Medication Reconciliation in Surgical Patient admitted at Tertiary Care Hospital of Northern India

ABSTRACT:

Objective: Medication reconciliation is a formal procedure that includes compiling the most correct and comprehensive list of a patient's current medications and comparing it to those listed in the patient's medical record. This study aims to evaluate the pattern of Medication Reconciliation programme in our hospital. A retrospective observational study was carried out over a period of 6 months (Jan-2021 to Jun-2021) in department of surgery of SSB Heart &Multispecialty Hospital.

A total of 1700 patients were eligible among which 64.17% cases were found to be compliant and remaining 35.82% were non-compliant, which may be due to incomplete information from the patients and frequent change in staff. A continued education of the staff and proper communication with the patient is strongly recommended.

Categories: Patient safety, Medication safety, Miscellaneous

Keywords: Medical reconciliation, medication discrepancies, best possible medication history, compliance, non-compliance

INTRODUCTION

Medication reconciliation is a systematic procedure that entails compiling the complete and accurate listing of a patient's medication regimen and compared it to those listed in the patient's medical record or medication lists.[1,2] This is a Process of gathering the exact list of all Medications a patient takes, including drug name, dosage, frequency, and route, and comparing it to admission, transfer, and/or discharge orders, emphasizing any differences and recording any modifications. It is a method of reducing medication inconsistencies, resolve discrepancies and minimize risk of adverse events during transition.[2,3]

The High 5's initiative created by the World Health Organization (WHO) in 2006 with the purpose of eliminating medication discrepancies and enhancing patient safety by developing standard operating procedure including medication reconciliation.[3,4] Every standard operating procedure, according to the High 5s initiative, identifies a specific patient safety problem, provides a standardized care process to solve it, and prescribes an execution plan that includes applicable measurements and analytic techniques.

Five interventions are included in the High 5s initiative:

- Prevention of patient care handover errors
- Surgical mishaps due to the inappropriate site or method can be avoided.
- Prevention of high-concentration drug errors
- Prevention of continuity-of-care medication errors via medication reconciliation
- Promotion of effective hand hygiene procedures.

One of the High 5s initiative's activities is to employ medication reconciliation at various transitions in the healthcare system to improve medication accuracy at transitions of care[5-6].

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In addition, it is necessary to give in one or two sentences the applications of the results obtained

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Steps in the medication reconciliation process are subdivided into precise details.

Step 1: Best Possible Medication History (BPMH)

Step 1: Get the Best Medication History You Can (BPMH)- The BPMH is a medication record that includes the following information: name of medication (generic and brand), dose, frequency, and route of administration of medications taken by a patient. It is a "snapshot" of the patient's actual medication use, even if it differs from what was prescribed.

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The BPMH should include all prescribed (based on prescriber's recommendation) and non-prescribed (not based on prescriber's advice) medicines, such as:

• Prescription drugs (medications the patient is instructed to take by the prescriber)
• Non-prescription drugs (the prescriber did not advise the patient to take the medication)
• Complementary or herbal medication
• Recreational drugs
• 'prn' (i.e., "as needed") medication

The compilation of the BPMH necessitates the implementation of a systematic procedure for acquiring a medication history, which includes the following steps:
1. Interviewing patients and/or family members if possible.
2. Confirming and recording the past history.

Step 2: Medication reconciliation at admission

The proactive procedure, the retroactive method, or a mix of the two, are the two most common models for admission medication reconciliation. Admission orders are written before the BPMH is established in the retroactive model. In both models, the BPMH and the admission orders are reconciled, and discrepancies are detected and rectified.

Within 24 hours of admitting the patient, the medication should be reconciled.

Step 3: Supply accurate information

The Best Possible Medication Discharge Plan (BPMDP) should be presented to the patient and health care team/service that will be providing care to the patient next at the end of the episode of treatment. The various recipients should ensure that their records are updated to appropriately reflect the patient's current prescriptions after getting a BPMDP.
One of the four critical success elements for medication reconciliation is a robust staff education programme.
In their areas of responsibility, all workers involved in the medication reconciliation process should be trained. This necessitates the organization's continual commitment to:
• Training all new staff
• Providing ongoing training.

