texts and 87 indexed abstracts were analyzed, evidencing that most described actions of health promotion in community pharmacies and other services. Following the Ottawa Charter, most of the studies dealt with new guidance of the service and the supply of pharmaceutical information and services. It was concluded that there is a lack of theoretical background on health promotion in the pharmaceutical field to sustain the professional education and practice required by the health system and the population.

Uniterms: Health promotion. Health education. Pharmaceutical care/scientific production. Pharmacists/professional practice. Pharmacy.

O objetivo do estudo foi investigar a produção científica sobre o desenvolvimento teórico e prático da promoção da saúde na farmácia e sua relação com o desenvolvimento da área e dos serviços farmacêuticos. A revisão integrativa de artigos científicos foi realizada a partir das bases de dados Medline e Lilacs. Ela compreendeu os artigos publicados até dezembro de 2011, através da combinação dos termos 'promoção da saúde ou educação em saúde' e 'farmácia, farmacêutico ou farmacêutica'. Critérios de inclusão e exclusão definiram a seleção dos textos. Ao todo, 170 artigos e 87 resumos foram analisados, sendo a maioria identificada como trabalhos teóricos que relatam atividades descritas como de promoção da saúde em farmácias comunitárias ou outros serviços. Confrontando com o referencial da Carta de Ottawa, a maioria dos estudos revelou ter como campo de investigação principal alguma proposição de reorientação dos serviços de saúde e oferta de informações e práticas farmacêuticas. Conclui-se que há uma carência de embasamento teórico sobre promoção da saúde na área farmacêutica para sustentar a formação e prática profissional, conforme exigido pelo sistema de saúde e pela população.

Unitermos: Promoção da saúde. Educação em saúde. Atenção farmacêutica/produção científica. Farmacêuticos/prática profissional. Farmácia.

INTRODUCTION

The term "health promotion" is commonly used in health jargon and has been frequently utilized as a synonym for disease prevention, health education and changes in people's lifestyle to improve quality of life and reduce risk of disease. Although some studies have pointed out the great potential of community involvement in the process of social changes (Merzel, D'Afflitti, 2003; Wallerstein *et al.*, 2011), the search for efficient strategies to bring about changes in personal habits and attitudes that are potentially harmful to health continues to attract the attention of health services and researchers (Glasgow *et al.*, 2004; Wise, Nutbeam, 2007).

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The 1st International Conference on Health Promotion that took place in Ottawa (1986) was a response to the increasing expectations for a new kind of public health. Since the Ottawa Charter, health promotion has had a consistent theoretical and political framework validated internationally and has influenced health philosophy and strategies to a greater or lesser degree worldwide. The Ottawa Charter clarified basic concepts and conditions regarding health promotion such as the responsibility of several sectors beyond health and the need to progress beyond a healthy lifestyle towards global well-being (Catford, 2011). Health conditions and basic resources comprise peace, housing, education, food, income, stable ecosystem, sustainable resources, social justice and equity (WHO, 1986). Subsequently, other Conferences on Health Promotion were organized in order to establish guidelines and strategies for the devising of policies and actions that promote health worldwide and evaluate its progress as well as the new challenges (Catford, 2011).

Legal and institutional landmarks for health promotion in Brazil and Latin America are contemporary to the Ottawa Conference (Wallerstein *et al.*, 2011). Concepts and principles, highly influenced by the Ottawa Charter and the Alma Ata Conference (1978), were then introduced into the Brazilian Federal Constitution of 1988 which established the Unified Health System. However, it was only in 2006 that Brazil inaugurated its National Policy of Health Promotion (Buss, Carvalho, 2009).

