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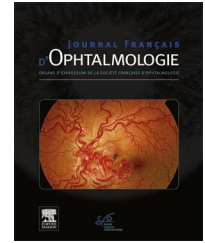


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LETTER TO THE EDITOR

Teleconsultation in primary ophthalmic emergencies during the COVID-19 lockdown in Paris: Patients' point of view



Téléconsultation pour l'accès aux urgences ophtalmologiques durant le confinement à Paris : retour d'expérience patients

Teleophthalmology benefits from tremendous development since CoVid-19 pandemic. Teleconsultation based on remote anterior segment photo [1,2], retinography [3,4], optical

coherence tomography or simple smartphone-based teleconsultation [5] passed from confidential practice reserved to war zones or remote areas to everyday practice. Teleconsultation in primary ophthalmic emergencies during the COVID-19 lockdown in Paris [6] illustrated ophthalmologists early response to patients sudden access loss to primary ophthalmology emergency care. The study demonstrated the ability of smartphone-based teleconsultation to properly evaluate the indication of a physical consultation (27% of patients undergoing teleconsultation were asked to consult physically afterwards) with 96% sensitivity, 95% specificity and only 1.0% identified misdiagnoses that lead to delayed care. Consequently, 73% of patients were managed only

Table 1 Patients demographic and orientation.

	Total	Female	Male			
Population	176	133 (76%)	43 (24%)			
Age (years)	48.3 (±14.5)	49.2 (±13.9)	45.8 (±16.2)	173	0.22	Welch
Location (Paris 0), n						
Paris & suburb	145 (82.3%)	111 (83%)	34 (79%)	145	0.51	Chi ²
Rest of France	31 (17.7%)	22 (17%)	9 (21%)	31	—	—
Principal motivation						
Reduce time to consultation	64 (37%)	47 (36%)	17 (40%)	64	1	Fisher
Avoid displacement	53 (30%)	40 (31%)	13 (30%)	53	—	—
Avoid emergency department frequentation	38 (22%)	28 (21%)	10 (23%)	38	—	—
Other	19 (11%)	16 (12%)	3 (7%)	19	—	—
Orientation after teleconsultation						
Teleconsultation only	116 (66%)	91 (69%)	25 (58%)	116	0.14	Chi ²
SOSOeil department	38 (22%)	24 (18%)	14 (33%)	38	—	—
Other practitioner	21 (12%)	17 (13%)	4 (9.3%)	21	—	—

Table 2 Patients evaluation of further teleconsultation.

	Total	Female	Male	n	P	Test	
Seek for second opinion	No	152 (87%)	113 (86%)	39 (93%)	152	0.22	Chi ²
In case of new emergency, would you privilege							
Teleconsultation first		140 (80%)	101 (76%)	39 (91%)	140	0.15	Fisher
Physical consultation		31 (18%)	28 (21%)	3 (7%)	31	—	—
Depends on symptoms & circumstances		5 (2.8%)	4 (3%)	1 (2.3%)	5	—	—
Would you recommend a teleconsultation to your family							
Yes		148 (84%)	106 (80%)	42 (98%)	148	0.021	Fisher
No		15 (8.5%)	15 (11%)	0 (0%)	15	—	—
Depends on symptoms & circumstances		13 (7.4%)	12 (9%)	1 (2.3%)	13	—	—

In bold: *p* value < 0.05 (significant).

