

**Enhancing the compliance to post transplant  
medications through**

**Dose Administration Aid Service (Blister Packs)**

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# Disclaimer

- ▶ Speaker has nothing to disclose. This presentation is not meant to promote any services or products. The speaker has no financial arrangement or affiliation with any corporate organization offering financial support. Speaker has a no financial relationship with a manufacturer of a product discussed in the presentation

# Objectives

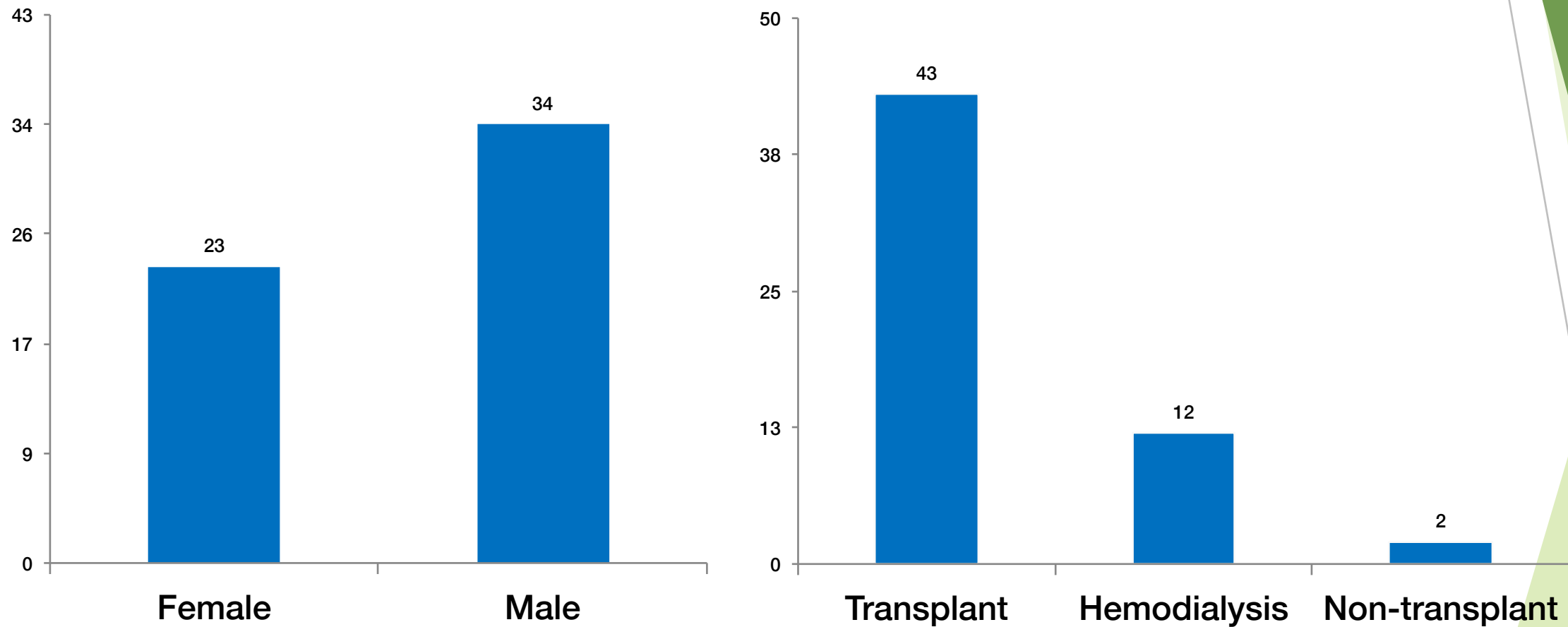
- ▶ Introducing The services
- ▶ Brief about SKMC Transplant Program
- ▶ Demography and selection criteria
- ▶ Demonstration Of Blister Packs
- ▶ Medications filled in the Blister packs
- ▶ Pharmacists-Physicians collaboration
- ▶ Pharmacists role and impact
- ▶ Limitation
- ▶ Outcomes and benefits