In the pharmaceutical context, documents related to the international practices, policies and professional education then started mentioning health promotion as one of the objectives of the sector and also of pharmacists' practice (WHO, 1988; WHO, 1997; WHO, 1998). It is understood that the presence of the term "health promotion" in these documents stems from the movement to bring the pharmaceutical field closer to health care and public health underway in the sector since the 1980s. However, these quotations are either highly evasive (they merely mention the term) or are restricted to the proposition of pharmaceutical practices mainly relating to the use of medications and to advice regarding reduction of risks and changes in lifestyle. What about the scientific output in the pharmaceutical field? How has health promotion been understood and developed in theoretical and practical studies? What are the basic theories applied in this field of knowledge?

Thus, the current study has the objective of reviewing the literature on the subject and of identifying and discussing the scientific output and its relation with the development of this field and the pharmaceutical services within the health systems.

METHODS

This is a comprehensive review that analyzes scientific studies on the subject seeking to characterize and observe the theoretical bases of this output. A review of articles published in the Medline databases was carried out using the keywords (health promotion AND pharmacy) OR (health promotion AND pharmacist) OR (health promotion AND pharmaceutical) OR (health education AND pharmacy) OR (health education AND pharmacist) OR (health education AND pharmaceutical); and in the Latin American and Caribbean Literature in Health Sciences (Lilacs) using the keywords (promoção da saúde AND farmácia) OR (promoção da saúde AND farmacêutico) OR (promoção da saúde AND farmacêutica) OR (educação em saúde AND farmácia) OR (educação em saúde AND farmacêutica) OR (educação em saúde AND farmacêutico). The research was carried out in July 2012 taking into account publications with dates up to December 2011.

First, the selection of studies concentrated exclusively on those having an abstract. Second, the abstracts were individually read, checking their appropriateness and pertinence to the study. Abstracts not related to actions, projects or studies in connection with health education or promotion specifically applied in the pharmaceutical field were excluded. Abstracts that had some relation with the objective of the research were catalogued and analyzed according to information relevant to the analysis (year and country of publication, type of study, target population, objective of study).

Third, full articles were searched and analyzed in order to identify implicit and explicit conceptions of health promotion and the action field, also looking for additional pertinent information to help understand the development of related studies and to allow discussion of results.

The categories of the "action field" were outlined according to the approach of the Ottawa Conference that defined five main action fields for health promotion (WHO, 1986), as follows:

(1) Build Healthy Public Policy: a coordinated action addressed towards health equity, more equal distribution of wealth and social policies, assuring safer and healthier goods and services, healthy public services and cleaner and enjoyable environments.
(2) Create Supportive Environments: health promotion provides safer, stimulating, satisfactory and enjoyable living and working conditions.
(3) Strengthen Community Actions: empowerment of communities – the command and the control of their own efforts and future;

(4) Develop Personal Skills: support for personal and social development through the divulgation of information, education for health and intensification of vital abilities so that the people may have better control over their own health and the environment;
(5) New guidance for health services and systems: to adopt a comprehensive posture and to support the individual and communitarian needs that perceive and respect local, cultural and social specificities and re-guide their organization in order to improve health conditions and not only the treatment of diseases.

As a limitation in the second stage, it is notable that some publications did not have an abstract or a satisfactory description of the study. In the third stage however, the review excluded articles that were not available in full, even in services of bibliographic exchange, or that were written in languages other than Portuguese, Spanish, English or French.

RESULTS

Characterization of the articles

The original search identified 1343 references: 1217 in the Medline databases and 126 in Lilacs. After excluding those papers without an abstract, two researchers (CAN and SNL) read the titles and abstracts of the remaining 1010 research papers to further exclude papers unrelated to the subject. This study was limited because out of the 257 references remaining, only 87 had abstracts (yet without a full version of the paper, while another 18 were written in a language other than those selected as eligible). Considering the importance of data such as year of publication, location and type of study, these abstracts were included in the analysis only in Table 1. Thus, one hundred and seventy studies were included in the complete review (Figure 1).

The first texts date back to 1975 while a marked increase in publications was observed during the 1990s and a major concentration in 2011. Most articles were published in the United States (Table I), followed by Brazil, Australia and Canada all with a considerable percentage of papers. Brazilian journals started publishing on health promotion in 1996, while the second position by study location is held by a Latin American database.

