LETTER TO THE EDITOR

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# Chronic Diseases Management Using Digital Health Technologies

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Dear Editor,

We read with great interest the article published in the September 2018 issue of the *Oman Medical Journal* by Al Kuwaiti et al describing the importance of implementing digital health technologies (DHTs) in Saudi Arabia's Academic Medical Centers (AMCs).[1] We agree with the authors' analysis and also would like to bring to your attention that DHT use will also benefit chronic diseases management. Its utilization by healthcare providers and patients has been shown to improve treatment outcome, especially in non-communicable diseases (NCDs) such as diabetes and hypertension.[2,3] Such favorable outcomes are expected because the application of DHT meets two of the six components in Wagner's Chronic Care Model (clinical information systems and patient's self-management support).[3] The strategies recommended in the former are the implementation of electronic medical records (EMR), electronic prescriptions (eRX), and appointment systems.[2] EMR and eRX prevent problems with illegible handwriting and performing medications checks, which are an important aspect in upholding patients' safety. These measures are particularly important in patients with chronic diseases taking multiple medications. Recorded clinical information compiled into chronic disease registries enables clinicians, researchers, and administrators to plan healthcare policies and treatment algorithms that improve clinical outcomes in the wider population. Furthermore, the computerized system reduces waiting time (e.g., tracing medical records, time filling out forms and appointments) and enables a reminder system, which will improve patients' compliance to appointments and possibly to treatment plans.

The use of wearable health technology, mobile phone applications, and home-based monitoring devices by patients with NCDs has become popular.[4] These DHT records patient's vital signs, physical activities, dietary intake, energy expenditure, and glucose level, which helps them and healthcare providers manage and monitor their disease. Of note, patients will be able to review this information first-hand thus facilitating their decision on the next course of action. This may be to continue with an existing intervention, intensify a lifestyle intervention, simple medication adjustment (as permitted by attending physician), or to consult a healthcare provider immediately. Indirectly, DHT use will empower patients' self-management, promote patient-centered care, and shift the paternalistic patient-doctor relationship to mutual participation — all of which are part and parcel of the chronic care model.[2,3]

Other than usage in AMCs, we think DHT will also benefit primary care since the majority of patients with NCDs are presented and managed at that level.[5]

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