Teledermatology for suspected skin cancer in New Zealand during the COVID-19 pandemic required in-person follow-up in 28% of cases

To the Editor: The New Zealand (NZ) population has one of the highest incidences of nonmelanoma skin cancer in the world.[1] Standard face-to-face (FTF) assessment of skin cancer was abruptly halted in early 2020, when the NZ government announced level 4 restrictions due to the COVID-19 pandemic. Educational facilities and businesses closed, and people were instructed to stay home unless accessing essential services. NZ's lockdown imposed strict restrictions by global standards, with only life-preserving health services permitted to proceed in person. The remaining services, including the majority of dermatologic assessments, were administered via telehealth (TH). The aim of this study was to review TH consultations for nonmelanoma skin cancer during the COVID-19 lockdown compared with standard practice FTF assessments.

We performed a retrospective outcome analysis for patients referred with suspected nonmelanoma skin cancer during February 2020 (prior to the COVID-19 lockdown) and April 2020 (during the level 4 lockdown) at a public hospital dermatology department in Auckland, NZ. Institutional approval was granted by the Auckland District Health Board research office. The TH consultation was conducted using a store-and-forward clinical photograph, followed by a telephonic consultation with the patient. Data collected included patient demographics, referrer and dermatology diagnoses, requests for biopsy, excision and FTF follow-up, and final histologic diagnosis.

One hundred and thirty-six patients were included: 68 TH and 68 FTF. There were no significant differences in age, sex, or ethnicity between the groups. Clinical outcomes are shown in Table I. There were no differences in referrals for biopsy or excision between the groups. TH assessments were more likely to result in a request for follow-up (28% vs 3%, $P < .001$). Histology reports

Table I. Comparison of face-to-face and telehealth consultations for suspected nonmelanoma skin cancer during the COVID-19 lockdown

Frequency (%)	Total (n = 136)	TH (n = 68)	FTF (n = 68)	P value
Demographics				
Male	69 (51)	30 (44)	39 (57)	.170
Mean age, y (standard deviation)	72 (16.2)	71 (16.8)	72 (15.8)	.310
Dermatology clinical diagnosis				
BCC	62 (46)	32 (47)	30 (44)	.863
SCC	27 (20)	14 (21)	13 (19)	1.000
Benign lesion	33 (24)	16 (24)	17 (25)	1.000
Actinic keratosis or SCCIS	14 (10)	6 (9)	8 (12)	.779
Clinical outcome				
Biopsy referral	34 (25)	18 (26)	16 (24)	.843
Excision referral	51 (38)	22 (32)	29 (43)	.288
FTF follow-up requested	21 (15)	19 (28)	2 (3)	<.0001
Diagnostic accuracy				
Histologic diagnosis available	72 (53)	37 (35)	35 (43)	.863
Accurate dermatology diagnosis	53 (74)	24 (65)	29 (83)	.111
Histologic diagnosis (n = 72)				
BCC	43 (60)	22 (59)	21 (60)	1.000
Benign lesion	15 (21)	6 (16)	9 (26)	.587
Actinic keratosis or SCCIS	7 (10)	5 (14)	2 (6)	.441
SCC	6 (8)	3 (8)	3 (9)	1.000
Melanocytic lesion	1 (1)	1 (3)	0 (0)	1.000

BCC, Basal cell carcinoma; *FTF*, face-to-face; *SCC*, squamous cell carcinoma; *SCCIS*, squamous cell carcinoma in situ; *TH*, telehealth.

were available for 35 lesions in the FTF group and 37 lesions in the TH group. Dermatologist diagnostic accuracy compared with histology was 83% for FTF and 65% for TH ($P = .111$). The most frequent histologic diagnosis was basal cell carcinoma (60%).

With the occurrence of COVID-19, many dermatology units around the world have rapidly adopted TH, improving our understanding of TH assessment for skin disease. Globally, this may facilitate improved outcomes for patients without local access to dermatologists. The reported accuracy of TH for the assessment of skin lesions ranges widely. Some studies have reported similar accuracy to that of FTF consultations, whereas others have found TH inferior to FTF for the assessment of nonpigmented lesions.[2,3] Dermatoscopy may improve accuracy.[4] In 2018, a Cochrane review concluded that a reliable estimate of the accuracy of teledermatology for the diagnosis of skin cancer could not be made on the basis of available literature.[5] We found that more than a quarter of TH assessments required FTF follow-up, highlighting the limitations of these assessments.

Our study is limited by small numbers, particularly those of histologic diagnoses, increasing the risk of type II statistical error. A potential benefit of FTF assessment is the detection of concurrent or incidental skin lesions, as this was not assessed in our study. Although the diagnostic accuracy was not significantly different between the groups, more FTF follow-ups were requested after TH, indicating that the TH consultation was not satisfactory for all lesions. Despite this, TH allowed patients to access dermatology services during the strict level 4 lockdown period in NZ.

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Conflicts of interest

None disclosed.

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