THREE COMMENTS on the article written by Nadia Khan in the June issue of ISH Hypertension News:

"Expanding the Workforce in Hypertension: A Focus on Pharmacists" *(Click here to read this report)*

Comment 1

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Expanding The Work Force in Hypertension: A Focus on Pharmacists - A rejoinder

Background

A recent article by Nadia Khan in the ISH Newsletter is highly commendable and appears to be more relevant in the developing countries where the burden of high blood pressure is greatest.

In 2000, 972 million people had HBP with a prevalence rate of 26.4%, 333 million in economically developed countries and 639 million in economically developing countries. It is projected that by 2025 a total of 1.54 billion people accounting for 30% of the World population would be hypertensive with 75% of these from the developing countries and regions.¹

In contrast to global trends, the prevalence of hypertension in most countries in Africa is increasing:

In 1990, less than 20% of the adult African population had hypertension. In 2010, more than 30% had hypertension. The prevalence rates of hypertension are amongst the world’s highest in some African countries. Self-medication from ignorance and scarcity of healthcare personnel and facilities immensely contributes to the poor control rates. Individuals need to have a minimum level of knowledge and education to be able to benefit from self-medication. A major issue is the observed low awareness and relatively low control rates for hypertension in Africa as compared with the more economically advanced countries²,³,⁴.

Need for collaboration in addressing poor control of high blood pressure

These observations call for the contributions and collaboration of all health professionals to improve on the noted deficiencies in hypertension control in Africa, and globally. Concerted efforts towards improving high blood pressure as an important cardiovascular risk factor are encouraged⁵,⁶,⁷. The Pan-African Society of Cardiology Task Force on Hypertension was inaugurated and given the task of proffering measures aimed at reducing hypertension burden in the African Region⁶. They have made considerable progress in this⁶. Pharmacists have not been appropriately involved in hypertension globally even though they can, indeed do, do a lot to improve drug compliance by hypertensive individuals. This awareness of the capabilities of healthcare professionals apart from medical doctors in high blood pressure control appears to be growing. At the eighth International Society of Hypertension African Hypertension Teaching Seminar held in Maputo, Mozambique (April 2016), a pharmacist and a nurse were included as participants and both presented papers. The pharmacist’s paper was on “Adherence of hypertensive patients to therapy...” – a study carried out by her and her pharmacist colleagues in two tertiary health institutions.⁷ She highlighted the role of pharmacists in promoting hypertension management and control. Nadia Khan was, indeed correct when she stated that “team-based models of care that leverage the full scope of pharmacists’ and other health professionals’ skills are an untapped solution whose time has come’.

Roles specification

The role of the pharmacist should indeed be to work together with primary care physicians as well as other specialized healthcare personnel to ensure better control of high blood pressure. Roles should, however,
Community pharmacists are integral members of the hypertension team management. The current model of a community pharmacy-based hypertension management includes three levels of intervention [1].

(i) The promotion of a healthy lifestyle in the population for cardiovascular prevention through health education. (ii) The early detection of hypertension by measuring blood pressure and referring possible hypertensive subjects to the primary care doctor. (iii) The management of treated hypertensive individuals with regular blood pressure measurement in the pharmacy, the counselling and provision of information on drug treatment and drug safety, the reporting of possible drug-related problems to the general practitioner.

The pharmacy is usually within walking distance of the patient's home, making it convenient for patients to obtain their medications. This facilitates regular monitoring of their blood pressure and adherence to treatment.
Communications and Home Blood Pressure Monitoring (e-BP) study, involving 778 uncontrolled hypertensive patients, blood pressure control at 12 months significantly improved from 31 to 56% in patients who experienced the pharmacist care management delivered through web communication and home blood pressure telemonitoring compared with usual care-treated patients [7]. Severe hypertensive patients at baseline had the major benefit from this study. The benefit of the pharmacist-led care persisted at least 1 year after the completion of intervention [8]. In another randomized controlled study, the Hyperlink, home blood pressure telemonitoring and pharmacist case management allowed achieving better blood pressure control compared to usual care during 12 months of intervention in 450 hypertensive patients with a wide range of comorbidities and hypertension severity [9]. Also in this study the effect of the intervention persisted during 6 months of post-intervention follow-up.

