

# Statin discontinuation: How can we improve on the multiple pathways that contribute to suboptimal statin adherence?

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## Related article

by Kardas et al.

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Discontinuation of statin therapy remains a significant challenge (encountered in 15%–75% of cases) following coronary heart disease (CHD) events [1] associated with unfavorably elevated low-density lipoprotein cholesterol (LDL-C) [2] and recurrent cardiovascular events [1, 3]. Despite strong scientific evidence for LDL-C reduction with lipid-lowering drugs, less than 30% of patients with CHD across Europe achieve the conservative LDL-C treatment target of <70 mg/dl (1.8 mmol/l) [4] in daily clinical practice. Regrettably, only 20% of patients included in a Polish post-myocardial infarction (MI) treatment program had an LDL-C level below the currently recommended target of <55 mg/dl (1.4 mmol/l) [5]. This emphasizes the need for novel strategies to improve lipid management [5–7].

According to the categorization by the European Society of Cardiology based on cardiovascular mortality rates [6], Poland is a high-risk country, and so measures to improve the management of CHD are particularly important [6, 8]. As an attempt to improve secondary prevention and to harmonize variations in care provided in clinical practice throughout Poland, a nationwide coordinated care program, KOS-Zawał, was introduced in 2017 [9]. This publicly funded program includes an individual care plan, inpatient or ambulatory cardiac rehabilitation or a combination thereof, a minimum of three cardiological consultations over 12 months, and a specialist consultation at the end of the program [9]. Participants receive education on coronary risk factors and lifestyle modifica-

tions and are offered psychological counseling organized by a dedicated coordinator [9]. Interestingly, the program also uses financial incentives for hospitals to participate, such as bonus payments in regard of patients who return to work within 4 months of discharge, or for achieving LDL-C goals of <1.4 mmol/l in more than 40% of the patients [9, 10].

In the current issue of *Polish Heart Journal (Kardiologia Polska)*, Kardas et al. [10] report on this program. More specifically, they compare statin adherence using prescription data from the whole of 2022 in a large cohort of patients with CHD according to their participation in KOS-Zawał [10]. This cohort included 214 649 patients surviving an MI and/or revascularization procedure, of whom 28 128 (13%) participated in the KOS-Zawał program. Program participation was associated with an impressive 50% relative reduction in the risk of statin discontinuation, defined as a treatment gap of 60 days, i.e., no refill of medication until 60 days after the previous prescription has run out. In all, 19% of patients discontinued statins with standard care, compared to 11% of KOS-Zawał participants. The discontinuation rate in the total population was higher in women and in younger individuals, whereas data on other clinical characteristics was not available.

The Polish health authorities should be commended for implementing a comprehensive and ambitious secondary preventive program, and a 50% relative reduction in statin discontinuation is indeed impressive. Notwithstanding this however, their finding

of 11% of KOS-Zawał participants discontinuing their statin prescription underscores the need to identify barriers and to further optimize the program. A even more pressing task perhaps is to make the KOS-Zawał program available to all CHD patients. Kardas et al. [10] report a participation rate of 25% of patients with MI in 2022. It is a well-established challenge to increase participation rates in such programs, and in particular to motivate patients who are at the highest risk [6, 7]. In a study with 3 years of follow-up data, the participants in the KOS-Zawał program were younger, more often men, had fewer comorbidities, and more often had ST-elevation MI rather than non-ST elevation MI, than those who declined to participate [11], illustrating this challenge. Nevertheless, this program is an important public health measure for patients with CHD in Poland and should serve as an inspiration for other countries to equally prioritize secondary prevention.

Somatic comorbidities, polypharmacy, a complex dose regime, perceived side effects, living alone, poor health literacy, depression, and a poor doctor-patient relationship are all factors that may contribute to poor statin adherence [6, 7, 12]. It would have been useful to know the distribution of these factors among program participants and non-participants [10]. Due to the non-randomized design, differences in sociodemographic factors or other important patient characteristics between program participants and non-participants could potentially explain the main result. The definition of 'statin discontinuation', i.e., the gap between prescriptions of 60 days used in the study by Kardas et al., is somewhat short [3] and may be affected by changes in medication and/or doses. It would therefore also be interesting to investigate gaps of 90 and 180 days.

The most recent Cochrane review on adherence to lipid-lowering medication concluded that intensification of follow-up care was a promising strategy to improve adherence to treatment [13]. Indeed, studies involving healthcare delivery systems (a term which applies to the KOS-Zawał program) [9] have proved to have positive effects on statin adherence [13]. Other factors with documented effects on long-term adherence to lipid-lowering drugs include simplification of medication and the dose regime, patient education, and reminders in various forms [6, 12, 13].

Kardas et al. propose to implement digital solutions to provide: I) reminders of medication intake and II) the need to collect medication from the pharmacy, as well as III) alerts to physicians to identify patients who do not collect their prescribed medications. To what degree digital solutions might improve adherence to statins will probably depend on the given solution, but there is already some evidence for a favorable effect of digital solutions, and it is recommended these be considered in the latest European preventive guidelines [6]. Self-perceived statin side effects are an important cause of reduced adherence and discontinuation [6]. As illustrated by the Samson trial [14], it is important to deal with the *nocebo* phenomenon through patient-centered communication, assistance from

pharmacies, and information campaigns. In addition, we now have alternative lipid-lowering drugs (e.g., ezetimibe, PCSK9 and bempedoic acid) at our disposal for those who (really) do not tolerate statins [6].

The authors should be complimented on their ambition to fine-tune the KOS-Zawał program [10], even though discontinuation rates of 11% are low compared to most international data [1] and many intervention studies [13]. The KOS-Zawał program is an inspiring public health initiative [9, 10] for other countries to follow. However, as pointed out by the authors, the cost of the program is substantial [10], and national health economic analyses are therefore required before adaptation [6].

## Article information

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