Most of the articles or abstracts identified were theoretical works that reported actions on health promotion in community pharmacies where the pharmacists themselves are the subjects of the investigation and, in a smaller proportion, their users (Table I). Published texts

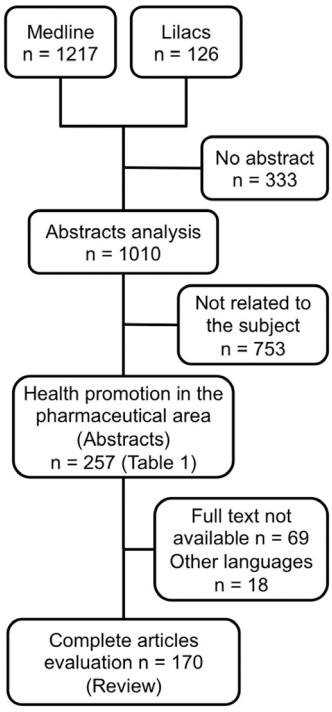

FIGURE 1 - Study selection process.

or their abstracts were limited to descriptions of actions performed in specific programs (for specific prevention or for the management of chronic diseases, use of illicit drugs and smoking cessation). They suggested the development of materials and facilities such as folders, talks and pharmaceutical counseling; educational actions on broader themes mostly related to careful usage of medicines; and the evaluation of the pharmacist's opinion or of the patient's satisfaction regarding the services rendered. These articles also comprised educational actions aimed at undergraduates, and involved a new focus on course curricula. Strategies in the pharmaceutical field to comply with programs in order to benefit people's health were also cited (Babb, Babb, 2003; Ciardulli, Goode, 2003; Offiong *et al.*, 2011).

When compared to the Ottawa Charter (Table II), most of the 170 studies (full text available) revealed that their main investigation field consisted of some propositions regarding the organization's re-orientation and the provision of pharmacy services. For instance, the development of an organizational model for community pharmacies (Scahill, Harrison, Carswell, 2010) or also providing information, counseling and other strategies (Babb, Babb, 2003; Vieira, 2007). Such activities aim to bring about changes in personal attitudes as a substratum for a healthier life (for instance, physical exercises and changes in eating habits), such as programs and campaigns (Hammarström, Wessling, Nilsson, 1995; Hersberger *et*

TABLE I - Characterization of 170 full text articles and 87 abstracts selected

Year	**n (%)**
1975 – 1981	8 (3%)
1982 – 1991	14 (5%)
1992 – 2001	57 (22%)
2002 – 2011	178 (69%)
Place of study	**n (%)**
United States	43 (17%)
Brazil	14 (5%)
Australia	9 (4%)
Canada	9 (4%)
Scotland	8 (3%)
Japan	5 (2%)
Others	63 (24%)
Not reported	106 (41%)
Type of study	**n (%)**
Theoretical	163 (63%)
Practical	94 (34%)
Target population	**n (%)**
Pharmacist	139 (54%)
Student	39 (15%)
Patient	61 (24%)
Others	18 (7%)
Scope	**n (%)**
Community pharmacy	101 (39%)
School of pharmacy	31 (12%)
Hospital, ambulatory, health care, clinic	22 (9%)
School	5 (2%)
Not reported	98 (38%)
Focus	**n (%)**
Smoking cessation	26 (10%)
Cardiovascular disease	18 (7%)
Asthma	10 (4%)
Oral health	8 (3%)
Diabetes	7 (3%)
Others	61 (24%)
Not reported	127 (49%)

al., 2006; Kellow, 2011). Further, health education actions focused on the adherence and appropriate use of medicines were also described (Jellin, Mar, 1980; Taniguchi, 1980; Awad, Abahussain, 2010).

