Different methods for evaluation of non-adherence to antibiotics, different risk factors?

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Background: Bacteria resistance is associated to patient non-adherence to antibiotics. There is no gold-standard for the evaluation of non-adherence to medication. Regarding short-term treatments, measuring this behaviour often relies on self-report measures, such as validated scales (e.g. Morisky-Green test) or through the comparison of the prescribed intake instructions with the one reported by the patient.

Objectives: To compare two measures of patient non-adherence to short-term antibiotic treatment, regarding the concordance level and associated factors.

Methods: We conducted an observational longitudinal study during 2009's first semester. Patients attending to pharmacies from Lisbon region, aged ? 18 years and with a prescription of one oral AB were invited to participate. Prescriptions' data were collected at the pharmacy. After the expected date for the treatment conclusion, participants were contacted for a phone interview regarding adherence and related factors. Participants were classified as non-adherents if they 1) answered positively or didn't answer to at least one question from the Morisky scale or 2) if they reported an intake regimen - regarding number of pills, intake frequency or duration of treatment - different from the one prescribed. Concordance and Cohen's kappa statistics were calculated and logistic regression models were constructed to identify factors associated to non-adherence.

Results: In 312 eligible patients who accepted to participate, 243 (78%) were included, with a mean age of 46.5±16.6 years-old, 74.9% female and 59.9% had secondary or higher educational level. Non-adherence frequency was 108/243 (44.8%) when using the Morisky scale, and 39/195 (20%) through the comparison between reported vs. prescribed intake regimen. For the participants with both measures, the concordance was 56.2%, Kappa=0.065 (poor agreement). The logistic regression models identified the following independently and significant associated factors: Morisky scale - younger age, perceived economical difficulty for the acquisition of the antibiotic, longer treatment, difficulty of intake and poor satisfaction with the information received from the prescriber; reported/prescribed comparison - younger age, professional status other than employed, intake frequency ?2x/day, pharmacological group, longer treatment, difficulty of intake, total number of medicines and knowledge about antibiotics.

Conclusions: The agreement between measures of non-adherence is poor, which may be related to the assessment of different behaviours and different patients at risk. The comparison reported/prescribed regimens seem to be more affected by the pharmacological characteristics of the regimen than the Morisky scale. The use of multiple measures should be preferred when evaluating patient non-adherence to short-term treatments, in order to enable a comprehensive identification of misuse dimensions and its further prevention.