All employees with responsibility for taking medication histories should receive training in taking and recording the BPMH as part of their orientation sessions. Ideally, the training should be

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multidisciplinary since it encourages a team approach, ensures that each discipline's role is understood, and ensures that the training is consistent.

Two concepts should be emphasised during training:

• How to conduct patient interviews in order to obtain the most accurate and complete medication histories possible.

• When doing the real medication reconciliation, critical thinking is required.

Medication reconciliation is a complex process that encompasses many different professional specialties and takes place in many types of healthcare settings. Whereas the basic principle of medication communication and its importance to patient safety is widely acknowledged, the process itself is often perceived as burdensome and might even be opposed if it is not put in place in a structured way with adequate oversight, resources, and early engagement of the process participants. When implementing the Medication reconciliation SOP, it is suggested that a quality improvement approach be used .[7, 8]

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METHODOLOGY

A retrospective observational study conducted over a period of 6 months (Jan-2021, Feb-2021, Mar-2021, Apr-2021, May-2021 and Jun-2021) at surgery ward. After the approval of the Medical Director SSB **HEART & MULTISPECIALITY HOSPITAL**, the data was collected according to the inclusion criteria i.e., patients over 18 years of age of both genders admitted. A total of 1700 patients were included in this study. The WHO SOP were applied at SSB heart and multispecialty hospital and a pharmacist reviewed the medical records retrospectively to identify adverse drug events which were then confirmed by the author as well.

Comment [EK12]: The methodology must be referenced even if it has been modified.

Table 1 : Initial Assessment By Doctor

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INITIAL ASSESSMENT BY DOCTOR
TIME TAKEN FOR INITIAL ASSESSMENT (WRITE IN MINS: SECONDS FORMAT)
Patient Details
Initial Assessment done within 60 min of patient admission
History of present illness
Medication Reconciliation
Physical examination documented
Provisional diagnosis
Plan of care & management
Diet advised
Expected outcome mentioned

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Name, Sign with Date & time of RMO
Consultant Name & Sign (Counter Signature) within 24 Hrs
Date & Time mentioned
Type of referral is documented
Reason for reference mentioned

The study was conducted in a single department to exclude bias due to different cohorts of patient management.

Initial assessment by the doctor (Table 1) was used to collect patient data and the BPMH was presented to the consultant in charge. Effective medical reconciliation requires validation of intended and taken medications from at least two sources. A medication reconciliation form was used to compare medication list and order sheet to identify any errors such as omissions, errors or duplications.[9] Verifications was carried out to identify numerous brands, prescriptions and dosages. Attention was paid to the points of transmission including admission, preoperative, postoperative drug changes and at discharges. The number of cases in which medication reconciliation was done i.e. complaint group was then reviewed. The number of discrepancies picked up during the period of study and number of missed medication errors were recorded. An adverse drug event was considered the result of an error when prescribing change was classified as a possible or certain error.

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RESULT:

Overall, 1700 cases were eligible of which 1091 had Medication Reconciliation. Out of these, 72% were Male and 28% were females. There was a steady increase in the number of patients which underwent medical reconciliation, from 58% in January to 70.5% in June (figure 1).

367(34%)patients had prolonged hospital stays; 21(2%) required intensive care; and 45 (4%) caused hospital readmission after discharge. In addition, 321(29.4%) were classified as due to errors, for an overall frequency of 3.2% ADEs caused by admission prescribing changes that were errors per admission. According to Medication reconciliation 64.17% were compliant and 35.82% were non-compliant.

Although our findings provide overall support for medication reconciliation, they suggest that the optimal form of medication reconciliation should include tools to track prescribing changes that occurred on admission so that patients are not harmed by their unmonitored propagation during the hospitalization. Additional research on the effect of medication reconciliation on ADEs is important given our finding of its association with no change in or even an increase in non–error-associated ADEs and the resource-intensive nature of the process and organizational challenges with its implementation

