

Proposed Strategies for Improving Adherence to Tyrosine Kinase Inhibitors in Patients with Chronic Myeloid Leukaemia

Dear Editor,

Tyrosine kinase inhibitors (TKI) are the drug of first choice for patients with chronic myeloid leukaemia (CML) [1]. However, for achieving complete molecular response, the patient's adherence to a daily regimen in the prescribed dosage, time and duration is critical [2]. Previous studies have showed that patients' adherence to long-term therapy with TKIs is suboptimal [3]. It is estimated that 30–47% of patients with CML receiving TKIs did not adhere completely to the therapeutic regimen and only 15% of them were 100% adherent [2,4]. Poor adherence to TKIs can delay the achievement of optimal therapeutic goals and the clinical response in patients with CML and this can compromise event-free survival [5,6]. By contrast, evidence suggests that good adherence to TKIs improves patient-related clinical outcomes [7].

Although extensive efforts have been made to resolve the problem of non-adherence in these patients thus far, the overall prevalence of non-adherence is still high. Factors affecting adherence to medication among patients with CML are multifaceted and can be categorised as patient-, social-, disease-, treatment-, and health-care-related factors [8]. Among these, patient-related factors are more complex and tailoring adherence interventions to those factors is difficult [6,9]. TKI-related side effects, poor understanding on the part of the patients about the risks of the disease, forgetfulness, insufficient patient education, long duration of treatment and importantly, intentional drug withdrawal are common factors associated with patients' non-adherence [2,7,9].

On the other hand, one of the important responsibilities of clinicians, particu-

larly nurses, is educating patients about the regular use of prescribed medications. Given the high prevalence of non-adherence, the question that arises is how nurses can play a greater role in improving CML patients' adherence to TKIs. In this context, the first essential step could be comprehensively identifying and characterising the factors affecting patients' adherence to TKIs. The life experiences of patients, possible barriers to drug discontinuation as well as facilitators of adherence to medication need to be explored and explained from the perspective of the patient and his or her family. This step requires well-designed quantitative and qualitative researches. The recognition of non-adherence factors can form the basis for designing adherence promotion interventions in order to eliminate or modify these factors. Given that patient-related factors play a dominant role in non-adherence, patients and their family members should be well-informed about the need for regular drug taking and the recurring nature of CML. In addition, the necessity of accurate intake of TKIs in the prescribed dose and specified duration should be emphasised routinely. The patients should be informed that irregular drug use reduces the effectiveness of the treatment and increases the risk of disease recurrence. Moreover, smartphones, negative reinforcement interventions, close monitoring, dosage modification, simplified dosing plans, engaging patients' families, conducting periodic screening and direct communication with the patient may be used to improve patient adherence. Nurses can play a dominant role in these parts. Therefore, future prospective larger-scale studies need to be con-

ducted to address the individual, social and environmental factors affecting adherence to these drugs. Afterward, tailored interventions should be designed to modify or eliminate those factors.

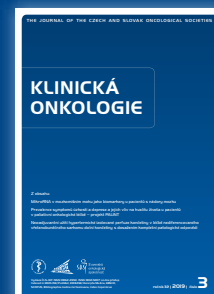
Mohammad Ali Heidari Gorji, PhD
Department of Medical-Surgical Nursing,
Nasibeh Faculty of Nursing and Midwifery,
Mazandaran University of Medical Sciences,
Sari, Iran
e-mail: drheidarigorji@yahoo.com

References

1. Koca E, Haznedaroğlu YC. Imatinib mesylate and the management of chronic myeloid leukemia (CML). *Turk J Hematol* 2005; 22(4): 161–172.
2. Rychter A, Jerzmanowski P, Holub A et al. Treatment adherence in chronic myeloid leukaemia patients receiving tyrosine kinase inhibitors. *Med Oncol* 2017; 34(6): 104. doi: 10.1007/s12032-017-0958-6.
3. Alrabiah Z, Alhossan A, Yun S et al. Adherence to tyrosine kinase inhibitor therapy in patients with chronic myeloid leukemia: meta-analyses of prevalence rates by measurement method. *Blood* 2016; 128(22): 3610.
4. Al-Dewik NI, Morsi HM, Samara MM et al. Is adherence to imatinib mesylate treatment among patients with chronic myeloid leukemia associated with better clinical outcomes in Qatar? *Clin Med Insights Oncol* 2016; 10: 95–104. doi: 10.4137/CMO.S32822.
5. Ganesan P, Sagar TG, Dubashi B et al. Nonadherence to imatinib adversely affects event free survival in chronic phase chronic myeloid leukemia. *Am J Hematol* 2011; 86(6): 471–474. doi: 10.1002/ajh.22019.
6. Ibrahim AR, Eliasson L, Apperley JF et al. Poor adherence is the main reason for loss of CCyR and imatinib failure for chronic myeloid leukemia patients on long-term therapy. *Blood* 2011; 117(14): 3733–3736. doi: 10.1182/blood-2010-10-309807.
7. Marin D, Bazeos A, Mahon FX et al. Adherence is the critical factor for achieving molecular responses in patients with chronic myeloid leukemia who achieve complete cytogenetic responses on imatinib. *J Clin Oncol* 2010; 28(14): 2381–2388. doi: 10.1200/JCO.2009.26.3087.
8. Hall AE, Paul C, Bryant J et al. To adhere or not to adhere: rates and reasons of medication adherence in hematological cancer patients. *Crit Rev Oncol Hematol* 2016; 97: 247–262. doi: 10.1016/j.critrevonc.2015.08.025.
9. Al-Barrak J, Cheung WY. Adherence to imatinib therapy in gastrointestinal stromal tumors and chronic myeloid leukemia. *Support Care Cancer* 2013; 21(8): 2351–2357. doi: 10.1007/s00520-013-1831-6.

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