Prevalence and reasons for non-adherence to hyperlipidemia treatment

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Abstract: Aim: To assess the prevalence of medication non-adherence, and to assess the effect of selected patient-, doctor-, and therapy-related factors on patient adherence to hyperlipidemia treatment. Methods: Open-label questionnaire study in the primary care patients diagnosed with hyperlipidemia. Results: A total of 255 outpatients aged 60.2 +/- 10.3 (mean +/- SD) were enrolled. Only 61.6% of patients claimed to be fully adherent during the last week. The major source of motivation to take medication was expectation to lower cholesterol level, and only extremely infrequently (2.7%) - to prolong life. Patients often pointed at economic constrains as a reason for low adherence. Getting information from doctor about the purpose of therapy (OR=3.04, 95%CI 1.36-6.80, P<0.01), understanding the purpose of therapy (OR=5.09, 95%CI 1.30-19.90, P<0.05), reading the patient information leaflet (OR=3.37, 95%CI 1.78-6.36, P<0.001), positive opinion about the effectiveness of the treatment (OR=2.45, 95%CI 1.24-4.81, P<0.01), and visiting primary care once a month (OR=2.22, 95%CI 1.05-4.69, P<0.05) were associated with adherence to the treatment. Conclusions: Non-adherence to lipid-lowering medication is a frequent problem. This study suggests that effective doctor-patient communication may play an important role in rising patients’ motivation to systematic treatment. Better adherence might be also obtained with prescribing more affordable drugs.

Keywords: Adherence to medication • Patient compliance • Hyperlipidemia • Doctor-patient communication

1. Introduction

Hyperlipidemia is one of the most important risk factors for atherosclerosis and cardiovascular disease. In Poland, it occurs among 67% of men and 64% of women [1]. As reported, the decline in mortality from coronary heart disease in Poland in 1991-2005 periods corresponded to the greatest extent to a decrease in the prevalence of risk factors. In as many as 39% of cases it was associated with a reduction in mean cholesterol level [2]. Successful treatment of hyperlipidemia is therefore of crucial importance in the primary and secondary cardiovascular prevention. The effectiveness of lipid-lowering therapy in Poland, however, remains far from desired. The WOBASZ study proved that only 10% of Polish hyperlipidemia patients were treated, while those treated effectively constituted only 3% of male patients, and 2% of female ones [1].

One of the important factors responsible for this problem is patient non-adherence to medication. This phenomenon occurs with various prevalence, and with varying degrees depending on many factors, including disease type, and type of prescribed medication. The World Health Organization estimates that it affects about 50% of patients treated for chronic diseases [3]. Among patients receiving lipid-lowering drugs, after 6 months only 36% satisfactorily adhered to treatment [4], and during the first year of treatment, a third of patients stopped the treatment completely [5]. Studies conducted in Poland confirm these trends: the analysis of pharmacy claims data showed that only 12% of patients took statins systematically, using at least 80% of prescribed doses [6].

The main consequence of medication non-adherence is ineffectiveness of the treatment, and thus, failure to achieve full benefits of evidence-based therapies. In the case of hyperlipidemia, a precondition for patients to achieve benefit from treatment is taking at
least 80-90% of prescribed doses of medication. Taking a lower percentage of prescribed doses leads to significant reduction in the effectiveness of treatment, increased risk of cardiovascular incidents, and mortality [7-9]. As observed, patients non-adherent to the statin therapy had nearly 40% greater risk of cardiovascular incident during the 3-year follow-up period, compared with the adherent ones [10].

In order to improve patient adherence to medication, it is necessary to identify the factors that have a significant impact on this phenomenon. The aim of this study was therefore to assess the prevalence of medication non-adherence to hyperlipidemia treatment, as well as assess the effect of selected patient-, doctor-, and therapy-related factors on the level of patient adherence in this condition. It was also decided to assess how well selected information on lipid-lowering treatment motivates patients to take their drugs systematically. As face-to-face patient counselling sessions have been recently found to improve adherence with statins [11], such information may be used to design effective interventions.

2. Methods

The study was an open-label survey conducted in the primary healthcare conditions in the area of Lodzkie voivodship. The sample size of 200 subjects was calculated.

Outpatients diagnosed with hyperlipidemia who were prescribed lipid-lowering drugs were invited to the study. Those who agreed to participate received an anonymous self-administered questionnaire. The questionnaire was developed especially for this study on the basis of literature review, and the author’s own experience. It consisted of three parts: the first one contained five questions on demographic characteristics, and the second - questions on the treatment with lipid-lowering drugs, and the extent and reasons for non-adherence to the treatment. The third part of the questionnaire contained 26 statements which the patients were to assess in terms of how much they convinced them to systematic use of lipid-lowering drugs.

As a result of the pilot study, conducted among 10 volunteers, minor changes were made in the structure of the questions in the second part of the questionnaire – it was eventually decided to contain 38 questions (including 17 open and 21 closed), and the number of statements provided for assessment in part three was limited to 17.

Adherence is a complex behaviour, and only recently, a new taxonomy and terminology has been agreed in this field [12]. However, due to the limitations arising from the methodology adopted for this study, not all aspects of adherence were covered by the study questionnaire, e.g. frequently used criterion of percentage of days covered (PDC) >80% of study period for categorization of adherent patients was not applicable due to the recall bias. Therefore, in order to cover major ‘milestones’ of adherence to medication process, i.e. initiation of treatment, its continuation and persistence, relevant questions were designed for study questionnaire. For this study, the primary outcome measure, named ‘full adherence’, was operationalized with common occurrence of three criterions: 1. Starting lipid lowering treatment 2. Continuation after using 1st pack of lipid lowering drug 3. Taking the medicine every day within a week prior to the survey.

2.1 Statistical methods

In the statistical analysis descriptive statistics were used and the qualitative variables were presented as mean +/- SD. Either parametric or non-parametric inference tests were applied to assess differences, depending on the distributions of variables. For the analysis of qualitative variables statistical methods based on the chi² test were adopted. The significance level of P<0.05 was adopted. The effect of selected variables on adherence was tested with univariable logistic regression.

3. Results

RA total of 255 outpatients aged 60.2 +/- 10.3 (mean +/- SD) were enrolled in this study. A baseline cholesterol level for studied patients was 273.8 +/- 50.5 mg%. The characteristics of the studied population are given in Table 1. The most common class of lipid-lowering drugs among the studied patients were statins (53.0% of respondents), and the most commonly used medicine was simvastatin (31.4%). Nearly 70% of patients taking lipid-lowering drug committed taking it in the evening or at night (particularly between 17:00 - 21:00 hours - 51.4%). Nine percent of respondents experienced side effects while taking lipid-lowering drugs – these were primarily adverse effects from the gastrointestinal tract (4.8%), and headache (1.3%). One person felt a “muscle tremor”, none of the respondents mentioned muscle pain.

3.1 Treatment execution

Responding to the question on overall assessment of the treatment, 25.1% of respondents admitted that “they usually missed several doses of cholesterol-lowering drug.” As the most common reason respondents gave forgetfulness (46 subjects), and much less frequently - adverse effects (4 subjects), and objective problems