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Factors that Affect Access to the Healthcare Services in Rural Areas in the UAE: Hatta Hospital Case Study

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Abstract

Background: Despite the differences in the type and quality of healthcare services provided in developing and developed countries, there are still several challenges, especially in providing healthcare services in rural and remote areas.

Methods: A qualitative method was chosen for this research. A case study about Hatta Hospital was used to study the barriers and strategies the Dubai Health Authority (DHA) adopted to provide healthcare services for people in rural communities in the Emirate of Dubai.

Results: Many barriers affect the delivery of healthcare services to rural residents. These barriers were summed up as structural, financial, and cognitive barriers. In this study, cognitive barriers, such as health literacy, social stigma, awareness to get the resources, and language, were the main barriers, followed by structural barriers like transportation and availability. The financial barriers were not found to be significant in this case study.

Conclusion: Accessing to healthcare services in rural areas was considered as a common point in all countries worldwide. There were challenges that could block this like structural, financial and cognitive. The situation in the UAE in general and in DHA, in particular, was quite good and moving forward to reduce the gaps between the urban and rural areas in providing healthcare services. The DHA had many strategies that were implemented to provide high quality services not only in Dubai city, but also to its rural areas like Hatta. These strategies included build up a hospital that has all emergency services, affiliation with larger system or networks, improve the employees' condition and implement and activate using the telehealth.

Keywords: Access to healthcare, Healthcare services, Rural areas, UAE health policy.

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1. Introduction

Since its formation in 1971, the United Arab Emirates (UAE) made remarkable progress as a country. This is evident by the sustained economic growth and competitiveness in different fields, preservation of natural resources and focuses on service to the nation in urban and rural areas [1]. The UAE's population moved from poverty and Bedouin life (rural living) to one of the world's highest income levels [2,3].

Based on the Index Mundi report (2019), the rural population in UAE was 1,298,061 (13.48%) in 2018, and this is considered as the lowest ratio over the past 58 years in UAE history [4]. However, most of the plans that are put in to improve healthcare services are focused on urban areas. The UAE has a new healthcare plan for remote rural areas based on Dr. Yasser al Nuaimi, the Ras Al Khaimah Medical District director, and Dr. Mohamed Abdullah, the director of the Fujairah Medical District [5]. The plan is to eliminate the distance in healthcare services between the urban and rural areas to increase access to healthcare services and enhance the quality of healthcare services [6,7].

There are some challenges that Dr. Maha Barakat, the director of general of the SEHA (Abu Dhabi Government healthcare sector), highlighted. These challenges are shortage in specialties, especially in vascular surgery, invasive cardiology, treating infectious diseases, and providing healthcare services across the entire population density [8]. Mr. Amer Al Kindi, a health policy expert in SEHA, found that maintaining a highly qualified, trained medical expatriate and Emirati staff in rural areas was quite difficult and a real challenge. Another challenge was poor cooperation and coordination between main hospitals in urban and rural areas due to the low population density based on Mr. Amer l Kindi [8]. MBRSG (2018) identified cultural and traditional conservatism as another barrier that had a negative impact on the delivery of adequate healthcare services, especially in rural areas in the UAE [9].

The size of the gap in providing healthcare services in rural areas in the UAE was not identified. The effort that the UAE applied to eliminate or reduce the gap between urban and rural healthcare services is not highlighted as there was insufficient publicly available data. The role of the governments and private sectors in developing healthcare services in rural areas was not known and not identified. The collaboration between these two sectors was not known to the public. Moreover, no recent research reflected the current situation of healthcare services in the UAE, especially in rural areas. Most of the papers had been published 15 or 20 years [6,10,11]. This research study investigated the barriers to healthcare access in rural area. This ended in suggesting effective strategies to mitigate perceived barriers.

2. Subjects and Methods

The case study approach used in this research, with focus on the Hatta Hospital, which is a government hospital belonging to the DHA for the Dubai government. It is a 123-bed multi-specialty

hospital located in Hatta city centre.

A qualitative single case study design was adopted in the year 2020 between June – September, where the data was collected, coded and analysed to get final propositions. The interview approach was used to collect the data from respondents through several questions. The characteristics of the case study is shown in table 1[12]. The application of triangulation was achieved using (1) secondary data - reports, newspaper reports on Hatta hospital (2) interviews with patients (3) interviews with hospital staff. The number of selected participants was limited to 8 only. The interview protocol and questions were in-line with the research questions. The data was captured through written notes and recorded using a digital audio recorder.