Propositions of actions with the objective of reinforcing community action were observed in papers, citing the empowerment of the individual or the development of a given community organization in order for them to exert control over their choices (Srnka, Portner, 1997; Nichols-English, Poirier, 2000; Kellow, 2011). However, these choices were focused only on adherence to medical treatment and on personal attitudes to prevent diseases. The field of public policies was identified in only one abstract addressing the influence of pharmacies on policy changes and in pharmaceutical practices vis-à-vis HIV/AIDS progress, but the full text was not available and could not be analyzed. These articles did not address the field of supportive environments, and were classified into one or more fields of action as per their content.

The role of the pharmacist

According to the articles analyzed, the pharmacist is at the end of the chain of the patients' contact with health professionals after the medical decision for pharmacological therapy (Kellow, 2011), or is the sole contact regarding medicines which do not require medical prescriptions or for changes in habits such as quitting smoking (Aquilino *et al.*, 2003; Lloyd-Williams, 2003). Most articles described the pharmacist as an accessible and available health professional. The community pharmacy is viewed as a setting conducive for health promotion, since it may be found in a broad variety of places and is available on a 24-hour basis (Myers *et al.*, 1996; Nichols-English, Poirier, 2000).

The pharmacists' actions, which were proposed or studied in the selected articles, may be grouped into four categories:

(1) Education and counseling for the patient on the medicine dose, side effects, drug interactions, with possible therapy intervention towards improved compliance. Education and counseling are important for changes in behavior and lifestyle, such as self-care, nutrition counseling, program of physical exercises and quitting smoking (Nichols-English, Poirier, 2000; Berdine, O'Neil, 2007; Sisson, Kuhn, 2009; Maffeo *et al.*, 2009; Lenz *et al*, 2011).

(2) Follow-up or monitoring in order to detect the patient's non- adherence, and to recognize possible side effects (O'Loughlin *et al.*, 1999; Chandra, Malcolm, Fetters, 2003; Grant *et al.*, 2003).

(3) Referring the patient to specialized professionals, when specific care is required (O'Loughlin *et al.*, 1999; Naves, Merchan-Hamann, Silver, 2005).

(4) Identification and selection of patients with risk fac-

TABLE II - Characterization of 170 full text articles selected (Ottawa Charter)

Activity means (Ottawa Charter)	n (%)[a]	Abstract
Build Healthy Public Policy	-	-----
Create Supportive Environments		-----
Strengthen Community Actions	4 (2%)	Proposals that aimed to promote the empowerment of subjects or communities for the control of choices. They are focused on adherence to medical treatment, personal attitudes for prevention of diseases and active participation in health education talks and health campaigns.
Develop Personal Skills	83 (49%)	Incentives towards changes in personal habits or liabilities for a healthy life and better life quality. Programs and campaigns focused on the promotion of physical activities, healthy meals, and smoking cessation are the most frequently cited items.
Reorient Health Services	165 (97%)	Proposals for the re-organization of pharmacies and the supply of pharmaceutical goods and services, such as information, counseling, health education and other strategies.

[a] Articles were classified into one or more categories according to subject matter.

tors for illnesses targeted in health programs, such as cardiovascular diseases (Srnka, Portner, 1997; Boyle, Coffey, Palmer, 2004).

Barriers to the development of practices in health promotion

Notwithstanding the barriers to the development of health promotion, pharmaceutical services figure prominently in the published literature, evidencing concerns about professional re-orientation which has been stimulated by international organizations, the market and, in the Brazilian case, by the public health system.

Three reasons for the barriers to development of the pharmacist's professional actions may be identified in the literature under analysis:

(1) The pharmacist and the pharmaceutical occupation, for instance, the pharmacist's lack of knowledge on drugs and their uses (Paul *et al.*, 2007) or on oral health (Dickinson, Howlett, Bulman, 1995; Maunder, Landes, 2005), conflict of roles in the community pharmacy due to the need to sell goods (Lloyd-Williams, 2003), lack of skills and specific training for actions in health promotion, and therefore qualification and training programs for pharmacists are needed (O'Loughlin *et al.*, 1999; Vinholes, Alano, Galato, 2009); furthermore, personal impairments such as fear, resistance to new concepts and lack of self-reliance, the characteristics that have been largely referred to in the case of pharmacists (Boyle, Coffey, Palmer, 2004; Sunderland *et al.*, 2006).

