Exploring the Barriers to and Facilitators of Using Evidence-Based Drugs in the Secondary Prevention of Cardiovascular Diseases

Findings From a Multistakeholder, Qualitative Analysis

Victoria Miller*, Lavanya Nambiar†, Malvika Saxena‡, Darryl Leong*, Amitava Banerjee†, José Pablo Werba‡, Jose Rocha Faria Neto†, Katherine Curi Quinto§, Mohammed Moniruzzaman∥, Shweta Khandelwal†

Hamilton, Ontario, Canada; New Delhi, India; London, United Kingdom; Milan, Italy; Curitiba, Brazil; Lima, Peru; and Dhaka, Bangladesh

ABSTRACT

Background: Health-system barriers and facilitators associated with cardiovascular medication adherence have seldom been studied, particularly in low- and middle-income countries where uptake rates are poorest.

Objectives: This study sought to explore the major obstacles and facilitators to the use of evidence-supported medications for secondary prevention of cardiovascular disease using qualitative analysis in 2 diverse countries across multiple levels of their health care systems.

Methods: A qualitative descriptive study approach was implemented in Hamilton, Ontario, Canada, and Delhi, India. A purposeful sample (n = 69) of 23 patients, 10 physicians, 2 nurse practitioners, 5 Department of Ayurveda, Yoga and Naturopathy, Unani, Siddha, and Homoeopathy physicians, 11 pharmacists, 3 nurses, 4 hospital administrators, 1 social worker, 3 nongovernmental organization workers, 2 pharmaceutical company representatives, and 5 policy makers participated in interviews in Hamilton, Ontario, Canada (n = 21), and Delhi, India (n = 48). All interviews were digitally recorded and transcribed followed by directed content analysis to summarize and categorize the interviews.

Results: Themes that emerged across the stakeholder groups included: medication counseling; monitoring adherence; medication availability; medication affordability and drug coverage; time restrictions; and task shifting. The depth of verbal medication counseling provided varied substantially between countries, with prescribers in India unable to convey relevant information about drug treatments due to time constraint and high patient load. Canadian patients reported drug affordability as a common issue and very few patients were familiar with government subsidized drug programs. In India, patients purchased medications out-of-pocket from private, community pharmacies to avoid long commutes, lost wages, and unavailability of medications from hospitals formularies. Task shifting medication-refilling and titration to nonphysician health workers was accepted and supported by physicians in Canada but not in India, where many of the physicians considered a high level of clinical expertise a precondition to carry out these tasks skillfully.

Conclusions: Our findings reveal context-specific, health system factors that affect the patient’s choice or ability to initiate and/or continue cardiovascular medication. Strategies to optimize cardiovascular drug use should be targeted and relevant to the health care system.
function, and employment status [9,10]. Additionally, the number of medications, side effects, and the relationship with health care professionals (HCP) are treatment-related and patient-provider—related factors that may influence medication use [11]. Appropriate medication use is affected by all levels of the health system including the HCP; the organization of hospitals, pharmacies, and clinics; and the health policies and economic conditions under which the patients live and the HCP work. A limited number of studies have examined health system barriers and facilitators associated with cardiovascular medication adherence, particularly in low- and middle-income countries where rates of use are poorest [12]. Of the studies conducted, the use of combination pills [13]; subsidized medication costs through copayments [14,15]; and physician, nurse, or pharmacist counseling improved adherence in secondary prevention patients [16–18]. Given the absence of data in low-income countries, and the multifactorial causes of decreased adherence, additional research is needed. Given their advanced knowledge and responsibilities, we present the findings for physicians and nurse practitioners as one stakeholder group.

The sampling methodologies used were specific to each context and stakeholder group (Table 1). In Canada, patients were sampled through purposeful sampling. The patients were identified from the research investigators’ patient lists and patient referrals from other HCP and were invited to participate in the study. Purposeful and snowball sampling were used to recruit physicians, pharmacists, social workers, and policy makers. We identified these stakeholders through colleague referrals and invited potential respondents to participate by telephone and e-mail. Additionally, we used the snowball sampling technique; this technique involved asking the participants to refer other stakeholders with knowledge and experience that may be relevant to the study.

In India, purposeful sampling was used to sample cardiologists, AYUSH physicians, and pharmacists. Hospitals in New Delhi and the National Capital Region with Cardiology and AYUSH departments were identified and contacted via e-mail and telephone to recruit participants. Similarly, pharmacists within the region were contacted personally. Snowball sampling was used to recruit patients, nurses, and hospital administrators. The participating cardiologists were asked to refer secondary prevention patients, administrators working within the hospital, and nurses on their service. Lastly, the policy makers working in the Department of Non-Communicable Disease within the Ministry of Health were included.

**METHODS**

We conducted a qualitative descriptive study to explore the barriers and facilitators to CVD medication adherence in 2 settings—Hamilton, Ontario, Canada, and Delhi, India. We selected these 2 settings because they reflect a balance between contrasting economic status and health system structures and the feasibility of successfully carrying out the study. The units of analyses were the stakeholder groups involved in the study, which include patients, physicians: family physicians; cardiologists; nurse practitioners; Ayurveda, Yoga and Naturopathy, Unani, Siddha, and Homoeopathy (AYUSH) physicians; and nonphysician health care workers (NPHW): pharmacists, pharmaceutical companies, social workers, nongovernmental organization workers, nurses, hospital administrators, policy makers. In Canada, nurse practitioners complete additional educational training and have authority to prescribe medications. Given their advanced knowledge and responsibilities, we present the findings for physicians and nurse practitioners as one stakeholder group.

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**TABLE 1.** Barriers and facilitators in Canada and India

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Canada</th>
<th>India</th>
<th>Facilitator</th>
<th>Canada</th>
<th>India</th>
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<tbody>
<tr>
<td>Mode of counseling</td>
<td>Mode of counseling</td>
<td>Monitoring adherence</td>
<td>Monitoring adherence</td>
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<tr>
<td>Time constraints</td>
<td>Time constraints</td>
<td>Family support</td>
<td>Family support</td>
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<tr>
<td>Medication cost</td>
<td>Medication cost</td>
<td>Addressing poor adherence</td>
<td>Inquiring about medication affordability</td>
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<tr>
<td>High patient loads</td>
<td>High patient loads</td>
<td>Inquiring about medication affordability</td>
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<tr>
<td>Uncomprehensive medication counseling</td>
<td>Adherence follow-up by NPHW</td>
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<td>Resistance to task shifting</td>
<td>Supportive of task shifting</td>
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<td>Access to government subsidized medications</td>
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NPHW, nonphysician health care worker(s).
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