



Medication Management Service for elective coronary artery bypass graft surgery

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Introduction

Study by Kluger et al showed that there is about 40% of surgical patients took medications before surgery. Patients with cardiac related diseases are one of the largest pool in the study. Due to multiple medications prescribed, in combination with supplements and herbal products intake, potential interactions and other drug-related problems (DRPs) during and after surgery may be higher, which indirectly increased risk of surgical complications and death. NHCS pharmacy initiated a perioperative medication management service (MMS) for patients who undergo coronary artery bypass graft surgery (CABG) in order to reduce this preventable risks.

Aims

To identify drug-related problems (DRP) in patients going for elective coronary artery bypass graft (CABG).

Methodology

NEW

NHCS Pharmacy has introduced Medication Management Service (MMS) to perform medication review for preoperative elective CABG patients effective from August 2016

Patients are reminded to bring along all their medications, herbal products and supplement on the medication review day



Pre-admission testing nurses email NHCS pharmacists the updated patient list the week before



Patients are directed to NHCS pharmacy for a complete medication review and counselling.



pharmacist performs medication review



Pharmacist creates accurate patient medication list in NEHR, informs respective doctor about any DRP, performs intervention immediately if necessary



Pharmacist documents findings in clinical documentation and pharmacy database.

Results

A total of 123 patients were seen from the month of August till November 2016. One hundred and six (86%) were males and seventeen (14%) were females. Figure 1 and 2 shows the ethnicity and age group of patient seen.