# Introduction

- ▶ Dose administration aids:
  - ▶ organize doses of medications according to when they should be taken
  - ▶ help to improve medication compliance and therapeutic outcomes, as well as preventing potential adverse drug events
- ▶ Poor medication compliance, especially among patients who are taking several different medications (polypharmacy), increases the likelihood of ADEs.
- ▶ The service was conceptualized and implemented in the year 2005

# SKMC Transplant Program

## Demographics of the Patients



# Enrolment Criteria

- ▶ Repeated admissions of renal transplant patients because of Non-Adherence
- ▶ Weak cognition skills (Psychiatric, neurologic disorders)
- ▶ The patient's condition which requires him/her an assistance to perform day to day activities (like visually Impairment)
- ▶ Pediatric patients and their guardian who don't understand the complex medication regimen

# Workflow of Transplant Clinic

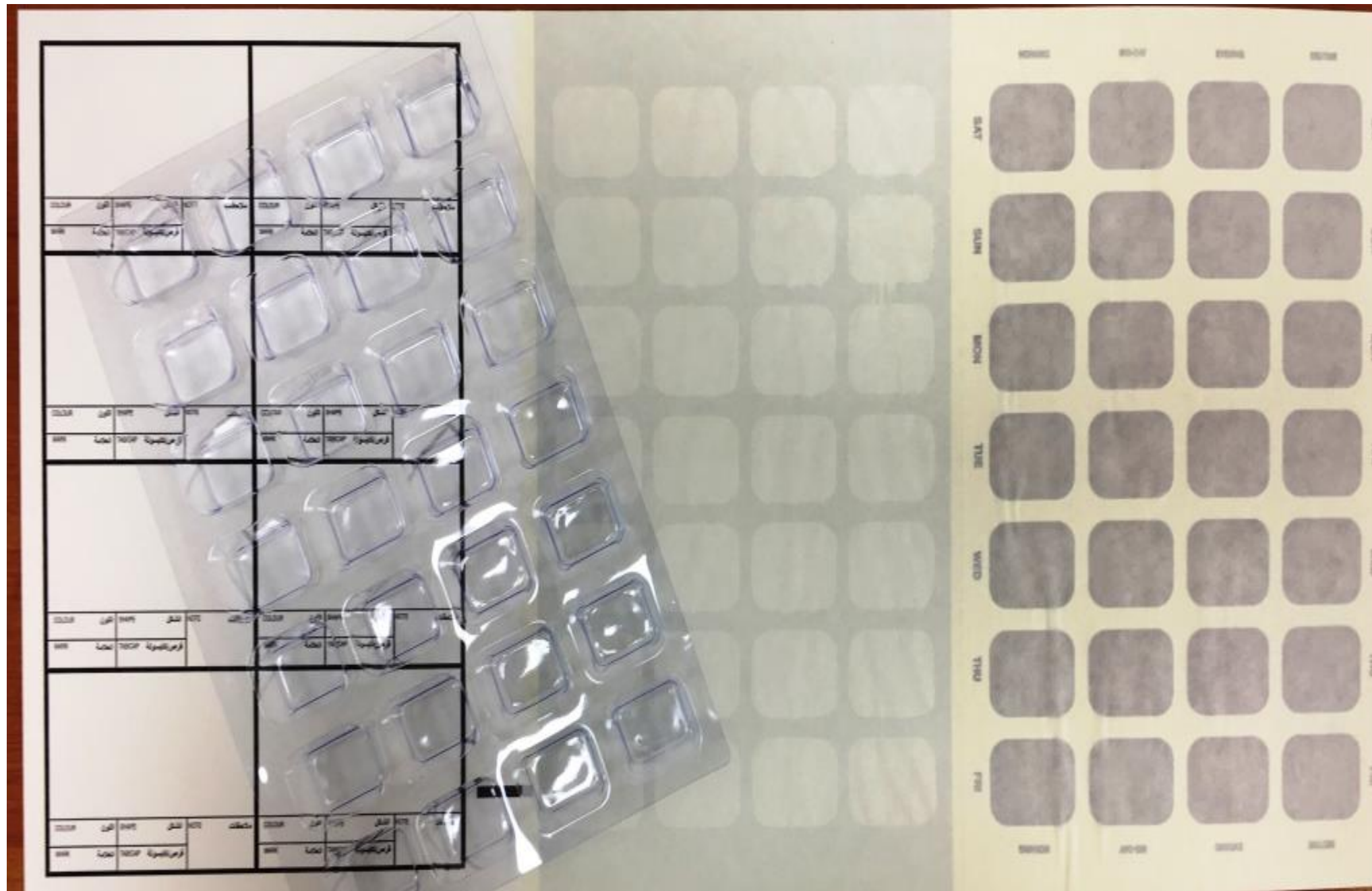
(Ideally)

