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# A qualitative study of pharmacist perception regarding the implementation of automated pharmacy dispensing systems in the United Arab Emirates' hospitals

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Introduction	De
Automated dispensing systems (ADS) are one of the strategies used in pharmacy to enhance medication management effectiveness and efficiency, hence curb the consequences of medication errors <sup>1</sup> . In the United Arab Emirates (UAE), ADS have been widely implemented. Yet, pharmacists' perceptions and views regarding ADS, as well as the barriers and facilitators concerning its	<b>Tak</b> <b>Ag</b> 36 31 25

## Aim

The aims of this study are three-folds:

- 1. Explore hospital outpatient pharmacists' perception regarding ADS.
- 2. Explore the readiness of pharmacists to embrace the change or utilization of ADS.
- 3. Explore the facilitators and barriers identified by hospital pharmacists towards the implementation of ADS.

# Method

- A phenomenological qualitative approach was adopted using audio-recorded semi-structured interviews.
- Participants were recruited purposefully, and snowball sampling was utilized as well.
- To be eligible, the interviewee should be an outpatient pharmacist, working in an acute care hospital and have witnessed ADS's pre and post-implementation (Table 1, Figure 1,2).
- The piloted topic guide was underpinned by the merits of the Consolidated Framework for Implementation Research (CFIR) and merits of the surveyed literature<sup>2</sup>.
- Interviews were transcribed and analyzed independently by two researchers using CFIR (Figure 3).
- CFIR is presented in Figure 4.

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Figure 3: Major themes emerged with examples of supporting quotes.

### Results

Eight interviews (approximately 15 - 20 minutes) were conducted with outpatient pharmacists from two governmental and two private sector hospitals where the point of saturation was achieved (Figure 2). Several benefits were reported such as; avoiding medication errors, less workload, better time effectiveness and inventory management. It was also found to enhance patient satisfaction by decreasing waiting time and allowing more time for the pharmacist to counsel the patient. Yet, ADS implementation was found to be challenging in terms of financial requirements, structural and infrastructure changes, training and continuous technical support. Facilitators reported are; financial support, leadership and pharmacy staff engagement. Barriers are fear of job loss, lack of pharmacy space to install ADS and no observed benefits in pharmacies with low dispensing rate (Figure 3).

**Consolidated Framework for Implementation Research Constructs** 

INTERVENTION **CHARACTERISTICS** Intervention Source Evidence Strength & Quality **Relative Advantag** Adaptability Trialability Complexity Design Quality & Packaging Cost

**OUTER SETTING** Patient Needs & Resources Cosmopolitanism Peer Pressure External Policy 8 Incentives

INNER SETTING Structural Characteristic Networks & Communication Culture Implementatio Climate Readiness fo nplementatior CHARACTERISTICS OF INDIVIDUALS Knowledge & Beliefs about the Interventior Self-efficacy ndividual Stage o Change ndividu dentification with Organization **Other Personal** Attributes

PROCESS Planning Engaging **External Change** Agents Executing **Reflecting &** Evaluating

Figure 4: Consolidated framework for implementation research domains and constructs

# Conclusion

ADS were found to be beneficial especially in facilities with high dispensing rates. Engaging staff and leadership is expected to facilitate implementation allowing more time for the pharmacist to focus on pharmaceutical care and patient safety.

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