Editorial

Mario Plebani*

Adherence to recommendations and clinical practice guidelines: not an easy task

https://doi.org/10.1515/cclm-2023-0920

In this issue of the *Journal*, Mussap and colleagues report very interesting, albeit worrying, data on the adherence to official recommendations on albuminuria harmonization and standardization in the literature [1]. The diagnostic and prognostic value of albuminuria was recognized a century ago but has progressively increased in the last decades thanks to the elucidation of its role as a marker of endothelial dysfunction and microvascular disease. In particular, a body of evidence has been collected to highlight its key role for the early recognition of diabetic nephropathy and the classification of chronic kidney disease (CKD). Albuminuria has been found to be an independent prognostic factor for CKD outcomes, hypertension, cardiovascular disease, cardiovascular mortality, and all-cause mortality [2]. In 2008, the former National Kidney Disease Education Program Laboratory Working Group (NKDEP LWG) together with the International Federation of Clinical Chemistry and Laboratory Medicine Working Group for Standardization of Albumin in Urine (IFCC WG-SAU) launched a project for standardization, which included a roadmap for albuminuria traceability, and published key recommendations to standardize and improve all steps of the measurement of urinary albumin, taking into consideration pre-analytical, intra-analytical and post-analytical issues [3]. Unfortunately, the data reported by Mussap and colleagues provide evidence of the poor adherence to and compliance with these recommendations for albuminuria harmonization. The term “microalbuminuria” is still popular among clinicians as it was used in 39 % of the articles included in the study, though all official guidelines recommend discouraging its use. Failure to adhere to guidelines was found to be predominant in the pre-analytical phase, as no article reported any data on pre-analytical variables potentially influencing albumin excretion such as posture, physical activity, and fever. In addition, only half of the studies indicated the type of urine collection and 58.1 % of these studies used spot urine specimens, while only 21 % used a first morning void urine specimen, which was previously found to correlate more closely with the 24-h urine collection than random spot specimens [4]. Only a few papers (15 %) reported data on other important variables of the pre-analytical phase such as sample shipping, storage, and centrifugation, reflecting the poor awareness of the impact of pre-analytical steps on the accuracy of laboratory results. Only 50 out of 159 articles properly indicated the analytical methods adopted for albuminuria and only 31 for creatininuria, while 38 articles contained gross errors, missing data and reporting false information. The best compliance was achieved for recommendations on the post-analytical phase, with the majority of papers reporting the albuminuria-to-creatininuria ratio (ACR). A recently published paper confirms the poor adherence to clinical practice guidelines and recommendations on albuminuria, particularly in patients with type 2 diabetes (T2D). A substantial shortfall in adherence to guideline-recommended ACR testing in patients with T2D has been reported, as only 20–53 % of T2D patients in the USA receive regular urine ACR testing [5]. This is real-world evidence suggesting that current recommendations are not implemented in clinical practice, not only in the USA, but also in Canada, Spain, England and Denmark. In contrast, large studies from New Zealand [6] and Israel [7] report testing rates of >95 %, thus raising interest in explaining the reasons for this high compliance. However, the limited adherence to recommendations and clinical practice guidelines (CPG) is not only related to albuminuria testing, as numerous studies have highlighted the failure to follow CPG, showing that non-compliance is as high as 70 % and occurs across most medical disciplines and countries [8]. In an interesting minireview published in the *Journal* some years ago, Barth and colleagues have tried to answer the very intriguing question “why are clinical practice guidelines not followed?” [9]. Many barriers to guidelines compliance have been identified related to both “internal” and “external” issues. A multitude of external barriers have been reported, including the lack of educational materials, financial resources, space and equipment, while internal barriers are...
difficulties in changing personal routines to adopt CPG, lack of time and disagreement with some recommendations. Laboratory specialists are not immune to these barriers and they express the same difficulties in compliance as front-line clinicians. Recently reported data highlight some other criticisms related to the quality of recommendations, the accessibility to information, development of online representation and of clinical-decision-support tools, as well as the availability of protocols that allow their application in routine practice [10]. However, first and foremost, clinicians and laboratory professionals should reinforce the belief that the implementation of recommendations and CPG can lead to higher quality clinical practice and patient outcomes. The paper by Mussap and colleagues should be welcome as a good opportunity to raise our awareness of the need to comply with recommendations and CPG. This, in turn, requires close monitoring and development of protocols and tools to facilitate their implementation by removing internal and external barriers.

References