Evolution and challenges of store-and-forward teledermatology for skin diseases of elderly in long-term care facilities: results of a five-year analysis

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Store-and-forward teledermatology (TD)

Long-term care facilities (LTCF)

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By 2030, 20% of the population will be|> 65 years[1], with an eventual increase in admissions to long-term care facilities(LTCF).In parallel, the incidence of skin conditions is rising, with>27 million visits to dermatologists and>5 million new skin cancers each year, mostly in older adults.[1]While store-and-forward teledermatology(SFTD) helps overcome travel burden among elderly, it is important for geriatricians to avoid overexploiting its usage and recognize its limitations. The purpose of our study was to assess SFTD usage by LTCF geriatricians over a 5-year period.

We prospectively collected all SFTD requests(clinical images with medical information on ORTIF platform®)sent by LTCF geriatricians to our university hospital TD program since its implementation in January 2016 until December 2020. We collected:patients' demographic characteristics, urgency of the case according to requesters, qualitative rating of supplied information from 1 to 4, suspected diagnosis, management plan, median time to complete final response, and number of no-shows to scheduled procedures.Results are presented in Table 1. In total, 27/115(23%) of scheduled patients for biopsies/excisions failed to show up.

Satisfaction with SFTD on one hand, and shortage of dermatologists on another hand, explain the increased requests over years. In 2020, COVID-19 caused a decrease in requests number and an increase in time for response completion. During the pandemic, LTCF physicians seemed more concerned about COVID-19 than other health issues.[2] Unexpectedly, even though access to teledermatology expertise was possible, studies show decrease in SFTD requests from LTCF for dermatological reasons other than COVID-19 cutaneous signs.[2] An increase in infections in 2018 was due to an outbreak of scabies. The proportion of urgent cases didn't increase over time, showing no unnecessary use of SFTD by geriatricians. In SFTD, quality of supplied information

depends on the type of dermatosis and the category of patients.[3] For example, SFTD requests for lower limb infections frequently have low quality of information that limit STFD usage in these cases.[3] In contrast, teledermatologists highly rated the quality of supplied information by geriatricians. In fact, skin cancer is the commonest cause of LTCF requests by SFTD, and it is the perfect model for a spot-diagnosis in teledermatology.[3] Geriatricians are also well-exposed to skin diseases compared to other physicians, as the prevalence of skin conditions is high among elderly.[5] This optimizes outcomes of SFTD since less exchanges are needed to supply patient information. As a quarter of patients didn't need a follow-up with a dermatologist, unnecessary travel for patients in LTCF was limited[3]. However, around a quarter of patients for whom a biopsy or excision was scheduled did not show up. Unexpectedly, the proportion did not decrease over the years. This issue needs to be addressed because it creates a limitation for SFTD use in elderly. Many studies have focused on the accuracy of SFTD in making skin diagnoses in elderly. But, the impact of integrating an innovation in a conventional process should not only evaluate the diagnosis outcome compared to standard care, but also key performance indicators, such as time, cost and resources.[4] In fact, SFTD is supposed to be time-saving and cost-effective, but no-shows waste system performance. While several studies have demonstrated a sustained decrease in no-show rates after implementation of teledermatology,[6,7] this does not seem to be the case for SFTD used in elderly.

In conclusion, adopting SFTD in the practice of LTCF is an effective tool[8-10] to meet skin needs of elderly. SFTD was able to avoid unnecessary travels, with a fast time response. It also provided direct treatments to patients who don't require follow-ups and referred those who need further assessment or interventions to a specialized department. Nevertheless, it is essential to conduct future studies to investigate the causes of no-shows post-SFTD in this population. This

would help us design a specific geriatric pathway that ensures access to care, while mitigating no-shows that result in wasting of considerable time, manpower, and resources.

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