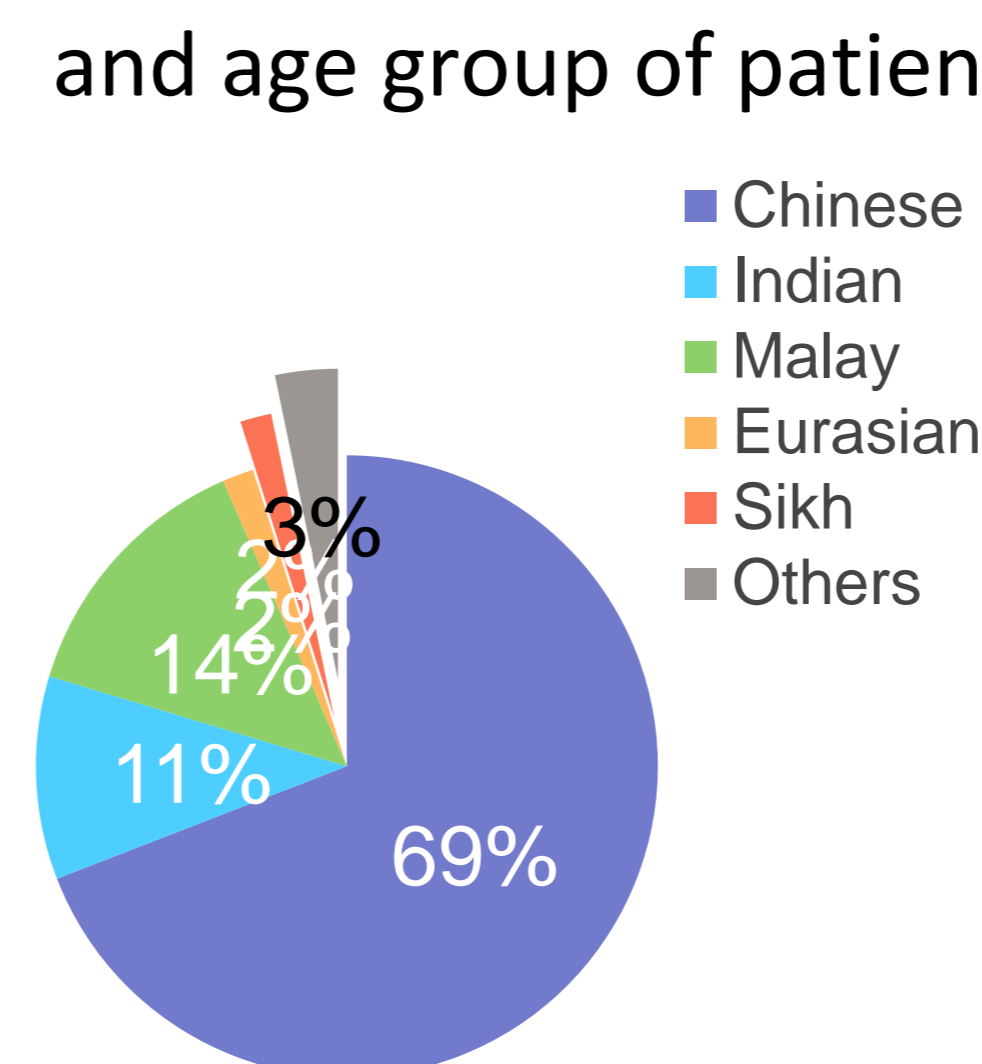


Fig 1: Ethnic

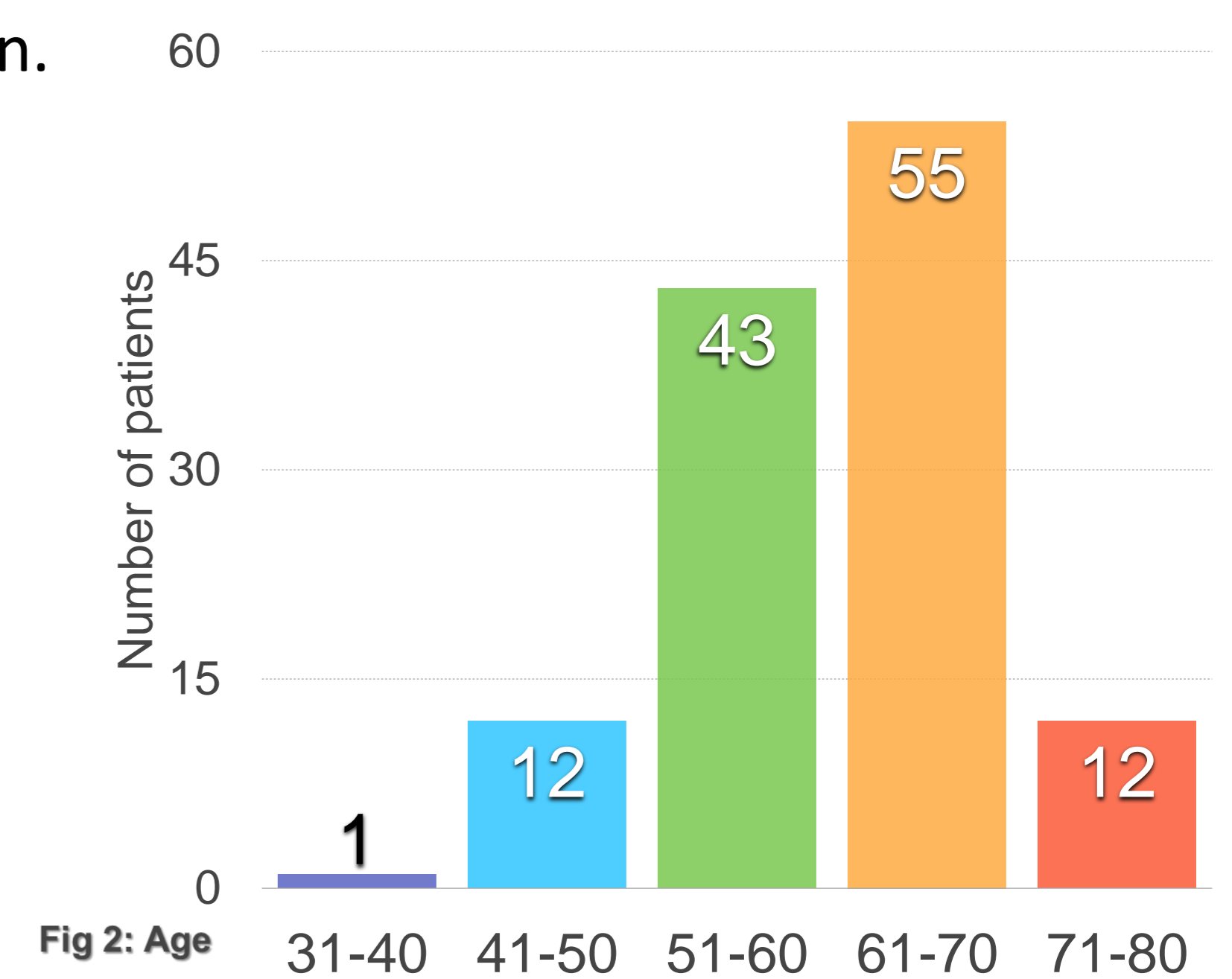


Fig 2: Age

Type of Drug Related Problem	Aug'16 (n)	Sept'16 (n)	Oct'16 (n)	Nov'16 (n)
Unnecessary drug therapy	1	1	1	4
Needs additional drug tx (including untreated problems)	0	0	1	0
Ineffective drug	0	0	0	0
Dosage too low (underdosage in Rx)	0	0	0	0
ADR/interaction-	0	1	4	0
Dosage too high (overdosage in Rx)-	0	0	0	0
Non-compliance eg. taking wrong drug/dose/not taking drug at all	11	5	12	6
Total No. of DRPs detected	12	7	18	10
Total No. of Patient	30	31	38	24
No. of Patient with at least 1 DRP	4 (12.9%)	3 (9.4%)	8 (25.8%)	7 (31.8%)

Total number of 47 DRPs were detected. 34 encounters were non compliance to medication. Mostly due to patients not understanding the importance of medications or self titrate medications. 7 encounters with unnecessary drug therapy such as herbal products or supplements purchase from retail. 5 cases of adverse drug reactions or drug interactions were detected with necessary interventions were performed.

