

# Evaluation of community pharmacy-based services for type-2 diabetes in an Indonesian setting: pharmacist survey

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Received: 7 November 2014 / Accepted: 11 May 2015 / Published online: 19 May 2015  
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**Abstract** *Background* Diabetes is an emerging chronic disease in developing countries. Currently the management of diabetes in developing countries is mainly hospital or clinic based. With burgeoning numbers of patients with diabetes, other models need to be evaluated for service delivery in developing countries. Community pharmacists are an important option for provision of diabetes care. Currently, data regarding practices of community pharmacists in diabetes care have been limited to developed countries. *Objectives* To evaluate current community pharmacy-based services and perceived roles of pharmacists in type 2 diabetes care, and characteristics (pharmacist and pharmacy) associated with current practice. *Setting* Community pharmacies in a developing country setting (Surabaya, Indonesia). *Methods* A questionnaire was administered to pharmacists managing a random sample of 400 community pharmacies in Surabaya, Indonesia. Current practice and pharmacists' perceived roles were rated using Likert scales, whilst an open-ended question was used to identify priority roles. Logistic regression models determined characteristics associated with current practice. *Results* A response rate of 60 % was achieved. Dispensing (100 %) and education on how to use medications (72.6 %)

were common current pharmacy practices. More than 50 % of pharmacists were supportive towards providing additional services beyond dispensing. The highest priorities for services beyond dispensing were education on medications [i.e. directions for use (58.6 %) and common/important adverse effects (25.7 %)], education on exercise (36.5 %), education on diet (47.7 %), and monitoring medication compliance (27.9 %). Facilitators identified were: being perceived as part of a pharmacist's role (for all priority services), pharmacies with more than 50 diabetes customers per month (for diet education), and pharmacists' involvement in diabetes training (for compliance monitoring). The key barrier identified was lower pharmacist availability (for diet education as well as compliance monitoring). *Conclusions* Most community pharmacies in Surabaya, Indonesia have only provided a basic service of dispensing for type 2 diabetes patients. Many pharmacists believed that they should extend their roles particularly regarding patient education and monitoring. The development of pharmacist professional roles would assist in managing the burgeoning burden of diabetes. The identified facilitators/barriers provide baseline data to support the development of community pharmacy-based diabetes services.

**Electronic supplementary material** The online version of this article (doi:10.1007/s11096-015-0135-y) contains supplementary material, which is available to authorized users.

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**Keywords** Community pharmacist · Diabetes · Indonesia · Pharmacy services

## Impacts of findings on practice

- Community pharmacists in Indonesia would like to have a more outspoken professional role in diabetes care.