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Optimizing Heart Failure Care in Pakistan: Lessons from UAE Cardiac Center Models

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ABSTRACT

Heart failure (HF) is a major health concern in Pakistan with high rehospitalization rates and low adherence to guideline-directed medical therapy (GDMT). On the other hand, UAE has implemented effective HF care strategies, including the Get With The Guidelines® Heart Failure program, pharmacist-led interventions, and multidisciplinary training, which have improved adherence, reduced hospitalizations and improved quality of life. These differences and the UAE's scalable methods are shown by several studies from Pakistani and UAE sources (2000–2024). By standardizing procedures, including pharmacists, treating comorbidities like iron deficiency, and establishing national registries, Pakistan may be able to lower the burden of heart failure, enhance patient outcomes, and save lives.

BACKGROUND

HF is a major cause of morbidity and mortality worldwide, with high prevalence in Pakistan due to ischemic heart disease, hypertension and diabetes mellitus. Local data also indicate that many HF patients experience recurrent re-hospitalizations, often related to poor adherence to therapy and gaps in continuity of follow-up care.[1] On the other hand, the UAE has implemented structured HF care models, including guideline based hospital protocols, pharmacist-led interventions and multidisciplinary education, achieving measurable improvements in adherence and outcomes[2]. This review explores UAE's successes and lessons Pakistan can adopt to address its HF crisis, given its limited healthcare funding and access gaps.

OBJECTIVE

This study compares the heart failure (HF) care approaches of the United Arab Emirates (UAE) and Pakistan by analyzing elements such as comorbidity management, pharmacist-led interventions, guideline adherence, and national registries. It also provides actionable recommendations for Pakistan to improve outcomes and reduce rehospitalization rates.

METHODOLOGY

The literature review included reports from the UAE Ministry of Health, journals from the Pakistani Cardiology Society (2000–2024), articles from the Gulf CARE registry, and PubMed. Search terms included *"heart failure management UAE", "heart failure Pakistan", ''guideline directed medical therapy Gulf"* and *"pharmaceutical care in UAE"*. Several studies, including randomized controlled trials (RCTs), cohort studies and registry data, were selected based on relevance to HF outcomes (adherence,

readmissions, quality of life). Data were extracted from the Gulf CARE registry[3], pharmacist-led RCTs from Al-Ain Hospital[4], *Get With The Guidelines® Heart Failure* reports from UAE centers[2], and Pakistani studies on HF self-care and rehospitalization[1,5].

RESULTS

The UAE has achieved significant improvements through structured HF programs. At Al-Ain Hospital, pharmacist-led Interventions increased medication adherence and improved quality of life and exercise tolerance in HF patients compared to controls4. In addition, hospitals in Dubai and Abu Dhabi adopting Get With The Guidelines® – Heart Failure reported improved GDMT adherence and reduced readmissions, reflecting the impact of standardized protocols on care process2. Data from the Gulf CARE registry, a large prospective initiative across Gulf states, showed that at discharge, over 70% of patients received beta-blockers and nearly 80% were prescribed ACE inhibitors or ARBs. Re-hospitalization and cumulative mortality were 18% and 13% at 3 months, and 40% and 20% at 12 months, respectively3. Management of comorbidities has also advanced, with real-world evaluations at Tawam Hospital showing that intravenous ferric carboxymaltose improved functional outcomes in HF patients with iron deficiency6. Furthermore, At Cleveland Clinic Abu Dhabi, a multidisciplinary heart failure program with structured follow-up and targeted interventions improved medication optimization, enhanced functional status, and reduced hospitalizations, while supporting provider engagement in heart failure care.

In contrast, Pakistan faces significant challenges, with studies highlighting high re-hospitalization rates due to factors such as non-compliance with medication, lack of regular follow-up, non-adherence to fluid restriction, and myocardial ischemia.[1] Mortality also remains high; for example, at the National Institute of Cardiovascular Diseases (NICVD) in Karachi, an observational study of 196 HF patients reported in-hospital mortality of 11.7%, with outcomes significantly worse in those with reduced ejection fraction compared to preserved ejection fraction.[8] Further deficiencies include poor self-care practices, limited literacy and awareness, inadequate social support, and challenges in managing patients with severe HF. These gaps reflect broader systemic limitations in patient education, structured HF programs, and multidisciplinary care in Pakistan. [5]

CONCLUSION

Pakistan must urgently adopt UAE's proven HF care models to reduce its preventable HF burden. Priorities include implementing standardized guidelines like *Get With The Guidelines® HF,* integrating pharmacist-led care, establishing multidisciplinary teams, addressing iron deficiency, and improving patient education through campaigns tailored to low health literacy. Creating a national HF registry based on Gulf CARE can monitor results and promote quality enhancement.

Although Pakistan has a low healthcare budget and limited access in rural areas, scalability can be enhanced through low-cost strategies such as telemedicine and pharmacist-led involvement. By taking these steps, Pakistan has the opportunity not only to reduce rehospitalizations and mortality, but also to build a sustainable, evidence-based heart failure care system that can serve as a model for future health reforms.

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