(2) The pharmacy and work organization, such as lack of proper remuneration, extensive actions to be accomplished (Aquilino *et al.*, 2003; George *et al.*, 2010) and the consequent lack of time (Patwardhan, Chewning, 2009), lack of proper instruments for the required actions (O'Loughlin *et al.*, 1999), communication and role conflicts, lack of physical space and privacy for patient advice (Foster, Smith, 1998; O'Loughlin *et al.*, 1999; Nichols-English, Poirier, 2000).

(3) The health service fragmentation, for instance, lack of integration between health teams and patients (Dickinson, Howlett, Bulman, 1995) and lack of recognition of the pharmacist's role by other health professionals and by the population (O'Loughlin *et al.*, 1999).

The concept of health promotion

Few papers provided a definition for the concept of health promotion but consistently discussed health promotion actions, indicating on which theoretical and methodological bases these actions should be planned, proposed, run and evaluated, as suggested by Leite (2007). Some definitions are worth quoting: [It is] the science and art to help people change their lifestyle towards optimum health (Chandra, Malcolm, Fetters, 2003); [It is] the process of qualifying people to increase control and to improve their health (Berdine, O'Neil, 2007); [It is] a tool within the preparation of the community to contribute towards the improvement of its quality of life and health, making people's commitment to the process mandatory (Vinholes, Alano, Galato, 2009); [It is] a

mediation strategy between people and their environment, linking personal choice and social responsibility to health envisaging a healthier future (O'Loughlin *et al.*, 1999; Peterson *et al.*, 2010).

DISCUSSION

Most of the studies only provided a theoretical description or described the implementation of a program to follow up patients with specific illnesses. Health promotion is related to illness prevention and education actions aimed at behavioral changes. Moreover, there was no evaluation of the effectiveness of the actions performed at the pharmaceutical level. The need to report effectiveness or the cost-benefit ratio in health promotion programs has been discussed within the academic field and among government authorities as a way to support political and social decisions and investments. Nevertheless, the broad and diffuse nature of what is considered health promotion could pose an obstacle to more objective and measurable evaluations. The methodologies for these evaluations require further investment since several approaches have prevalently focused on changes in individual and community behavior (Johnson, 1996; Babb, Babb, 2003; Merzel, D'Afflitti, 2003).

The absence of an explicit definition of health promotion by the authors in most of the texts analyzed coupled with the lack of specific bibliographical references reveal that this subject is still guided by common sense alone, with few theoretical and scientific methodological bases. Investigations and discourses are thus based on the respective authors' implicit concepts (frequently diverging from the consolidated framework) and restricted to different interpretations by the interlocutors (according to their own concepts).

According to Buss (2000), health promotion enunciations may be gathered into two groups. In the first group, health promotion comprises actions fostering behavioral changes towards a healthier lifestyle at the individual level, within the families and in the cultural milieu of the community where they reside. In the second group, health promotion conceives, according to the Ottawa Charter, actions that are directed towards the public community and the environmental stance within physical, social, political, economic and cultural levels. Concepts, which closely resemble the ideals of the Ottawa Charter, may be found in certain definitions that involve the integration and interdependence of the five activity fields already defined. However, it is not the interpretation, which may be given in theoretical and practical propositions of the texts analyzed. In fact, they are much more limited to unidirectional informative actions, focused on professional knowledge and on the willingness to inform or to give advice. They actually propose education for prevention, as opposed to a constructivist education, characterized by a change in the individual's lifestyle (for the correct use of medicines or the prevention of risk factors) as their main objective, as evidenced in the fields of action described in Table II.