The accurate documentation of preoperative medication plays an important role in the preoperative evaluation workflow to enhance the perioperative safety and efficacy, as well as-to adequately prepare patients "ready-to-go" for major cardiac or thoracic operations before admission.

Conclusion

Drug-related problems (DRP) is prevalent in cardiac disease patients. Pharmacists play a major role in detecting and addressing DRP as part of the multi-disciplinary team. With the early detection of drug related problem during the pre-CABG medication management service provided for the patient, measures can be taken by the post-surgery team which includes the ward pharmacist for instance, to reinforce medication adherence, and reduce preventable surgical risks.

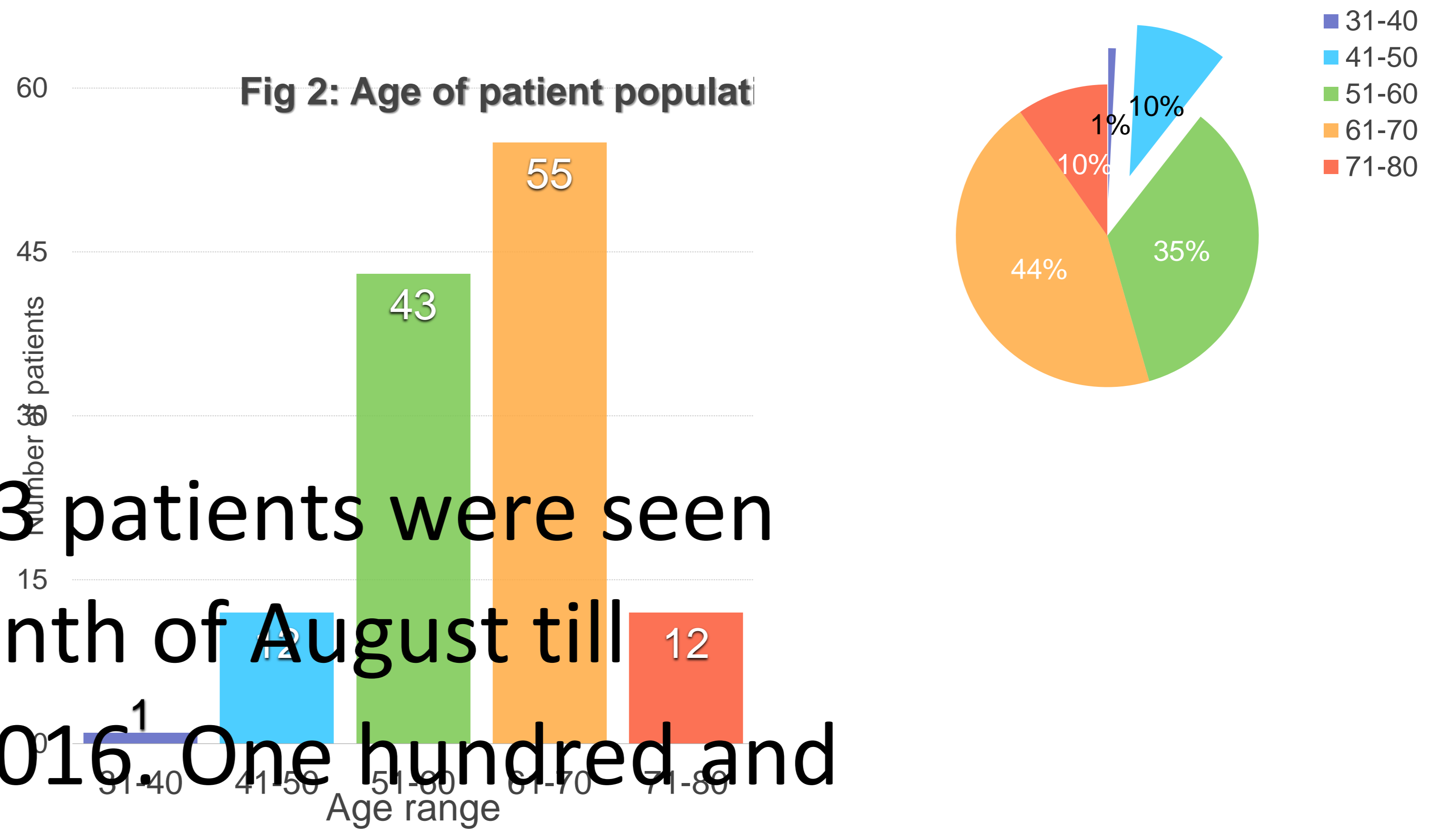
Reference:

1. Marin C. The Pharmacist's Role in Coronary Artery Bypass Graft. <http://www.ncpa.co/issues/APDEC16-TOC.pdf>. Accessed 20 June 2017.
2. Kluger et al. Peri-operative drug prescribing pattern and manufacturers' guidelines. An audit. *Anaesthesia*. 1991 Jun. 46(6):456-9.



