

Is there literature to support a relationship between medication adherence and number of refills prescribed?

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Medication adherence, defined as the extent to which medications are taken as recommended by the prescriber, is often a necessary component of optimal health management.^{1,2} Poor adherence is an issue of national concern, contributing to 10% of hospital admissions in the United States, and it has been associated with healthcare costs of approximately \$300 billion annually.

Medication adherence may be unpredictable and difficult to assess. However, there are several factors, or potential barriers to adherence, to consider. Per the National Council on Patient Information and Education (NCPIE), non-adherence may stem from factors related to prescribers, pharmacies, and patients.³ With regard to prescribers, the NCPIE cites lack of adequate medication counseling, due to lack of time and financial reimbursement for patient education. With regard to pharmacy, the NCPIE reports issues with pharmacist attitudes and knowledge level, operational aspects of pharmacy practice, and professional barriers. As for patient-related factors, the NCPIE asserts that forgetfulness is a common reason for non-adherence, as well as inability to understand and/or act on instructions for medication administration. Other identified factors include perceptions about the nature and severity of illness, denial of illness or need for medications, premature discontinuation due to feelings of “well-being”, beliefs about the effectiveness of the medications, lack of appreciation of medication value, concerns for social stigma, media influence regarding safety or risks, fear of adverse reactions, concerns for drug dependence, and lack of positive feedback or motivation. In addition, the NCPIE recognizes duration of therapy and medication cost to be significant barriers to adherence.

Several organizations have described strategies to improve medication adherence. For example, the American Pharmacists Association (APhA) has reported on multiple programs/efforts, including medication therapy management, pharmacogenetic testing, appointment-based medication synchronization at community pharmacies, and smartphone apps with refill reminders.⁴ The NCPIE has initiated multiple campaigns including a National Action Plan in 2007, addressing non-adherence in the general population, and an Adherence Action Agenda in 2013, focusing on patients with multiple chronic conditions.^{3,5} The NCPIE recommendations are generally broad, encouraging efforts such as “establishment of a multidisciplinary approach to adherence education and management” and “elimination of barriers that impede the ability of patients...to refill their prescription medicines.” The NCPIE does recommend that prescribers maintain an accurate medication list, set up medication counseling as needed, and schedule timely follow-up visits.

Although multiple strategies for improvement of medication adherence have been described, the strategy of reducing number of prescription refills allowed has not been formally evaluated. From a search of the literature, no studies were identified addressing the impact of fewer prescribed refills on medication adherence. However, there are potential benefits associated with a reduction in the maximum allowable number of refills on a prescription. Patients may have an

increased number of follow-up visits with prescribers when fewer refills are allowed, resulting in closer assessment and potentially improved health management. Patients with a reduced allowance for refills may also be less prone to issues with acquisition such as medication oversupply, an accumulation of a higher-than-necessary amount of medication resulting from early refills. (Of note, not all patients may necessarily have improved adherence with prescriber visits, e.g., patients with restricted access to transportation; this could adversely affect both health status and medication adherence when fewer refills are available).

In summary, medication non-adherence is concerning and difficult to predict. Numerous factors have been identified as barriers to adherence, including patient perceptions and characteristics, as well as prescriber and pharmacy-related issues.³ Though prescriber restriction of medication refills may be a useful tool for improving health outcomes, there is a lack of data demonstrating its effect on medication adherence. Also, based on the literature reviewed, the number of refills prescribed has not been identified as a barrier or factor in non-adherence. Despite this, reducing the allowance for refills may be associated with other benefits, including more frequent patient monitoring and reduction in the potential for medication over-acquisition; therefore, this practice may be advisable.

References:

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