

INVITED EDITORIAL

*To accompany Katerenchuck et al*

**Patient satisfaction: a key component in increasing  
treatment adherence and persistence**

Elena Ivany                      MRes                      Doctoral student

Deirdre A Lane                      PhD                      Reader in Cardiovascular Health

**Corresponding Author:**

Dr Deirdre A Lane

Liverpool Centre for Cardiovascular Science, University of Liverpool and Liverpool  
Heart and Chest Hospital, Liverpool, United Kingdom

E-mail: [deirdre.lane@liverpool.ac.uk](mailto:deirdre.lane@liverpool.ac.uk)

Oral anticoagulation (OAC) is commonly used to prevent or treat thromboembolic events in patients with conditions such as atrial fibrillation (AF) and venous thromboembolism (VTE). Until 2010, vitamin K antagonists (VKA) were the only available type of OAC. While VKAs are effective when used correctly, with time in therapeutic range (TTR) of 70% or greater, they have drawbacks. The need for regular monitoring, concerns about remaining within a pre-set International Normalised Ratio (INR) range and achieving high proportion of TTR, drug-, food- and alcohol-interactions, and the possibility of recurrent dose adjustments, may negatively affect patients' quality of life (QoL) and satisfaction with treatment. This, in turn, can have an influence on patients' adherence and persistence rates. From a clinical perspective, reduced treatment adherence and persistence can also influence physicians' willingness to prescribe OACs.

The NOACs have overcome some of the inherent limitations associated with VKAs, having fewer drug and food interactions, a consistent dosing regimen, and a stable pharmacokinetic profile, hence requiring less frequent monitoring (periodic renal function testing only). It is worth acknowledging that some patients may feel that regular INR monitoring and the associated contact with health professionals is preferable, as this may offer an added sense of security. However, NOACs appear to present a welcome solution to some of the practical issues associated with VKAs, which have been shown to affect treatment satisfaction [1, 2]. Unsurprisingly, the NOACs have been increasingly used in clinical practice, generally offering relative effectiveness, safety and convenience compared to the VKAs and leading to many prescribers switching from VKA to NOACs in real world practice [3-6].

The study by Katerenchuk et al in this issue of *Thrombosis and Haemostasis* [7] suggests that patients prefer NOACs over VKAs. Their systematic review and meta-analysis included four randomised controlled trials (RCT) and 16 observational studies, with a total of 18,684 patients receiving OAC for either AF or VTE and demonstrated that compared to patients treated with VKAs, those treated with NOACs reported less burden and greater treatment benefits. Participants who switched from NOAC to VKA also reported a reduction in treatment burden and patients' global satisfaction was improved by treatment with NOACs relative to VKAs [7]. Participants reported that NOAC treatment was less burdensome, more convenient, and more effective than VKA treatment. Overall, the systematic review by Katerenchuk and

colleagues suggests that patients are more satisfied with NOAC treatment relative to VKAs, largely due to reduced treatment burden.

The systematic review and meta-analysis was robustly-conducted, with study selection and data extraction carried out independently by two researchers. Risk of bias was independently assessed and observational studies with high risk of bias scores were excluded from the meta-analysis. However, there was considerable heterogeneity between the included studies and outcomes relied on self-reported patient data, which introduces potential bias into the results. None of the sub-group analyses were statistically significant [7] and there was no significant difference in patients' overall perception of NOAC versus VKA when assessed using different satisfaction scales.

An important element of long-term anticoagulation treatment is increased adherence and persistence with OAC [8]. It is hoped that greater patient satisfaction with OACs can help achieve this, as patients who are satisfied with the clinical effects and practical aspects of their medication should ideally be more willing to adhere and persist with that medication. Higher treatment satisfaction scores were associated with better adherence to OAC amongst Australian patients with AF [9]. Reducing treatment burden can also promote better adherence and persistence. AF patients appear to rate their treatment burden as high, with 1 in 5 AF patients questioning the sustainability of their treatment as a result [10]. Risk of non-adherence among patients with AF was significantly lower among participants taking a NOAC compared to those taking a VKA ( $p < 0.001$ ) [11]. A recent Korean study exploring adherence to NOACs in a single cardiology department reported 92% adherence (measured as  $\geq 80\%$  prescribed doses taken) [12].

It is important to remember that the same treatment regimen may be rated as having different treatment burden by different patients. A patient's diagnosis, demographic factors, and comorbidities all affect how that patient interprets OAC-associated treatment burden (Figure 1). In Katerenchuk's systematic review, there were considerable differences between the AF and VTE patient groups [7]. Patients with VTE were an average of 15 years younger than patients with AF, and there were more men in the AF group. Furthermore, not all VTE patients required lifelong OAC treatment, which is an important distinction given that patients' adherence to OAC

tends to reduce over time [13]. A personalised approach, whereby clinicians regularly assess the impact of a specific treatment on the individual patient, is therefore needed [14] and various tools are available to assist physicians with their assessment of patients' disease burden and treatment satisfaction levels [15].

Insert Figure 1

However, the relationship between treatment satisfaction levels and adherence rates is complex. A French study [16] that assessed AF patients' treatment satisfaction, adherence to treatment, and QoL scores reported mixed findings: patients' satisfaction with NOACs was significantly higher than their satisfaction with VKAs ( $p < 0.001$ ). However, greater patient satisfaction with NOACs did not translate to better medication adherence or increased QoL scores ( $p=0.72$  and  $p=0.29$  respectively). Among patients with VTE, it has been reported that adherence was not influenced by either OAC-associated QoL scores or practical concerns [17]. It appears that the perceived ease of taking NOACs versus VKAs does not necessarily always translate to better adherence rates.

What does this mean for clinical practice? Given that many patients, particularly those with AF, require long-term OAC, physicians and other healthcare professionals need to optimise the likelihood of patient satisfaction with, and understanding of, treatment to increase medication adherence and persistence. Any treatment plan needs to be realistic, both in terms of its treatment outcomes, which should be discussed with the patient and incorporate patient's views and treatment goals and be mindful of its practical demands of the treatment regimen on patients. Ideally, any treatment regimen would try to minimise the negative impact on a patient's QoL [14]. Improving patients' understanding of their disease and the benefits/risk of treatment can help to minimise/off-set treatment burden because appreciation of the necessity of the treatment can result in acceptance of the associated treatment burden and reduce dissatisfaction. As highlighted in the new European Society of Cardiology Guidelines on the management of AF [18], the key to improving patient outcomes, including patient satisfaction with treatment, is a patient-centred approach to the management of chronic disease.

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**Figure 1:** Factors contributing to effective management of AF

