

International Journal of General Medicine & Surgery

Available Online: https://ijgms.edwiserinternational.com

Implementation of Telehealth Service to Manage Rural Skin Cancer Patients

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Article info

Received 13 April 2020 Revised 21 April 2020 Published 28 April 2020

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Abstract

The ability to meaningfully manage skin cancer patients through telemedicine has been debated with varied conclusions. The aim of this paper is to demonstrate the successful implementation of a telehealth skin lesions service in Western Australia. Patients managed through our tertiary care center in 2017 for skin cancer presentations via telehealth were audited. Results show that 270 patients were successfully managed by our telehealth skin cancer service over the observed period. The average patient distance from specialist care was 1001 km (95%CI 700-1302 km) and average patient age was 63 years old (95%CI 61-65 years). These results demonstrate an effective way to manage skin cancers. Telehealth is a useful alternative where specialized services are otherwise not available due to geographic barriers.

Keywords: Skin cancer; Telehealth; Skin lesion; Melanoma

Short Communication

The effectiveness of telemedicine to meaningfully manage skin lesions has been debated with varied conclusions [1]. One of the recognized barriers for telehealth service implementation is the difficulty in gaining health practitioner's acceptance. These barriers include concerns with imaging device reliability and quality, data storage, and the importance of viewing lesions in context to other lesions [2].

We describe the successful implementation of a telehealth skin lesions service delivered through a major tertiary hospital in conjunction with general practitioners in Western Australia. The service deals with biopsy proven skin cancers, or skin lesions suspicious for malignancy which are in sensitive areas not easily biopsied. Barriers to clinician acceptance were overcome through implementation of a dedicated telehealth coordinator; and ensuring new referrals had a biopsy proven cancerous lesion where appropriate. After initial telehealth consultation, patients undergo operative management at the tertiary care provider, with subsequent follow up *via* telehealth.

Telehealth patients who underwent skin lesion excisions at our service in 2017 were retrospectively identified through hospital data. Patient records were used to identify patient characteristics, and histology results. In 2017, 230 telehealth patients were assessed through our telehealth plastic surgery team after general practitioner referral for management of skin lesions. The average patient distance from specialist care was 1001 km (95%CI 700-1302 km) and average patient age was 63 years old (95%CI 61-65years). In total, 211 lesions were excised, 12 melanomas, 168 NMSCs (Non-melanoma Skin Cancer), and 30 benign lesions. The average lesion clearance was 3.3mm (95%CI 2.6-4mm), and 93% of lesions were excised completely. 158 lesions (75%) were biopsied prior to review, and of the lesions which were not biopsied, they were predominantly located in sensitive areas (e.g. Eye canthus, digits).

These results demonstrate an effective way to manage skin lesions with a clear diagnosis through telehealth

Citation: Cantwell P, Rawlins J. Implementation of Telehealth Service to Manage Rural Skin Cancer Patients. Int J Gen Med Surg 2020; 4: 128. doi: <u>10.31531/2581-8287.1000128</u>

services. Telehealth is a useful alternative where specialized services are otherwise not available. Reported patient benefits of telehealth assessments include convenience, less travel, shorter waiting times, lower cost, and good quality of health care. Telehealth has been shown to improve quality of life for patients due to improvements in disease severity [3].

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This manuscript was peer-reviewed Mode of Review: Single-blinded Academic Editor: Soutou B

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