In Italy and other countries community pharmacists are allowed independently to provide counselling on healthy lifestyle, monitor adverse events and provide support in the proper use of antihypertensive drugs prescribed by the doctor. In recent years national regulations have allowed web-based centres to provide blood pressure telemonitoring services with medical reporting and advice to patients through the community pharmacies. In this national setting we have set up an observational, cross-sectional, multicentre study (TEMPLAR, TELEMonitoring of Blood Pressure in Local phARmacies). The study aims at assessing the potential advantage of 24-hour ambulatory blood pressure telemonitoring in community pharmacies for screening of potential hypertensive subjects and follow-up of treated patients [10]. In the nearly 18,000 patients seen so far 24-hour blood pressure was controlled (24-hour average <130/80 mmHg) in 52% of those untreated (representing 84% of the sample) and in 59% those receiving any antihypertensive medication (16% of the sample). Such a picture suggests that there is still much to do to achieve adequate blood pressure control in the community.

Thus, evidence from randomized or observational studies suggests that carefully organized, structured physician-pharmacist collaborative intervention based on e-health technologies (and particularly blood pressure telemonitoring plus patient education on lifestyle, drug therapy and cardiovascular risk factor control) may facilitate high blood pressure screening and detection, and may be particularly effective for improving blood pressure control in treated hypertensive patients.
The prevalence of cardiovascular disease has decreased dramatically during the past decades. For example, in Sweden the number of individuals suffering from a myocardial infarction was 39,182 in 1987 and 26,602 (fatal events decreased from 18,408 to 6,640) in 2015 [1], despite a concomitant increase in the population of almost 1.5 million. Also for stroke, reassuring data on incidence and mortality are available [2]. Physicians' efforts regarding drug treatment for individual patients have probably contributed largely to this favourable development.

Hypertension is the most common chronic disease diagnosis in Swedish primary care and every physician needs to master antihypertensive drug treatment, as hypertensive patients occur at all levels of care.

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Unpublished recent data from a primary care centre serving about 10,000 patients in Sweden indicate that more than 70% of patients 65 years or older with a planned visit to any physician at the centre during one month had hypertension. Upon assessing the drug treatment quality in these patients, by a physician with specialist competence in family medicine, and taking each patient’s condition into account, the majority had appropriate cardiovascular drug treatment. Only one immediate change (withdrawal of nifedipine due to the fact that the patient had no reasonable indication) and few longer term changes (for example, one patient was treated with both felodipine and carbamazepine, a combination which may reduce the effect of the calcium blocker) were suggested upon the physician quality assessment.

For hypertension and cardiovascular disease, easily accessible SCORE risk charts and treatment guidelines constitute valuable tools guiding physicians during the patient consultation, especially those not specialized within the therapeutic area. Indeed, prescribing guideline booklets are appreciated among general practitioners [3]. Evidence-based tools are applicable at a general level, and may come well to hand during the physician–patient encounter. Nevertheless, all treatment needs to be individualized according to medical history, physical examination, laboratory test, and patient preferences. Thus, drug treatment is an integrated part of the process of diagnosing and follow-up of the patient.

Computerized decision support systems, for example alerting potential drug interactions, drugs with renal elimination in patients with reduced kidney function, and potentially inappropriate medications in the elderly [4, 5], may also have contributed to good prescribing practices. Such systems may facilitate the physician to adjust the treatment to the specific patient. Drug treatment is a complex task, where diagnostic skills need to be combined with pharmacologic knowledge and patient communication.

The importance of professional learning concerning drug treatment in medical school has been emphasized [6]. In Sweden, efforts to facilitate the process of learning for medical students are ongoing [7]. In addition, efforts by the National Board of Health and Welfare may have contributed to the favourable development regarding drug treatment. Indeed, they have produced several web-based educational programs, and have clarified in national statutes that basic and expanded medication reviews are part of the attending physician’s professional responsibilities [8].

The National Board of Health and Welfare has also developed indicators of prescribing quality, for example for benchmarking [9]. Although these indicators may reflect quality to a limited extent and the applicability at the individual level may be questioned [10-13], they constitute a quick guide to what experts consider current best practice. Further, they enable feedback to physicians, and provide a basis for collegial discussion on drug treatment, a valuable type of continuous medical education [14]. Out of 63 nationally established diagnosis-specific indicators of prescribing quality, four concern hypertension. Two indicate potentially inappropriate drug treatment, both concerning diltiazem/verapamil, and two indicate rational treatment, both including angiotensin converting enzyme inhibitors.