- ▶ The Patients have their labs test few days prior to their scheduled appointment
- ▶ Blister packs will be prepared in advance by pharmacy Technician and kept unsealed till the physician sees the patient and review the labs on the same day of the appointment
- ▶ Once the patients are seen by the physician, the pharmacist will verify the prescription and seal the packs after making necessary changes (If any)
- ▶ The packs will be checked by another pharmacist and dispensed with detailed explanation about the medications regeim and aany modifications in therapy

- ▶ The packs are given till the next appointment at the transplant clinic
- ▶ The medication which require frequent monitoring are kept outside the blister packs like **anticoagulants**
- ▶ The medications of newly transplanted patient who is enrolled to the program are added to the blister packs in a gradual manner
  - ▶ First - the medication which require less frequent dose adjustment
  - ▶ Later - once the patient is stabilized then the **immunosuppressant** are introduced to the blister packs gradually



## Blister Pack before Filling





# Pack to be dispensed to the patient



# Medication usually in the packs (Transplant)

- ▶ Immunosuppressant
  - ▶ Calcineurin antagonists
  - ▶ Steroids
  - ▶ Anti-proliferative agents
  - ▶ mTOR inhibitors

Note: In addition to other chronic medications

# Dose administration aid service in hemodialysis patient

- ▶ All chronic medications commonly prescribed to ESRD on hemodialysis patients which are suited to be kept in the packs
- ▶ Packs are dispensed on monthly basis soon after monthly multidisciplinary rounds
- ▶ Sometimes the packs have to be amended and repacked within a month - mostly antihypertensive
- ▶ Dosage adjustments are frequent in hemodialysis patients in comparison with transplant patients

# Medication that are not suitable for blister packs

- ▶ Medication that change color when exposed to light
- ▶ Medication which deteriorate when removed from the manufacturer's packing like effervescent tablets
- ▶ Absorb moisture when taken out of the original packing like sodium valproate
- ▶ Medications which are taken in variable doses eg: warfarin
- ▶ Medication with special instructions



# Pharmacist - Physician - Patient's Family's Collaboration

- ▶ Communication between the pharmacies the prescribing physicians is a key factor to facilitate timely packaging, dispensing and administration of the correct medications within a blister pack.

# Limitations

## ▶ Time consuming:

- ▶ Requires minimum of 2 pharmacists and 1 pharmacy technician to complete the packs (future goal is automaton)

## ▶ Design limitation:

- ▶ the blister packs provide only 4 columns

## ▶ Life style:

- ▶ Some patients are reluctant to take medicines at 4 different times

## ▶ Brand change:

- ▶ When size/shape/color of the tablet changes it becomes difficult to explain the patients

# Benefits & Outcomes

- ▶ Maintain stabilized health condition of patients (some of them are on blister packs since 10 years)
- ▶ Less admission rates
- ▶ Increased patients complinace and satisfaction



# References

Guidelines on dose administration aids and staged supply of dispensed medicines

Professional Practice Standards-2010: Pharmaceutical Society of Australia

Gordon, E. J., Gallant, M., Sehgal, A. R., Conti, D., & Siminoff, L. A. (2009). Medication-taking among adult renal transplant recipients: barriers and strategies. *Transplant International : Official Journal of the European Society for Organ Transplantation*



▶ Thanks