The range of political actions by the pharmaceutical sector in the mobilization and awareness raising of the population as well as in the direct intervention toward the makers and executors of social, environmental and health public policies are the subject of scant studies. Regarding the fields of action proposed by the Ottawa Charter, the studies were centered on reorientation of the health systems and services and developing personal abilities while the remaining fields have only been poorly outlined. According to Wiggins (2011), empowerment is the key for health promotion whereas popular education is considered an effective method to increase it and, therefore, to improve health. Traditional education that offers information, leaflets and group lectures is important in order to inform patients about their disease; however, it is not enough (Holmström, Röing, 2010). Thus, it is a must to increase the patient's autonomy and not only his/her adherence and fulfillment of the recommendations without any criticism (Anderson, Funnel, 2009). Such popular education aiming at the autonomy of individuals and groups has been greatly inspired by Brazilian educational thinker Paulo Freire. According to Paulo, "(…) teaching is not just transferring knowledge but providing the possibilities for autonomy in its production and construction" (Freire, 1996). Therefore, the development of more efficient strategies is needed so that education actions within community pharmacies may seek the empowerment of their patients and enable them to live life in its distinct stages and to deal with the limitations imposed by occasional illnesses, in addition to participate in decision-making processes, in planning actions and in the implementation of health actions (Carvalho, Gastaldo, 2008).

The limitation of the proposals and discussions on health promotion in the pharmaceutical field, and the lack of development of a theoretical framework in the investigated articles, indicates significant divergence of the pharmaceutical profession from the Ottawa Charter framework. Although the pharmaceutical field in Brazil, and in many other countries, has undergone a curriculum reform in undergraduate courses and initiatives to change the social role of the pharmacy and performance of the pharmacist within the health system in the last two decades, results can be considered relatively moderate. In

fact, the training of professionals for interdisciplinary work and for primary health care leads to more comprehensive and decisive actions for the long needed changes in the health care model.

Given that educational actions are the main focus of health promotion in the pharmacy context and that behavioral changes are the ultimate objective of health education according to these and other authors, the opinion of Whitehead (2001) is worth summarizing: the adoption of traditional models of health education (based on the transmission of professional knowledge in a unidirectional manner) in a manner isolated from the true context of life of the people and the community may cause a higher dependence of the population on professionals. In addition, it may collaborate towards the dominance of biomedical control on people's lives and the authoritarianism of the biomedical knowledge over other types of knowledge and values. Moreover, the published literature has clearly shown that the results from the application of such a concept in health promotion are limited, the expectations of behavioral changes are unrealistic and there is frequently a relationship of traditional education that frustrates the professionals in their objectives regarding health care. Therefore, in order for pharmacists to develop a more important role in public health, practical as well as conceptual support is needed (Björkman *et al.*, 2008).

CONCLUSION

The conclusions drawn from this review evidence that the community pharmaceutical services have offered to the population initiatives of information about health, care with the management of medicament therapies and illness prevention, generally referred to as health promotion actions. Actions on the drawing up of healthy public policies, establishment of healthy environments and the reinforcement of the community's capacity to intervene in health still feature only to a small degree within the context of academic and scientific output or in reports about pharmaceutical practices consisting of an important theoretical and practical field to be developed within the pharmacy area.

Scientific studies on this theme evidence a conceptual inconsistency and a rather loose methodology since only a few researchers have tried to define the concept of health promotion they have adopted. In the studies cited above, the term health promotion may be frequently interpreted as a series of strategies for the transmission of information on drugs and their use, prophylactic care and coping with health-damaging habits.

Health promotion within the pharmaceutical context lacks an underlying well-structured framework, which is internationally accepted and consolidated in the health setting. Such a framework could provide the pharmaceutical sector with the construction of theoretical and practical propositions that would fit in the concept of health promotion and sustain professional education and practice with the commitments, abilities and competences required by the health system and by the population.

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