

LETTER TO THE EDITOR

Effectiveness of drug allergy card to prevent repeated prescribing of allergenic medications in a Malaysian public hospital

To the editor:

Information regarding drug allergy is often poorly documented in health care settings.¹⁻³ Despite being preventable, the repeated prescribing of known allergenic medications is still common, accounting for 8% to 15% of the medication errors worldwide.^{2,4-7} In response to the global concern about drug safety, the European Academy of Allergy and Clinical Immunology has recommended the use of drug allergy cards.⁸ This method has long been implemented in public hospitals in Malaysia as a strategy to facilitate the communication of patients' drug allergy history, especially during emergency situations in which complete medical records and medication history are usually not available.⁹ However, till today, the impact of this strategy on patient safety has not fully evaluated. Therefore, we conducted a study to determine the impact of drug allergy cards in reducing the repeated prescription of allergenic medications and the risk factors for such errors.

This retrospective cohort study was undertaken at the Selayang Hospital, a 960-bed public tertiary care centre in Malaysia. All new drug allergy card recipients registered between 1 January 2015 and 31 December 2016 were included. Their sociodemographic characteristics and medical history were retrieved from the electronic medical records (EMRs). All prescriptions within the first 6 months following the issuance of the drug allergy card were examined to detect the repeated prescription of allergenic medications. The factors potentially associated with the repeated prescription of allergenic medications were identified by using the simple logistic regression analysis. All the factors with a $P < 0.25$ then undergo a backward stepwise multiple logistic regression analysis,¹⁰ and the strength of association for each factor was expressed as an adjusted odds ratio (aOR) and 95% confidence interval (CI).

In total, 937 drug allergy cards were issued during the 2-year study period. The repeated prescriptions of allergenic medications were detected in 6.1% ($n = 57$) of the patients; the majority (68.4%;

$n = 39$) occurred at outpatient setting. Only 26.3% ($n = 15$) of these cases were detected at the dispensary level. None of those who received the same allergenic medications was found to seek treatment or be hospitalized for similar allergic reactions. It is important to note that the impact of the prescription errors is likely to be underestimated, as patients might sought treatment from other health care institutions.

The repeated prescription of allergenic medications was found to occur more frequently in children (<12 y of age) (aOR: 3.34; 95% CI, 1.66-6.70), elderlies (≥ 65 y of age) (aOR: 2.40; 95% CI, 1.05-5.49), and non-residents (aOR: 8.34; 95% CI, 2.73-25.51). These findings are consistent with studies, which highlighted the challenges in doctor-patient communication, primarily because of age and language barriers.^{11,12}

The number of medications (aOR: 1.12; 95% CI, 1.08-1.16) and history of allergic reactions to commonly used drugs, such as paracetamol (aOR: 6.79; 95% CI, 3.08-14.94) and penicillins (aOR: 2.47; 95% CI, 1.32-4.62), were shown to be the risk factors for the errors. Patients with the history of mild allergic reactions, such as pruritus or itchiness (aOR: 2.49; 95% CI, 1.08-5.72), were found to be more likely to receive the same allergenic medications.

Approximately 40% of the patients did not have their drug allergy status documented in the EMRs. This was found to be another risk factor for the repeated prescription of allergenic medications (aOR: 1.90; 95% CI, 1.04-3.46), similar to what have been reported in other studies.^{13,14} Due to the heavy load of patients in the outpatient setting where doctors are highly dependent on the EMRs to obtain patients' information, a strategy to standardize the documentation of their drug allergy history in the EMR is vital.

Although similar approaches have been used in several Asian countries,^{4,15} this is, to our best knowledge, the first study to investigate the effectiveness of drug allergy cards in prevention of repeated prescription of known allergenic medications. Nonetheless, the generalizability of the findings is limited, mainly by the single-centre design of the study. As the study was retrospective in nature, it also remains unknown if the patients had presented their drug allergy cards to the doctors before the medications were prescribed.

Overall, the repeated prescription of known allergenic medications remains unavoidable regardless of the use of drug allergy cards. This was attributable to a wide range of factors, from communication barriers to incomplete documentation. Hence, collaborative efforts from policymakers, hospital authorities, health care practitioners, and patients are crucial to prevent further errors.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

ORCID

Fei Yee Lee  <https://orcid.org/0000-0002-5731-4276>

Fei Yee Lee¹ 

Huan Keat Chan²

Hin Seng Wong¹

¹Clinical Research Centre, Selayang Hospital, Ministry of Health Malaysia, Batu Caves, Malaysia

²Clinical Research Centre, Sultanah Bahiyah Hospital, Ministry of Health Malaysia, Alor Setar, Malaysia

Correspondence

F. Y. Lee, Clinical Research Centre, Selayang Hospital, Ministry of Health Malaysia, Lebuhraya Selayang-Kepong, Batu Caves, 68100 Selangor, Malaysia.
Email: feiyee7890@gmail.com

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