Table (1) Characteristics of the Case Study

Features	• Began with the identification of a case involving multiple sources of information using several different methods, mainly observations and interviews.
Understanding data analysis	• Depended on the objectives of case study, usually description thematic analysis case.
Subject	• Outlier case: this case based on familiarity with researcher that could be house or workplace. • Key case: special case special characteristics like height phobia. • Local knowledge case: individuality different from others like crime situation in a layer.
Approaches	• Testing a theory: case study aimed to test already existing framework or theory. • Building a theory: built a framework of ideas or model. • Drawing a picture: illustrated the phenomenon to make it more real for the reader. • Experimental: tested the ideas under controlled conditions in social sciences.
Strengths	• Provided specific and detailed information • Provided deep understanding for planning for further research • Permitted investigation of impractical situations.
Limitations	• Lacking scientific strictness and can't be used to generalize the results to the wider population. • Researchers' own subjective feeling could influence the case study; therefore, there was a chance to be biased • Difficult to replicate • Time consuming and expensive • The volume of data that was collected beside the time restrictions in place affected negatively on the depth of analysis

A decision was made to use the 'Codes and Coding' technique was utilized in the study, which helped to link the data back to the research objective and the propositions (table 2).

Table (2) Coding used to Analyse the Barriers and Strategies in Hatta Hospital

Barriers	**Code**
Structural	B-S
Financial	B-F
Cognitive	B-C
Strategies	**Code**

FSED	S-FSED
Affiliation with larger systems	S-ALS
Improve the employee condition	S-IMC
Telehealth	S-TELE

Thematic analysis was used for analysing the primary data that was collected. This approach was selected because the case study would deeply search about this phenomenon to get specific details and rich interpretation.

3. Results

Results of the study were grouped into two categories, first identified the barriers in access to healthcare services in rural areas, while the second reflected on the strategies that Hatta Hospital implemented to cover the barriers. The study was planned to reflect the case from three different perspectives, including patients' organizations, such as manager/policy maker (administration), healthcare provider (physicians), and healthcare recipients. However, Hatta Hospital administration refused to cooperate even though approval from the University Student and Resident Research Committee (USRRC) at the DHA was obtained. Consequently, the result reflected the situation in Hatta Hospital from only one perspective: patients' view. Total samples are eight, four from Hatta and four from Umm Al Quwain (UAQ). To reflect the situation from the administration perspective, the data were collected from catalogue services of Hatta Hospital from the DHA website and other Arabic websites.

In general, 100% of Hatta's samples were satisfied about the healthcare services and found that access to the healthcare services is easy. Half of the UAQ's samples (local and non-local) occasionally used the healthcare services in Hatta Hospital. They found the access to healthcare services was straightforward and satisfied. On the other hand, the other half of the UAQ's samples (Both local) didn't know about the healthcare services in Hatta Hospital, and they did not use it and did not know about it.

3.1 Barriers

3.1.1 Structural Barriers

Structural barriers for the UAQ samples were the distance to the healthcare facility in Hatta. In addition, all the samples in the UAQ did not know what type of healthcare services were available there. All Hatta Hospital's samples found difficulties in transportation in case they were referred to main hospitals in Dubai city. Based on Hatta samples, some services were not available, like kidney dialysis and the implementation of a cochlea in the ear. Some healthcare services were centralized in DHA like orthodontic clinic, blood donation centre and laser eye surgery or laser vision correction and all these services were available in Dubai city in Al Bedeh clinic, Latifa Hospital and Dubai Hospital respectively.

However, Hatta's samples pointed that, different types of healthcare services were available and

affordable. Booking appointments for general physicians and specialists was faster than the main hospitals in Dubai city. The emergency department provided their service 24/7, the general physicians were available in two shifts morning and afternoon, while the specialist, paediatric and gynaecology and obstetrics, were available during the day and cover patients' needs in this district. This came in parallel with DHA (2020b) report [13]. All Hatta samples were thankful for the different types of specialists that were available in the hospital especially for orthopaedics, where the main surgeries were done there like total knee replacement and fixing complicated types of bone fractures especially in the spinal column. All the Hatta samples agreed that the customer journey in Hatta Hospital was well organized.

