

Brief Report

The Quantitative Analgesic Questionnaire: A Tool to Capture Patient-Reported Chronic Pain Medication Use

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Abstract

Context. The extent to which patients take chronic pain medications as prescribed is not well studied, and there are no generally agreed-upon measures. The Quantitative Analgesic Questionnaire (QAQ) is a new instrument designed to comprehensively document patient-reported medication use, generate scores to quantify it (by individual drug, class, and/or overall), and compare it (qualitatively and/or quantitatively) to the regimen as prescribed.

Objectives. The aim of this study was to describe the development and preliminary validation of the QAQ.

Methods. The QAQ was studied in a convenience sample of 149 HIV-infected participants.

Results. We found that the QAQ scores computed for participants' chronic pain medication regimens were valid based on their correlation with 1) patient-reported pain intensity ($r = 0.38$; $P < 0.001$) and 2) experienced pain management physicians' independent quantification of the regimens ($r = 0.89$; $P < 0.001$). The QAQ also demonstrated high interrater reliability ($r = 0.957$; $P < 0.001$). Detailed examination of the QAQ data in a subset of 34 participants demonstrated that the QAQ revealed suboptimal adherence in 44% of participants and contained information that would not have been gleaned from review of the medical record alone in 94%, including use of over-the-counter medications and quantification of "as needed" dosing. The QAQ also was found to be useful in quantifying change in the medication regimen over time, capturing a change in 50% of the participants from baseline to eight week follow-up.

Conclusion. The QAQ is a simple tool that can facilitate understanding of patient-reported chronic pain medication regimens, including calculation of percent adherence and generation of quantitative scores suitable for estimating and tracking change in medication use over time. *J Pain Symptom Manage* 2015;50:381–386. © 2015 American Academy of Hospice and Palliative Medicine. Published by Elsevier Inc. All rights reserved.

Key Words

Chronic pain, medication adherence, quantitative measures

Introduction

For most chronic illnesses such as diabetes, hypertension, or HIV, the concept of medication adherence is fairly straightforward. The goal is that the patient takes 100% of the medication prescribed, and anything less is suboptimal. The concept of medication adherence in chronic pain is more complicated because regimens

almost always contain elements that are adjusted by the patient according to symptoms, and because of the potential for misuse, particularly with opioids. A broad definition of medication adherence is "the extent to which a patient takes medications as prescribed,"¹ but what if variability is part of the prescription? There are currently no generally agreed-upon measures of

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chronic pain medication adherence. Many studies have used dichotomous outcomes of adherence vs. nonadherence based on asking patients whether they take their medication exactly as prescribed,^{2–6} with some studies distinguishing overuse from underuse.⁷ Others have monitored refills or used electronic pill bottles (medication event monitoring systems, MEMS).^{8,9} Each of these approaches has limitations. The dichotomous outcome does not distinguish the patient who misses a single dose from the patient who fails to take the medication altogether and so has limited clinical significance. Monitoring of medication refills gives little information about how patients actually take their medication. MEMS have the potential to give more detailed information, including percent adherence to individual medications and the regimen overall, but are not practical in most settings.

An alternative conceptual approach to chronic pain medication adherence is to first understand how the patient is actually taking their pain medications and then compare this “as reported” regimen to the “as prescribed” regimen, accounting for the fact that the “as prescribed” regimen likely contains some medications that are meant to be adjusted by the patient and others that are not. We sought to design an instrument to operationalize this approach, which would be useful both clinically and in research. To be clinically useful, such an instrument should provide a framework to understand adherence to each prescribed medication and to discuss and record over-the-counter (OTC)

medication use. To be useful in research, such a tool should provide an overall measure of the amount of medication. Herein, we describe the development and preliminary validation of such an instrument, the Quantitative Analgesic Questionnaire (QAQ).

Methods

The QAQ comprises a questionnaire and a scoring system. The structure of the questionnaire was adapted from the Brief Medication Questionnaire (BMQ),¹⁰ which asks the participant to report the number of days per week a medication was taken and the number of pills per day. The BMQ has been shown to correlate with data obtained from MEMS¹⁰ and has been used to study adherence in hypertension, HIV, and end-stage renal disease.^{10–13} We modified the BMQ to make it more suitable for use with pain medication regimens, removing a question about “missing pills” because it was not applicable to “as needed” medications, and adding a question to clarify whether each medication was taken on a regular schedule or “as needed.” We also added specific sections for patches and topicals. The resulting QAQ questionnaire has three sections (A, B, and C) as illustrated in Figure 1. Part A asks the patient to quantify oral medication use in a usual week, Part B inquires about use of fentanyl or buprenorphine patches, and Part C asks the patient to list any topical agents. In

a

Medication name: _____ Dosage or strength (mg): _____

What type of pain do you take this medication for? _____

How many days a week do you usually take this medication? Please circle a number below.

0 1 2 3 4 5 6 7

On the days that you take this medication, how many pills do you usually take?

0 1 2 3 4 5 6 7 8 9 10 or more

☐ I take this medication on a regular schedule. ☐ I take this medication only when I need it.

b

Do you use a fentanyl patch for pain? ☐ YES ☐ NO

If YES...

What is the dosage/strength? _____

How many days a week do you usually wear the fentanyl patch?

0 1 2 3 4 5 6 7

Do you use a buprenorphine patch for pain? ☐ YES ☐ NO

If YES...

What is the dosage/strength? _____

How many days a week do you usually wear the buprenorphine patch?

0 1 2 3 4 5 6 7

c

Please list any other **patches or creams** you use for pain. _____

Fig. 1. Sample of sections (a, b, and c) from the Quantitative Analgesic Questionnaire (QAQ).

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