

Intra-Hospital Pneumatic Tube Systems: Improving Patient Care through Technological Advancement

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Background: Increasing patient influx has led to difficulties in achieving effective medication delivery. A great innovation of pneumatic tube system has resolved this problem.

In this study, medications from pharmacy were delivered to the floors/wards by a pneumatic tube delivery system and by a human courier were compared for timeliness and quality of result

Objective: The purpose of this study is to explore the potential effects that an intra-hospital pneumatic tube system has on improving medication delivery, to know how the pneumatic tube system can help in reducing turnaround time and what maybe its limitation.

Materials and Methods: The study was done in a large tertiary care hospital, where a five-floor unit with a capacity of a total of 84 beds was supplied medication through pneumatic tube system. Data was collected from January 2019 to September 2019 by comparison between drug delivery through Pneumatic tube system and by human based transportation.

Results: The study indicated that Pneumatic tube system reduced the use of manpower (one round every 45 minutes) whereas medication was delivered to the patient within 30-60 seconds (every 20 minutes). In our hospital human based transportation consists of approximately 1 round of drug delivery in 45 minutes meanwhile through Pneumatic tube system we do 9 round every 60 minutes. Per round done by human power consumes 15-20 minutes while drug delivery through Pneumatic tube system is done within seconds (maximum of 6 seconds). Data shows that no.of deliveries through human resources per hour is quite less as compared to the pneumatic drug delivery system.

Conclusion: Pneumatic tube system is a valuable alternative for medication to be delivered by human power. We save these 15-20 minutes from each round and consume these minutes some other important tasks. This reduces the human power usage, medication delivery within seconds to the specific wards and on the other hand quality patient health care is achieved.