Vol. 21 (2018) 1-2

EDITORIAL

Improving Medication Adherence: A Pharmacist's Social Responsibility

FRANCIS A. NDEMO

Department of Pharmaceutics and Pharmacy Practice, School of Pharmacy, University of Nairobi, P.O. Box 19676-00202, Nairobi. Email address: fandemra@gmail.com.

It is undeniable that drugs do not work on their own. They do not have brains! How then do we achieve the intended goals of drug therapy?

In order to achieve desired drug therapy (pharmacotherapy) outcomes adequate drug concentration must be attained at the site of action that is both effective and safe. However, we all know that there are pharmacokinetic challenges including absorption, distribution, metabolism and excretion processes which exhibit inter- and intra-patient variability that leads to inconsistent pharmacotherapy outcomes. Additionally, it is also known that there can be significant variability in pharmacologic responses among individual patients despite accounting for variation in tissue concentrations. It is, therefore, imperative that drug regimens must be individualized for attainment of desired pharmacotherapy outcomes.

The desired endpoint for pharmacotherapy is expressed as prevention of disease or illness, curing a disease, the reduction or elimination of signs and symptoms, slowing the progression of a disease, the normalization of laboratory values, or a way to facilitate the diagnostic process. When these desirable endpoints are not achieved, negative clinical and economic outcomes may occur. A number of factors within the drug use process are known to contribute to failure of drug therapy including patient behavior or adherence.

What is adherence and how important is it in impacting pharmacotherapy outcomes? Adherence is defined in the textbook Pharmaceutical Care Practice (3rd edition) as "the patient's ability or willingness to take a drug regimen that the practitioner has clinically judged to be appropriately indicated, effective, and, based on all available evidence, can produce the desired outcomes without any harmful effects". Although poor medication adherence is one of the most widely studied subjects, numerous studies indicate no significant progress has been made in improving associated poor patient outcomes.

Let us examine the context in which adherence plays a role in impacting pharmacotherapy outcomes. In the multi-stage model referred as the "Drug Use Process" by Knapp *et al.* (AJHP. 31 (1974) 648-656) all stages in the "journey" the drug takes from manufacture to its administration to the patient (end user) are part of a continuum. Medication adherence in this context, therefore, is the last stage of this continuum and hence critical to the achievement of pharmacotherapeutic endpoints.

The problem of medication adherence has been quantified by the following startling statistics: Wertheimer and Santella (J. Appl. Res. 3(3) (2003)) found that 60% of all patients cannot identify their medications, 30 to 50% of all patients ignore or otherwise compromise instructions concerning their medications, hospital costs due to patient adherence are estimated at $8.5 billion annually, 125, Americans die annually due to poor medication adherence, 40% of patients still do not adhere to their treatment regimen and up to 20% of all new prescriptions go unfilled. In a Kenyan study done by K. Marita and co-workers on patient associated factors that affect adherence to warfarin therapy 52.4% of the participants were found adherent, implying 47.6% were nonadherent, almost 50%!

These statistics go to show that poor medication adherence is still a big problem and has the potential of significant clinical and economic impact. A number of factors have been attributed to these negative

outcomes. To name a few, patients consulting multiple providers, polypharmacy, advancing age of patients, increased self-medication, complex drug therapies and new potent drug technologies which require special instructions for their safe and effective use.

In response to this problem, which is a public health concern ,the profession of pharmacy has gone back to the drawing board to re-examine its social responsibility of assuring safe and effective use of medications, the *raison d'être* of its existence. Pharmaceutical care as a professional philosophy and practice has been advanced as part of the solution. The goal of this philosophy is to share responsibility for drug therapy outcomes, an area that has been exclusively for medicine. In this model the practitioner ensures that all drug therapies are the most appropriate, most effective, safest possible and that the patient is willing and able to comply with instructions. Whereas appropriateness, effectiveness and safety factors are the domain of the provider these factors also affect adherence which, therefore, highlights the critical role of the provider in this regard.

In practice patient adherence behavior is never evaluated until the prescription is written. It is illogical that a patient should comply with the use of inappropriate or unnecessary drugs, overdose or an inconvenient formulation. In a Patient-Centered Adherence model the patient's medication experience is considered first place to ensure that all drug-related needs are met, any potential problems identified and the cooperation of the patient to the prescribed regimen is obtained. Adherence, therefore, should be considered last in the pharmacist's patient care process if the adherence intervention is to be effective.

In response to the medication adherence problem the, USA federal government introduced a number of legislations including the Joint Commission on the Accreditation of Healthcare Organizations (JACO) that incorporates the concept of pharmaceutical care into its hospital and homecare standards, provision of Medication Therapy Management (MTM) to the elderly, among others as part of the solution.

Lastly, the importance of optimizing adherence is best stated by Haynes: "Increasing the effectiveness of adherence interventions may have a far greater impact on the health of the population than any improvement in specific medical treatments". The following quote from WHO publication (WHO 2003 VII) on adherence to long-term therapies, evidence for action, summarizes and further highlights the value optimizing adherence: "Studies consistently find significant cost-savings and increases in the effectiveness of health interventions that are attributable to low-cost interventions for improving adherence. Without a system that addresses the determinants of adherence, advances in biomedical technology will fail to realize their potential to reduce the burden of chronic illness. Access to medications is necessary but insufficient in itself for the successful treatment of disease".

In conclusion the pharmacist must take responsibility in the total drug use control including medication adherence in order to improve pharmacotherapy outcomes through provision of MTM and patient education. Appropriate legislation that addresses pharmaceutical care and MTM services should be enacted.

Francis A. Ndemo, PharmD,
Guest Editor.