Cardiovascular drugs constituted the most frequently dispensed prescription drugs in Sweden, measured in defined daily doses (DDD), in 2005 [15]. Of note, 69 (20%) out of 338 studies published in 2005–2014 using the Swedish Prescribed Drug Register as a data source concerned cardiovascular drugs, which was the second most studied therapeutic area after psychiatric disease [16]. The publications were primarily descriptive (n=27; 39%) or analytic (n=35; 51%), providing information on prescribing patterns, patient adherence, factors underlying treatment practices, and effects of drug exposure.

Decades of efforts and developments across a variety of levels may have contributed to better drug treatment in patients with cardiovascular disease and improved health outcomes. Thus, it may not be surprising that routine involvement of a third party in drug treatment matters, such as pharmacist participation in medication reviews, has not been shown to improve patient outcomes [17-21]. Senior colleagues may be consulted in complicated cases, and pharmacists upon pharmaceutical issues. However, it is the responsibility of attending physicians at all levels to integrate drug treatment in their daily patient work, taking advantage of available tools and applying their medical and pharmacological knowledge for the benefit of the patient.

REFERENCES:

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Author Reply: Expanding the Workforce in Hypertension: A Focus on Pharmacists

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Thank you to my colleagues Drs. Onwubere, Omboni, and Wallerstedt et al, for their thoughtful comments. I agree with Dr. Onwubere who highlights that it may be particularly advantageous to leverage skills of other health professionals, including pharmacists, in developing countries. As Dr. Onwubere points out, the prevalence of hypertension in Africa and other low and middle-income regions of the world are escalating rapidly, fuelled by urbanization and an aging population. The hypertension and consequent cardiovascular epidemic is outpacing the scarce resources in these regions for screening and management (1). Pharmacists are currently focused on drug dispensing. Pharmacy reform to provide more patient centered care may enhance lower cost access to hypertension screening and control especially among those living in poverty or rural areas (2).

Dr. Omboni also discusses the potential merits of team-based care including a pharmacist-physician as a cost effective solution to advancing hypertension awareness and control. Dr. Omboni also rightfully cautions that to establish team

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based care, several key considerations must be met. I fully agree that accreditation programs for pharmacists must be developed to ensure expertise in screening and managing hypertension. Of note, Hypertension Canada developed an educational program with considerable interest from pharmacists. Dr. Omboni further emphasizes that health information technologies such as tele-health may be utilized as a part of effective communication strategies between pharmacists, nurses and physicians. In Dr. Omboni’s Templar study, pharmacies include 24 ABPM tele-monitoring for screening and control (3). Dr. Omboni notes while there was improvement, sub-optimal control of hypertension remained. Having an enlarged scope of practice with pharmacists that include prescribing in addition to tele-monitoring may help further close this control gap.

Dr. Wallerstedt and colleagues rightfully assert that it is the responsibility of primary care physicians to diagnose and treat hypertension, and there are numerous tools designed to improve the ability of physicians to do so. In their comment, Dr. Wallerstedt et al., state that routine involvement of pharmacists in medication review was not effective in improving patient outcomes. However, a systematic review of all pharmacy interventions beyond medication reconciliation, demonstrates an overall reduction of blood pressure in patients (4). Further, when pharmacists also have a prescribing role with ongoing physician management, blood pressure is significant reduced compared with physician care alone (5). Despite available tools, it remains challenging for primary care physicians to achieve high rates of BP control. In Canada, where hypertension awareness and control rates are among the highest in the world, 17% of the population with hypertension remain unaware and 20% of those diagnosed and treated for hypertension are uncontrolled (6). Many of the unaware population are working aged and likely do not access physician care routinely. Non-adherence rates for patients under the care of their physician in Canada are as high as 50% (7). While primary care should be commended for dramatically improving hypertension awareness and control in Canada and other countries, to achieve optimal control rates, additional interventions are needed. The evidence indicates that pharmacist care is an effective intervention for advancing hypertension control.

REFERENCES:


-Nadia Khan

West China Hypertension Control Teaching Workshops (supported by ISH)

Read a full report on workshops held in Xining, Qinghai Province and Changsha, Hunan Province from 29-30 July. Click here.