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Original Research

Developing a conceptual framework and a tool for measuring access to, and use of, medicines at household level (HH-ATM tool)

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ABSTRACT

Objective: To develop a valid and reliable tool to evaluate access to, and use of, medicines at household level (HH-ATM tool).

Study design: The Behavioral Model of Health Services Use was adapted and used as the conceptual framework for developing the HH-ATM tool. Questionnaires were designed (individual and household) based on the conceptual framework and existing tools, including items that captured the characteristics of predisposing, enabling and need factors; health care behaviours; outcomes and impacts.

Methods: Face validity, content validity and test–retest reliability were assessed using inter-rater agreement, item and scale content validity indices, comprehensiveness indices, and intra-class correlation, kappa and weighted-kappa coefficients.

Results: The household and individual questionnaires demonstrated appropriate validity and reliability. The content validity of household questionnaire was favourable, with inter-rater agreement of 86% and 91% for relevance and clarity, respectively. Scale content validity indices for relevance and clarity were 89% and 91%, respectively, and comprehensiveness was scored at 100%. These indices were also favourable for the individual questionnaire, all scoring 94% or higher.

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Conclusion: The questionnaires showed excellent validity and reliability for use in Iran. The HH-ATM tool can be implemented to evaluate access to, and use of, medicines in Farsi-speaking communities, and may be useful in other communities if adapted appropriately.

Introduction

Use of medicines is the most common, and often effective, medical intervention to reduce a variety of health risk factors, preventing acute events and treating diseases.[1] It is also a major cause of increasing health care expenditures around the world. Therefore, access to prescription medicines is of great concern to policy makers. Access to, and use of, medicines is even included in the 8th Millennium Development Goal, Target No. 17: 'in cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries'.[2,3] Although the target emphasized the pharmaceutical companies' role in improving access, the relevant indictor's main attention is population access: 'proportion of population with access to affordable, essential drugs on a sustainable basis'.

Household surveys can be crucial in providing information on the influence of medicine policies on individual and household well-being, as well as views and concerns about access to, and use of, medicines. This is especially relevant when evaluating access to medicines prescribed for chronic conditions, as these types of medicines may not be linked to a recent visit to the physician.[1] Also, survey studies may be helpful for the development of appropriate pharmaceutical policies.[4]

In the fourth five-year economic plan of Iran, special attention has been paid to health equity. According to this plan, the Government should make a strategic plan to reduce the number of poor individuals, and to decrease social and economic inequality.[5] Although access to prescription medicines is one of the greatest concerns of policy makers in Iran,[6,7] there is limited research on access to medicine in the country. Still, two arguments are frequently offered in national and international reports suggesting that access to medicines in Iran is generally acceptable[6,8]: the existence of a coherently implemented generic pricing system, and the active presence of local pharmaceutical producers. Despite these achievements, it is important to study the availability and affordability of essential drugs in Iran. Two such studies assessed the availability of medicines in primary health care centres in 2001 and 2007 in Iran, and observed that over 90% of the monitored essential drugs were available and dispensed in health centre pharmacies.[6,9] To the authors' knowledge, this is the first study to assess access to medicines at household level in Iran, although household expenditure surveys tend to include questions on pharmacy-related expenses.

This study aimed to conduct a large household survey of access to medicines in Tehran. As such, the authors sought to develop a valid and reliable tool that could be implemented to evaluate households' and individuals' access to, and use of, medicines. It is hoped that this tool will promote wider assessment of access at household and individual levels in future.

Methods

The procedures used in the development of the HH-ATM tool were as follows: (1) developing the conceptual frameworks and definitions; (2) designing the questionnaires; (3) assessing face validity; (4) assessing content validity; and (5) assessing test–retest reliability. The result of the procedures was two separate questionnaires: the household questionnaire and the individual questionnaire. The household questionnaire extracts the demographic and socio-economic data of family members, and the individual questionnaire aims to extract specific aspects of medicine access, patterns of medicine use, and individuals' thoughts and beliefs.

Developing a conceptual framework and definitions

Access to health care can be defined in various frameworks, but three frameworks are used most often: the Behavioral Model of Health Services Use, Penchansky's model and the Institute of Medicine's Model of Access Monitoring (IOM).[10] The Behavioral Model of Health Services Use provides a comprehensive explanation of access that deals with various health policy issues. This model has been used in a large number of studies around the world to make positive changes to health policy decisions. Among the three theories discussed here, the Behavioral Model is used most often to provide explanatory/predictive factors in relation to the use of services.[10] The authors applied the Behavioral Model of Health Services Use, developed by Andersen in the 1960s to determine why families used health services, and its later revisions[11] as the basic conceptual framework of this study.[10–13] Other theoretical perspectives were also considered. Penchansky's model is recommended when policy makers need to be informed of subjective experiences regarding accessing health care.[10,14] It appears that Penchansky's model has been the basis of the World Health Organization's (WHO) approach to access to medicines.[15] The IOM model is beneficial when monitoring of the quality of health care services is intended.[10,14] This latter model did not provide substantial insights over and above the former theories in this study.

Andersen defined access as 'actual use of personal health services and everything that facilitates or impedes their use'.[12] At individual level, three types of predictors for use of health services are implied: predisposing factors, enabling factors and need factors.[12] Fig. 1 presents the conceptual framework used in this study.

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