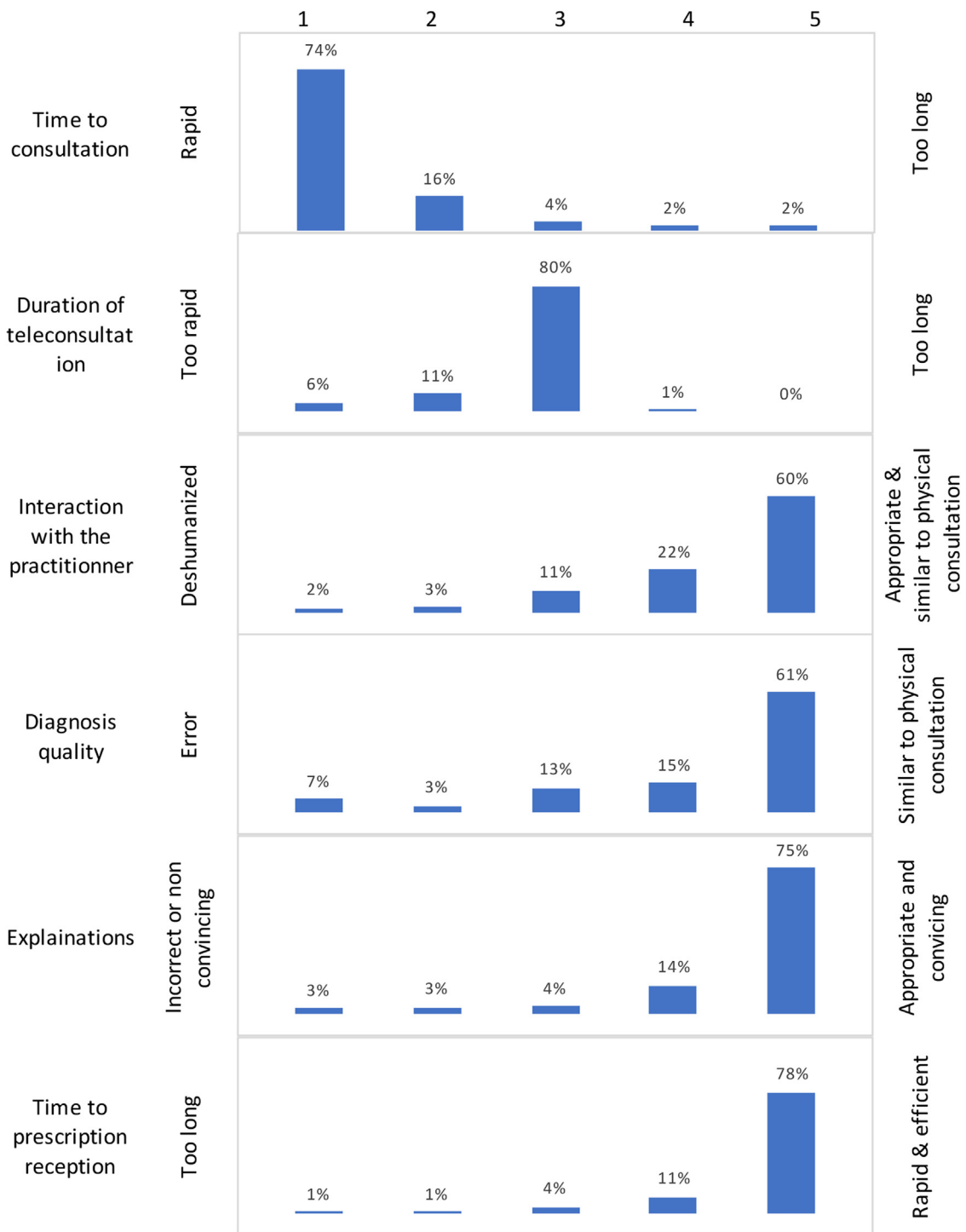


Figure 1. Patients evaluation of their teleconsultation.

with teleconsultation and had direct phone access to the emergency department if their symptoms derogated to the practitioners' recommendations.

Considering all patients did not have free and anonymous personal evaluation of their teleconsultation and following French Health Authority (Haute Autorité de Santé-HAS) recommendations for good clinical practice [7], we invited the 1901 patients who solicited a teleconsultation in April and May 2020 to evaluate their own experience. This survey

permitted to evaluate false negatives and also to estimates patient's demography, main motivation to teleconsultation, satisfaction and further acceptance to new distancial medical practice.