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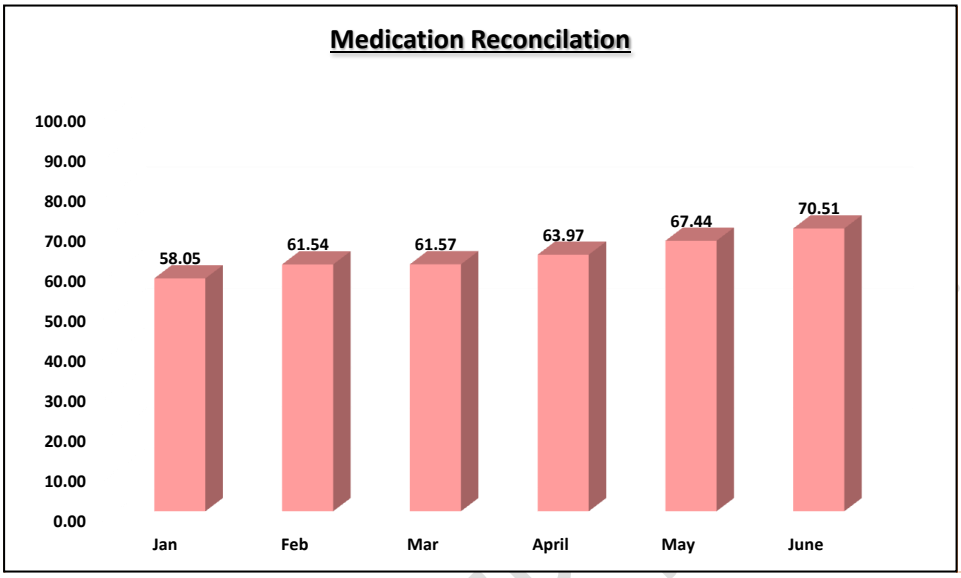

Figure 1: Shows Medical Reconciliation of surgical patients

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Discussion:

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- The comparison part of the results obtained with the results of previous studies in order to highlight the convergences and divergences. This therefore requires reference to previous results.
- The explanation part of the divergences and convergences using scientific tools.
- Partial conclusion on the discussions

The goal of this study was to evaluate the medical reconciliation programme in our hospital and to see if there is a decrease in incomplete drug information and prescribing or dispensing errors. In preparing a BMPH we require the name of medication (generic and brand name), dose, frequency and route of administration. Difficulty in obtaining accurate information about the community based drug lists resulted in wasting a good deal of the admitting medical officers time. Unfortunately, information from community pharmacist, community physician and home care providers is not available. We are dependent on patient medication list, previous health records and inspection of medicine containers.

Review of BMPH by anesthetist at pre-anesthetic checkup was done which may have resulted in delay in surgery and prolonged hospital stay in some patients. Proactive development of BMPH at admission i.e. prior to admission medication prescription would help in reducing these incidences.

The analysis of the low compliance was frequent change in the admitting medical officer, who were primarily responsible for preparing the BMPH in our hospital. This emphasizes that all employees with responsibility for taking medication history should receive training in taking and recording the BMPH as part of their orientation sessions and consultant in charge should undertake random checks. WHO

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recommends that the work load may be reduced by a staggered implementation, starting with high impact areas like high risk groups like patients aged 65years and above.

CONCULSION:

Comment [EK17]: In the conclusion:
- Add the applications of the results obtained.
- Give the research perspectives related to the results.

This retrospective study shows that medical reconciliation can be implemented by a multi-disciplinary approach. A progressive increase in compliance and decrease in medication errors was shown but there is scope for further improvement. The efficacy of medical reconciliation procedure is heavily influenced by organization's culture of interdisciplinary collaboration and team work. It calls for continued education of the staff in developing BMPH and reconciliation of medications. It is recommended that we adopt a proactive approach rather than retroactive or mixed approach but proactive model was not selected here as the historical data of the patients were not properly maintained by them hence that was not optimized but in Retroactive model discrepancies was identified and resolved with the prescribers, when clinically appropriate. The medication was reconciled within 24 hours of the decision to admit the patient or not.

However, medication reconciliation process has the potential to bridge the communication gap between the healthcare team and the patient.

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REFERENCES:

Comment [EK18]: Complete proofreading of references is required. Harmonize to adopt a single conventional reference style. Please also complete the missing information in the references such as the years and especially the nature of the references and documents.

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