Medication-Related Issues Associated with Adherence to Long-term Tyrosine Kinase Inhibitors for Controlling Chronic Myeloid Leukaemia: A Qualitative Study

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Background Tyrosine kinase inhibitors (TKIs) have markedly improved the long term survival of chronic myeloid leukemia (CML). CML has become a chronic disease. Poor adherence to TKIs could compromise the disease control and contributes to higher disease burden and mortality.

Purpose Little is known about the medication-related issues among CML patients on TKIs therapy in Malaysia. This qualitative study aimed to explore these challenging issues which could affect patient’s adherence to TKIs. Subsequently, measures pertaining to the issues can be planned and implemented to improve their pharmaceutical care service and long-term outcome.

Method Face-to-face, semi-structured interviews were conducted in the Haematology Outpatient Clinic of two medical centres in Malaysia, from August 2015 to January 2016 after granted ethical approvals. A purposive sampling strategy was used to include patients with maximum variation of age groups, education levels and treatment responses. CML patients aged 18 years and above who were prescribed with a TKI were identified by screening the medical records and then invited to participate in the study. Exclusion criteria were patients who were confused or had evidence of drug resistance. Interviews were audio-recorded, transcribed verbatim and analysed thematically based on Braun and Clarke.

Findings Four emerging themes were identified from 18 saturated interviews (median duration was 41 minutes) including (1) concerns on adverse reactions of TKIs (2) personal beliefs regarding the use of TKIs, (3) mismanagement of TKIs in daily life, and (4) financial burden for accessing treatment. Participants omitted their TKIs due to poor tolerability to gastrointestinal side effects, ineffective prophylactic anti-emetic control and perceived wastage of medication from vomiting. Participants also modified their TKI due to fear of potential harms from long-term use, and stopped their TKIs based on beliefs in the curative claim of traditional medicines and misconception about therapeutic effects of TKIs according to disease symptoms. Difficulties in integrating the dosing requirements of TKIs into daily life led to unintentional skipping of doses and risk of toxicities from inappropriate dosing intervals and food interactions. Furthermore, financial burden also resulted in delaying initiation of TKIs, missing appointments and dose interruption from running out of TKIs.

Conclusion Malaysian CML patients encountered a range of medication-related issues leading to a complex pattern of non-adherence behaviour that potentially hinder the optimal clinical benefits of TKIs. A pharmaceutical care service is needed to elicit and address CML patients’ concerns on TKI-related side effects, improve patients’ understanding of treatment rationale and empower them to self-manage their medications.