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Medication safety unit programs in King Saud Medical City, 2012–2013: Safe medication management and use with a focus on patient safety

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**Background:** Medication Safety Unit [MSU] streamlines the safe management and use of prescribed medications and reduction in all types of Medication Errors [MEs], and associated morbidity and mortality resulting in enhanced patient safety, better quality of healthcare services and cost saving.

**Objective:** This study aims to describe MSU programs together with their purposes developed in King Saud Medical City [KSMC], Saudi Arabia and supports them with related policies and guidelines based on evidence-based research done across the world.

**Method:** A descriptive study was designed to define programs, roles and annual plan of MSU, which was established in year 2012. Multiple awareness campaigns and training courses were organized for highlighting the significance of MSU among healthcare providers and consumers in KSMC.

**Results:** The MSU developed 14 programs and annual medication safety plan of actions having 14 items(both are available with presenter) together with respective policies, procedures and guidelines, well supported by evidence-based research data for improving safe medication management and use associated with reported reduction in MEs, and increased patient safety and quality of healthcare.

Conclusion: MSU is a useful tool to encourage reporting of MEs, which are reported to increase patient safety and safe medication management and tends to decrease the number of MEs. Beside establishing MSU in all hospitals, this study calls for a randomized controlled study in future that will identify potential risk factors that impact safe medication management and are associated with patient safety not only in Saudi Arabia but also in other Arabian Gulf countries.

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## Subsets of regulatory T cells and their roles in allergy

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Since accumulated information indicate that there are several distinctive subtypes of regulatory T cell s (Tregs) in man, and each of them seems to play different role in controlling immune system, which complicates the involvement of Tregs in allergy. After introduction of the six subsets of Tregs as well as the corresponding characteristics in our published paper, the role of the individual subsets of these Tregs was studied. And the results showed that Tregs consist of a small proportion of CD4+ T cells, including 5.3% of CD4+CD25+FOXP3+ T cells and 0.1% of CD4+CD25+FOXP3- T cells (Tr1 cells) in HC peripheral blood; IL-10+ Tregs are major population of Tregs (up to 75.2%), whereas IL-10+ TGF-β1+ Tregs (iTregs) only occupy approximately 3% Tregs in peripheral blood; Down-regulation of Tregs in allergy is mainly a consequence of reduced number of IL-10+ Tregs in peripheral blood; Not only allergic conditions, but also eczema showed down-regulation of Tregs; Approximately 55.5% Tregs are CD127- in peripheral blood, and this cell population was dramatically enhanced by up to 90% in allergic conditions; CD8+Tregs (CD8+FOXP3+IL-10+) exhibit a small proportion (1.2%) of CD8+ cells in peripheral blood, and they are decreased under allergic conditions; IL-17+Tregs (CD4+CCR6+FOXP3+IL-17+) rarely exist in peripheral blood. Therefore it is proposed that there may be a novel balance between IL-10+ Tregs and CD127-Tregs which suggests that targeting Treg therapy should be focused on these two cell populations.

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