Furthermore, the samples in Hatta hospital were satisfied with the continuity of the healthcare services even during the COVID-19 pandemic. In fact, Hatta Hospital tried to reduce unnecessary visiting of patients who seek medications only by providing home delivery services to these patients and reduce the risk of exposure to COVID-19 infection. Two samples in the UAQ (local and non-local) found that the access to the healthcare services in Hatta Hospital was quite easy and available. They were thankful for the level of services that they got particularly from emergency department where they got all their treatment and medications even, they were not from Hatta district.

3.1.2 Financial Barriers

All samples (8) from Hatta and the UAQ did not have any financial difficulties in getting healthcare services in their areas. All the healthcare services for the local patients in government hospitals were free of cost. On the other hand, the non- local samples (Hatta samples) in this case study were covered by health insurance. The non-local samples (2) from Hatta paid for registration fees, which was only AED 20. The healthcare insurance healthcare insurance full covered them full covered them to get different types of healthcare services, including visit a general physician or specialist and get other healthcare services from support service departments like laboratory, radiation and pharmacy. Moreover, different types of surgeries and physiotherapy treatment were covered by health insurance.

Based on Hatta samples (4), Hatta Hospital cooperated with different government identities, such as the Community Development Authority (CDA), Al Maktoum Charitable Organization and Shaikha Maitha Bint Rashid Al Maktoum Centre for People of Determination to help people to cover their need in healthcare services, especially who did not have health insurance. In addition, the DHA had Musaada program that helped patients who faced difficulty in paying medical bills [14].

3.1.2 Cognitive Barriers

Lack of knowledge about the type of healthcare services that were provided in Hatta Hospital was the main cognitive barrier that was noticed in all samples in this study. Even Hatta samples were not aware

about all types of healthcare services that Hatta Hospital provided. Mostly Hatta samples focused on their health condition or for people who were responsible only. On the other hand, the UAQ samples 50%, were found to mainly use the healthcare services that were provided in the emergency department when they visited Hatta district for camping. They were totally not aware about the healthcare services there.

Acquiring and using healthcare-related information was limited by illiteracy and by lack of access to many technologies. These challenges were identified mainly in older age samples in this study. The non-local samples from Hatta district 50% identified a cognitive barrier in the form of language skills even though the Hatta hospital had highly qualified employees capable of speaking different languages. Based on Hatta samples 100% and UAQ (2-local and non-local), the Hatta Hospital's employees were highly qualified and communicate well with patients. They understood the residents' behaviours and culture. In case of physicians, they provided full explanation about the right diagnosis, and preventions and they gave a proper treatment available in DHA.

It was noticeable that the new generation was more aware of mental health comparing with the old generation. Based on the samples from the Hatta district, most of the old generation did not seem aware that they have any mental or psychological issues; if they were aware of it, they were ashamed to ask for help. The social stigma was strong on them to seek for this type of healthcare services.

3.2 Strategies

3.2.1 FSED

Hatta Hospital was designed to provide full healthcare services for the rural area. The emergency department provided emergency care for Hatta residents and visitors in this region based on best practices. In fact, they served and reflected the mission of the DHA to provide the best healthcare services that exceed the clients' physical, psychological and social needs. Moreover, they provided emergency healthcare for all cases of injuries and diseases for all age groups over twenty-four hours, seven days a week. It was provided by ambulance and a helipad in case patients have to be flown in or out. This point was highlighted and appreciated by all Hatta samples 100% (4) besides 50% (2) of the UAQ samples.

3.2.2 Affiliation with Larger Systems or Networks

In general, DHA had different strategic partnerships with different entities through different types of affiliations aiming to achieve the objectives and vision of the UAE in general and the Dubai government in particular of developing an international healthcare model that promoted quality of life and enhanced health [15]. Regarding the Hatta Hospital, the benefits that hospital got from all these types of affiliations were not explored due to rejection of the administration in Hatta Hospital to cooperate and provide any information.

3.2.3 Improve the Employees' Conditions

A review was conducted by Indeed (2020) for 104 employees in DHA to explore the benefits that the employees got from their workplace [16]. They found that the employees were generally satisfied. They described the DHA as a productive workplace where they got a good work experience, encouraged teamwork, and learned different skills.

