



To Study Trend of Concentrated Electrolyte Utilization and Management in Tertiary Care Hospitals for Improvement in Treatment Efficacy

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Abstract

Objective: The aim of this study was to compare the trend of dispatch time for high alert medication before and after implement new strategies of monitoring concentrated electrolytes indent.

Methods: The data of high alert medication dispatch time from Dec 2017 to Feb 2018 were collected. Analyzed the data and parameters need to be monitor was studied. Develop strategies and implement medication dispatch process for the high alert medication as mainly concentrated electrolytes [1]. The data of high alert medication dispatch time during March 2018 to May 2018 were collected. The percentage of time for dispatching the concentrated electrolyte indent was analyzed again for delayed dispensing.

Results: The percentage of time for dispatching the high concentrated electrolyte indent were reduced considerably after developing and implementing of preventive strategy of medication dispatch process.

Conclusion: The developed strategies for prevention of delayed in dispensing of concentrated electrolyte was working effectively. However, the surveillance of the dispensing concentrated electrolyte should be further monitored and strategies to be continuously monitored for its effectiveness.

Keywords: Concentrated Electrolyte; Dispensing

Abbreviations: PAT: Prescription Audit Verification Time; KCl: Potassium chloride.

Introduction

The aim of this study was to compare the trend of dispatch time for high alert medication before and after implement new strategies of monitoring concentrated electrolytes indents. Concentrated electrolytes are very much essential during critical patient's treatment. Treatment of patients significant improves through

proper and timely utilization of concentrated electrolytes [2]. Hence it is necessary to monitor closely prescription, indents, dispatch, administration for such high alert medications. Concentrated potassium chloride has been identified as a high-risk medication by organizations in Australia, Canada, and the United Kingdom of Great Britain and Northern Ireland (UK). In the United States of America, ten patient deaths from misadministration of concentrated potassium chloride (KCl) solution were reported to the Joint Commission in just the first two years of its sentinel event reporting programmed: 1996–

1997. In this study we monitor concentrated electrolyte utilization in tertiary care hospitals.

Methods

Our study was divided in two phases. In first phase we collect data for 3 months and analyze the data for prescription, transcription, dispatch, and administration. From analysis it was found that timeliness of concentrated electrolyte utilization in every step is very fruitful. Dispatch time for concentrated electrolyte need to reduce as much as possible to develop time dependent system [3]. We divide indents in three parts as first was time to dispatch indent within 1-5 minutes, second within 6-10 minutes and third was more than 10 minutes. With the help of analyzed parameter we try to convert third slot in first and reduce second and third slot.

Phase 1

The data of high alert medication dispatch time from Dec 2017 to Feb 2018 were collected. Analyzed the data and parameters need to be monitor was studied. Develop strategies and implement medication dispatch process for the high alert medication as mainly concentrated electrolytes.

From this data parameter to monitor was analyzed. Parameter need to focus is as follow

- Transcription time
- PAT (Prescription audit) verification time
- Indenting time
- Dispatch time
- Administration time

In initial phase we focus on dispatch time and develop a strategy to reduce dispatch time. We consider following points to reduce dispatch time.

Indenting: Nursing use to indent of concentrated electrolyte in normal category instead of STAT indents. As normal indent reached to patient within 45 minutes and STAT indents should be reached to patient within 15

minutes [4]. It was observed that near about 40% indents from total concentrated electrolyte indents were indented in general category. During second phase nursing were trained for STAT indents incase of concentrated electrolytes.

Combine indents: it was observed that many more time nursing indented concentrated electrolytes combine with other medications it get difficult to pharmacist for identify the concentrated electrolyte indents and pay special attention for such a indents.

Separate storage for concentrated electrolyte: we kept all concentrated electrolyte in separate designated place with high alert label.

Separate color paper for STAT Indents: we implement separate color paper for STAT/Urgent indents to easily identification. Pharmacists and pharmacy assistant easily understood through color paper for STAT/Urgent indents.

Separate provision in software for urgent/STAT indents: Separate provision made in software for urgent/STAT Indents. Through this process nurses and pharmacists easily identified urgent/STAT Orders. It was very helpful for nurses and pharmacists.

Phase 2

The data of high alert medication dispatch time during March 2018 to May 2018 were collected. The percentage of time for dispatching the concentrated electrolyte indent was analyzed again for delayed dispensing. From observe data improvement was calculated for significant.

Results

The percentage of time for dispatching the high concentrated electrolyte indent were reduced considerably after developing and implementing of preventive strategy of medication dispatch process[5] (Table 1) (Figure 1-3).