In all, 176 patients voluntarily answered to the anonymous online survey [8]. 133 (76%) were women and mean age was 48.3 ± 14.5 years old, both indicators were slightly superior to 500 patients initial cohort. Patients main motivations were reduced time to consultation (37%), to avoid

displacement (30%) and to avoid emergency department frequentation (22%); 13% patients were seeking for specialist second opinion following general practitioner consultation or pharmacist recommendations. 34% patients were oriented to physical consultation also slightly superior to the 27% of the 500 patients initial cohort (Table 1).

80% patients admitted they would privilege TC evaluation first in case of new ophthalmologic emergency independently from the pandemic situation and 84% would recommend TC to their family if appropriate (Table 2). Based on patients numerical evaluation scaled from 1 to 5 (Fig. 1), 74% of patients estimated the delay between TC request and the TC beginning was appropriate and 80% were totally satisfied of the TC duration. 75% were highly satisfied of the explanations given by the practitioner and 60% patients judged their interaction was comparable to physical consultation. 61% patients estimated their diagnosis was similar to physical consultation while 7% complained of diagnosis error caused by teleconsultation with 1 patient (0.6%) identified loss of chance (pan uveitis with 48 h PC consultation delay).

In conclusion, emergency teleophthalmology respond to a growing demand from patients for immediate access to primary ophthalmology care with satisfying and secure outcomes. Strict conditions for teleconsultation should be shared with the patient before the consultation begin and 27 to 34% of patients will have reasonable physical consultation for further evaluation.

Disclosure of interest

The authors declare that they have no competing interest.

References

- [1] Blackwell NA, Kelly GJ, Lenton LM. Telemedicine ophthalmology consultation in remote Queensland. *Med J Aust* 1997;167:583–6.
- [2] Ribeiro AG, Rodrigues RAM, Guerreiro AM, Regatieri CVS. A teleophthalmology system for the diagnosis of ocular urgency in remote areas of Brazil. *Arq Bras Oftalmol* 2014;77:214–8, <http://dx.doi.org/10.5935/0004-2749.20140055>.
- [3] Massin P, Chabouis A, Erginay A, Viens-Bitker C, Lecleire-Collet A, Meas T, et al. OPHDIAT: a telemedical network screening system for diabetic retinopathy in the Île-de-France. *Diabetes Metab* 2008;34:227–34, <http://dx.doi.org/10.1016/j.diabet.2007.12.006>.
- [4] Chasan JE, Delaune B, Maa AY, Lynch MG. Effect of a teleretinal screening program on eye care use and resources. *JAMA Ophthalmol* 2014;132:1045–51, <http://dx.doi.org/10.1001/jamaophthalmol.2014.1051>.
- [5] Mines MJ, Bower KS, Lappan CM, Mazzoli RA, Poropatich RK. The United States Army Ocular Teleconsultation program 2004 through 2009. *Am J Ophthalmol* 2011;152, <http://dx.doi.org/10.1016/j.ajo.2011.01.028> [126-132.e2].
- [6] Bourdon H, Jaillant R, Ballino A, El Kaim P, Debillon L, Bodin S, et al. Teleconsultation in primary ophthalmic emergencies during the COVID-19 lockdown in Paris: experience with 500 patients in March and April 2020. *J Fr Ophtalmol* 2020;43:577–85, <http://dx.doi.org/10.1016/j.jfo.2020.05.005>.
- [7] Méthodes d'élaboration des recommandations de bonne pratique. Haute Autorité de Santé n.d. https://www.has-sante.fr/jcms/c_418716/fr/methodes-d-elaboration-des-recommandations-de-bonne-pratique (accessed January 26, 2021).
- [8] Online survey: (<https://docs.google.com/forms/d/14Z2KZc-Yts8sU9R7piLPhauA2v5uTWA3I7Nk0xAWXdk/edit>). n.d.

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Available online 11 February 2021

<https://doi.org/10.1016/j.jfo.2021.02.003>

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