Tele-urology in the Era of COVID-19: An Experience of the Reconstructive Urology Department in Iran

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Currently, we are facing a crisis of corona spread; one of the problems is the influx of patients to medical centers and their triage. Hospitals can spread the disease while treating patients with corona disease. The outbreak of coronavirus has put additional pressure on the health care systems of many countries; but telemedicine can be an important way to deal with it, especially for people whose health has been affected by the virus. Currently, basis of applying telemedicine is prepared and it can reduce many of these transfers, and in fact, it can be the first step of triage of patients, and while preparing a close relationship between doctor and patient, physical and face-to-face communication is largely prevented. Telemedicine, or on a broader context telehealth, is defined as the active clinical/healthcare interactions between spatially separated patients and care givers using various techniques[(1)].

Our department is the center of excellence of reconstructive urology in Iran that starts its work at 1995 with more than 300 operations annually. In February 2020, department of urology decided to postpone all elective surgery and visit all patients by telephone. All patients with a history of a urethral reconstructive surgery during last year was entered to our study and two nurses collected data of demographic and past medical history of patients by existed document. Fellowship of reconstructive urology was connected to patients during a phone call and filled the USS-PROM and COVID-19 questionnaires. Expert staff of department examined the data after calling each patient and he write an instruction or prescription person by person. Overall, successful telephone calls were made with 78 patients (response rate = 89.6%). Mean of USSPROM scale was calculated as 1.65 (+2.91) with a range of 0-15. Based on categorization for USSPROM scale, 74 patients (94.8%) had mild symptoms while 4 patients (5.1%) had moderate symptoms and needed further medical attention. No patients reported severe symptoms. Distribution of USSPROM symptom score according to etiology showed that 25% of cases with congenital etiology, 16% of cases with trauma, and 6 % of cases with PUFDD had moderate score while other etiologies (including straddle, infection, iatrogenic, hypospadiasis) had no cases with moderate symptom score. Four patients with moderate USSPROM score were required to cystoscopic evaluation, which one patient with moderate USSPROM score had severe stricture and candidate for redo urethroplasty. Two other patients need for urethral stricture dilatation. Cost was calculated based on taxi-service fee. Accordingly, the average (+SD) cost for in-person visits to the physician was estimated as 4.80 + 4.32 million Rials. In terms of distance, the average distance for receiving medical services according to the patient`s residence area was 373.2 +348.79 kilometres (**table.1**). Telemedicine, or on a broader context telehealth, is defined as the active clinical/healthcare interactions between spatially separated patients and care givers using various techniques.

Our results showed that patients who have had undergone reconstructive urologic treatments need to travel on average 373.2 Kilometres to reach medical care with an average cost of 4.80 million Iranian Rials. Geographical

Figure 1. Geographical distribution of the cases with Reconstructive urology surgery

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Table-1. General characteristics of patients receiving reconstructive urology surgery

Characteristic	Category	N, %; Mean +SD	USSPROM score	
			Mild symptom (n=74,94.8%)	Moderate symptom (n=4,5.1%)
Occupation	Self-employed	19 (25.3%)	17 (89.5%)	2 (10.5%)
	Retired	5 (6.6%)	5 (100%)	0
	Unemployed	14 (18.6%)	14 (100%)	0
	Employed	27 (36%)	25 (92.6%)	2 (7.4%)
	Student	5 (6.6%)	5 (100%)	0
	Farmer	5 (6.6%)	5 (100%)	0
Education	Illiterate	2(2.6%)	2 (100%)	0
	Elementary	26 (34.2%)	23 (88.4%)	3 (11.5%)
	High school-diploma	27 (35.5%)	27 (100%)	0
	Associates	6 (7.8%)	6 (100%)	0
	Bachelor	11 (14.4%)	10 (90.9%)	1 (9.1%)
	MSc	4 (5.2%)	4 (100%)	0
Etiology PFUDD		33 (42.3%)	31 (93.9%)	2 (6.1%)
	Straddle	14 (17.9%)	14 (100%)	0
	Other Traumas	6 (7.6%)	5 (83.3%)	1 (16.6%)
	Infection	6 (7.6%)	6 (100%)	0
	Iatrogenic	5 (6.4%)	5 (100%)	0
	hypospadias	3 (3.8%)	3 (100%)	0
	BXO	2 (2.5%)	2 (100%)	0
	Congenital	4 (5.1%)	3 (75%)	1 (25%)
	Surgery	1 (1.2%)	1 (100%)	0
	Unknown	4 (5.1%)	4 (100%)	0
Follow up	Telephone	49 (62.8%)	48 (98%)	1(2%)
	In-person	20 (25.6%)	18 (90%)	2 (10%)
	Video-chat	9 (11.5%)	8 (89%)	1 (11%)
Follow-up satisfaction		98 (4.48)	98.1(4.43)	100 (0)
Distance (km)		373.2 (348.79)	369.8 (354.7)	351.2 (348.8)
Time (min)		268.9 (227.12)	266.3 (230.3)	256 (238.4)
Cost*		4.80 (4.32)	4.78 (4.40)	4.72 (4.44)

distribution of the cases is presented in **Figure 1**.

This imposes huge amounts of time and costs on the patients who are already under pressure to pay for the medical costs and medications. Among patients who were required for in-person visit, all had at least one risk factor for contracting Covid-19 and were subsequently referred for further examinations (CT-Scan and PCR testing)[2, 3]. The results showed no positive case of Covid-19; therefore, routine clinical interventions were proceeded.

We are well aware that by using telemedicine to check on our patients, there is a likelihood of losing relevant clinical information or inaccurate information during telephone consultation. Using telehealth for routine checkups of urologic patients may miss some information such as urine flow, genital examination, complications specifically infections, and other aspects of physical examinations.

Other suggestions of this paper on patients undergone reconstructive urologic treatments include scrutinized prior screening to confirm that the patients have access to the phone or internet connection properly, and thorough patient education to communicate efficiently once the call is scheduled.

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