Moreover, the DHA provided supportive teaching environment that offered educational modules, Continuing Medical Education (CME) opportunities and attended the local and international conference free of charges. According to a nurse who said that the morning shift would be hectic for nurses with several teams of doctors' rounds at a time, the authority interfered positively in the working conditions. Co-workers were cooperative and understanding. Moreover, the authority provided health insurance that covered the employees' family members [17]. All these were applicable for all employees in DHA including Hatta Hospital. Two specific points were heightened in case of Hatta employees where they were provided with proper living housing and conditions furthermore, they would get an allowance for working in rural areas.

3.2.4 Telehealth

The DHA issued in 2017 Administrative Decision Number [18] to regulate the practice of telehealth services in Dubai. Since then, Dubai witnessed the fruition of telehealth services. His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President, Prime Minister and Ruler of Dubai, published in 2019 a Fifty-year Charter with nine articles for Dubai. In article number 5 (A Doctor to Every Citizen), His Highness aimed to provide medical consultations 24/7 through hundreds of thousands of doctors, specialists and medical consultants across the globe. This approach was facilitated by smart government application and extensively used during COVID-19 pandemic. Telehealth enabled providing different types of healthcare services with low- cost accessible healthcare solutions, the highest degree of professionalism and ensured protection of patient data and confidentiality in line with federal and local laws and regulations.

4. Discussion

Most of the study found that transportation, communication, poverty and shortages of doctors and other health professionals were the main challenges in rural and remote areas [19,20]. Although the situation was extensively studied in other part of the world, still here the UAE did not have awareness about the effort of the government to raise the healthcare services in rural areas. This case study addressed the challenges or barriers in accessing to the healthcare services in Hatta Hospital, which is the rural area belong to the Dubai government. In addition, it illustrated the strategies that DHA initiated and used to

cover the gap in providing healthcare. The main types of barriers were identified that block or delay the access to healthcare services in Hatta Hospital were found Structural barrier, Financial barrier and Cognitive barriers.

In this case study, the main structural barriers were transportation followed by availability and affordability of the services. This came in parallel with Freed et al., (2013) findings [21]. Lack of awareness was noticeable in Hatta samples, where they did not know that some healthcare services were centralized in DHA like orthodontic clinic, blood donation centre and laser eye surgery or laser vision correction and all these services were available in Dubai city in Al Bedeh clinic, Latifa Hospital and Dubai Hospital respectively. Santalahti et al., (2020) found same results in his study [18].

Unlike Sulemana and Dinye (2014) study [22], the Hatta samples (4) in this case study pointed that different types of healthcare services were available and affordable. Moreover, the support service like radiology, pharmacy and medical laboratory were available 24/7 to provide adequate healthcare service for people in Hatta district. This was equivalent to DHA reports [13, 23].

In this case study, the financial barrier was not an issue at all. In fact, all samples (8) in this study did not have any financial difficulties to access to the healthcare services in their areas in general and in Hatta Hospital in particular. All the healthcare services were free for the local patients in governments' hospitals. The non-local samples in Hatta samples (2) were covered by health insurance. Hatta Hospital had several initiatives to help people to cover their payment in healthcare services, especially who did not have health insurance. In addition, the DHA had Musaada program patients needed to file an application with the DHA, explaining their case and seek help. Consequently, the authority helped to clear the patient's medical bills after vetting the case [14].

The cognitive barriers in this case study were pretty similar to other studies published from different countries [18,24,25,26]. Lack of knowledge about the type of healthcare services provided was the main cognitive barrier observed in all samples in this study. Even in this limited situation, they were not fully aware about all services they were used only partial of it. Conversely, the UAQ samples local and non-local (2), were totally unaware about the healthcare services provided in Hatta district.

Rural healthcare providers implemented different strategies to improve access to healthcare services, such as establish and improve the emergency department services, introduce effective delivery models, affiliation with a larger system or networks and introduce a team-based approach to care that can ease staffing shortages and increase access to healthcare [27]. In these case study the strategies that DHA used to improve their services in general and for rural areas in particular were explored.