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Fig 2: Age of patient population



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Fig. 1: Ethnicity of Patient Population

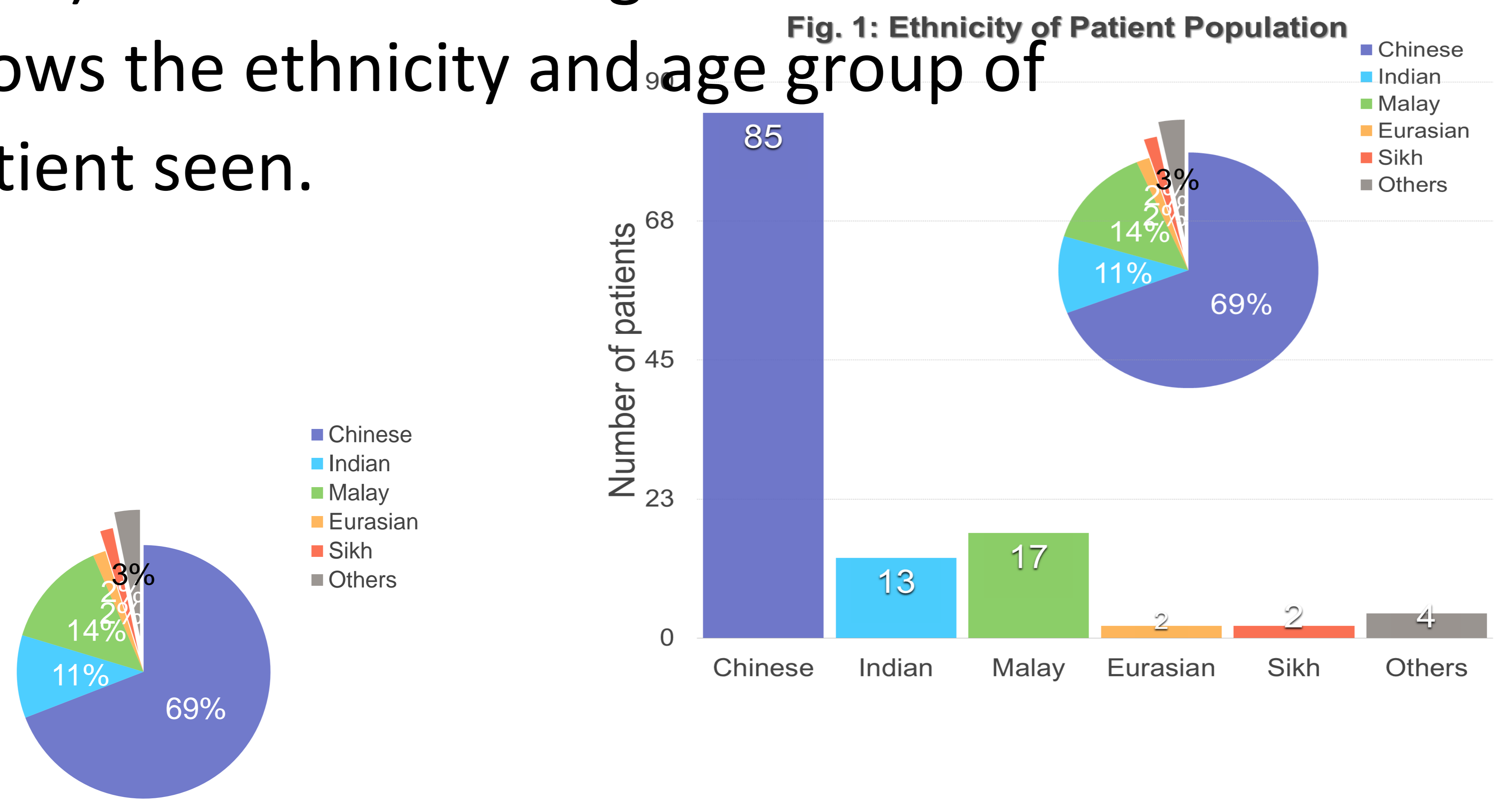


Fig. 1: Ethnicity of Patient Population