Concentrated Electrolytes Indents Analysis						
	Phase 1 Study			Phase 2 Study		
Indents Timing slot	Dec--17	JAN--18	FEB--18	MAR--18	APR--18	MAY--18
0-5 MIN	77	75	78	76	80	86
6-10 MIN	11	14	12	12	11	10
10 > MIN	11	11	10	12	8	4
Remarks : All data is in %						

Table 1: Concentrated Electrolytes Indents Analysis.

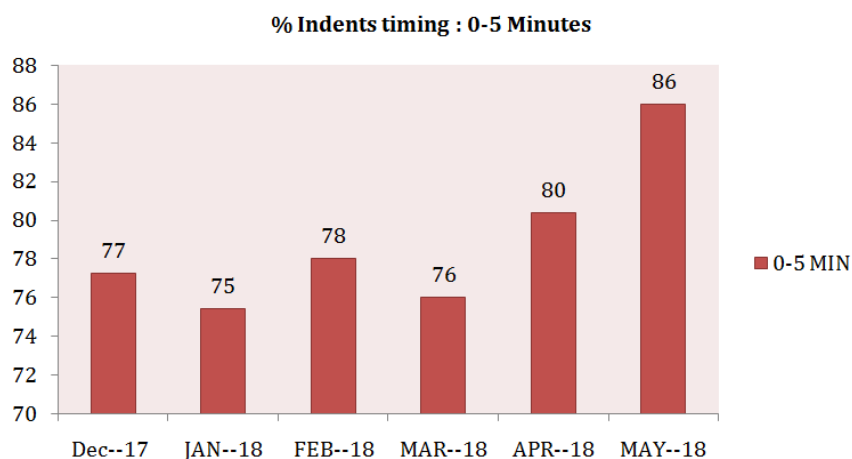


Figure 1: 1. % of indents dispense within 0-5 Minutes from Dec-17 to May-18.

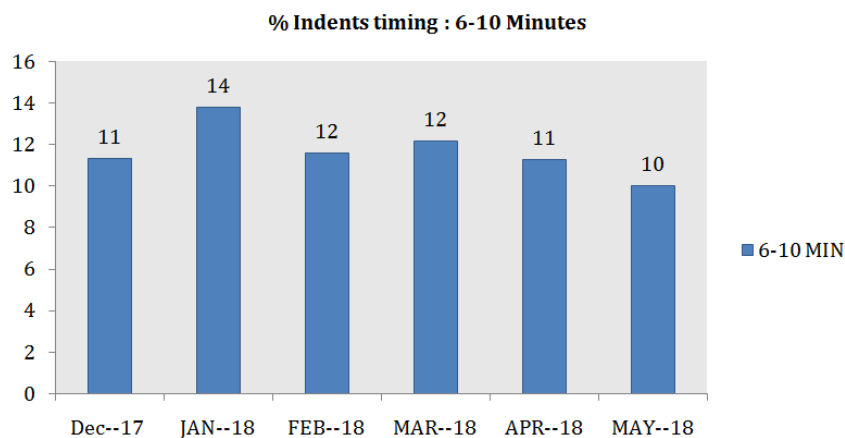


Figure 2: 2% of indents dispense within 6-10 Minutes from Dec-17 to May-18.

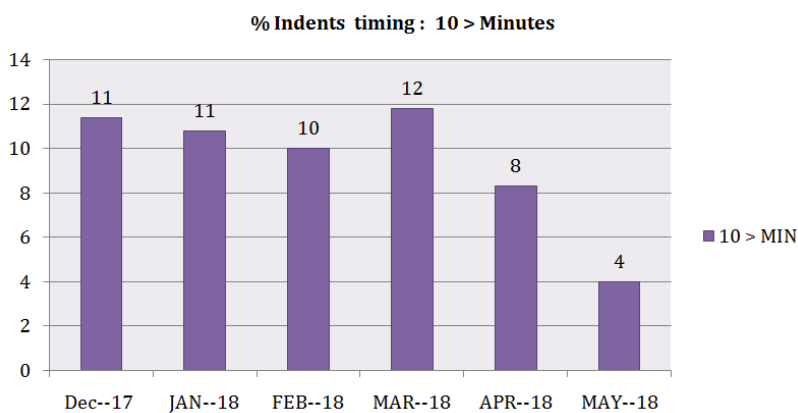


Figure 3: 3 % of indents dispense more than 10 Minutes from Dec-17 to May-18.

Conclusion

The developed strategies for prevention of delayed in dispensing of concentrated electrolyte was working effectively. However, the surveillance of the dispensing concentrated electrolyte should be further monitored and strategies to be continuously monitored for its effectiveness.

References

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