According to Lukens., (2016) and William et al., (2015), the FSED was the best solution or

approach that could be implemented in rural areas that could match the patient's needs [28, 29]. In fact, it had many advantages like providing sufficient and cost-effective emergency medical care analogous to that provided by hospitals to the rural people. However, the FSED was not applicable in this case study. Hatta Hospital was designed to provide full healthcare services for the Hatta district. Halpern et al., (1992) noted that affiliation with larger healthcare systems was strong strategic movement for rural hospitals, where these hospitals could access to technology, staff recruitment and retention, group purchasing and operational services [30].

According to Rural Health Information Hub., (2020b), the structural and financial support should be provided to different healthcare professionals in rural and remote areas [27]. Many ideas could be used to support these healthcare workers in those areas like design a flexible schedule for working hours, indorse the fast developing in their career path and increases in the payment on yearly basis. All these suggestions or ideas could cut the struggles and encourage the healthcare workforce to work in rural and remote areas. According to CDC (2019) telehealth was an innovative approach that could be used healthcare facilities in rural and remote areas [31]. Telehealth services were divided into six key areas. These types of telehealth were available in all DHA facilities including Hatta Hospital.

5. Conclusion

Accessing healthcare services in rural areas was considered as a common point in all countries worldwide. There were challenges that could block this like structural, financial and cognitive. The situation in the UAE in general and in DHA, in particular, was quite good and moving forward to reduce the gaps between the urban and rural areas in providing healthcare services. In this case study, we focused on Hatta Hospital, which belongs to Dubai Health Authority, located in the emirate's rural district. We found that, the main structural barriers that the resistance in Hatta suffered from was transportation and availability of the services followed by cognitive barriers where the health literacy, social stigma, awareness to get the resources and language were the main barriers that Hatta district. There was no effect for the financial barriers for the residence in that area.

The DHA had many strategies that were implemented to provide high quality services not only in Dubai city, but also to its rural areas like Hatta. These strategies included build up a hospital that has all emergency services, affiliation with larger system or networks, improve the employees' condition and implement and activate using the telehealth.

The picture was reflected from small number of samples moreover, we could not reflect the situation from inside the hospital therefore further qualitative research on larger number of vulnerable groups is required and interview with administration level and physicians can help to improve systems.

5.1 Recommendations

Some recommendations have been proposed for Hatta Hospital and policy makers in order to improve the access to healthcare services in Hatta Hospital; these recommendations are based on several assumptions:

- Long distances to care sites especially in main city (referral cases) and lack of transportation are major barriers to healthcare access. Hatta Hospital can cooperate and communicate with other government or private entities (engage a variety of stockholders) like RTA can improve and facilitate the accessing to the healthcare service.
- Hatta Hospital should work more in marketing their healthcare services that they have. In this study we found people in Hatta district and from other cities are not aware about the availability and affordability of the services in Hatta Hospital.
- Hatta Hospital should have plans to improve the communication with residences in this community and other partners and put those plans in action.
- Hatta Hospital should use a validated screening tool for cognitive impairment. These tools enable to determine a baseline, develop a person-centred care plan and implement risk management strategies.
- Hatta Hospital should implement mental health awareness intervention that can improve attitudes toward mental health treatment. In addition, stigma intervention programs can be used especially with older adults to reduce stigma and increase compliance with physiological or mental medications and treatments.
- Hatta Hospital should use Telehealth more frequently, which is considered as the best solution for rural areas.
- Hatta Hospital should adopt an open data policy. There is less data available about Hatta Hospital and about all efforts and initiatives they did to improve the healthcare service.
- Hatta Hospital by risk adjustment for factors in the rural environment, including social determinants of health and transportation needs could improve quality measures for healthcare providers.
- Hatta Hospital should assess needs and resources. Take stock of the community's needs, resources, strengths, assets and values. Understand what helps and what can deter progress toward improving health in your community.
- DHA in general and Hatta Hospital in particular should choose the best benchmark policies, programs and examples and recommendations like WHO recommendations and applies in the community this will maximize chances of success and improve the services.

- Hatta Hospital should focus on policy, systems and environmental changes or implementing programs in a systematic way that can lead to the most substantial improvements over time.
- DHA should prepare and strengthening the local workforce from different specialties.

6. Declarations

6.1 Abbreviations

DHA - Dubai Health Authority

FSED: Freestanding Emergency Departments

RTA – Road and Transport Authority

UAE - United Arab Emirates

6.2 Conflict of Interest Statement

The authors have no conflict of interests to declare.

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6.4 Ethical Considerations

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