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Title: Not just pimple popping: the utility of hybrid telemedicine models beyond acne management amidst the ongoing COVID-19 pandemic

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To the editor: Telemedicine has revolutionized dermatologic care, with utilization skyrocketing in response to social distancing guidelines implemented during the COVID-19 pandemic. In this letter, we highlight the utility and limitations of telemedicine use for acne and other dermatologic conditions.

Telemedicine is both convenient for acne patients who live far from dermatology clinics, and has clinical utility in facilitating improved outcomes even for patients on oral therapies. In a retrospective study characterizing acne visits of 505 patients during the pandemic [1], 95% were by telemedicine, with more than half (52.4%) of follow-ups by virtual visit. Patients seen in the office vs. via telemedicine lived significantly closer to the office (4.5 vs. 9.3 miles, respectively) ($p<0.05$). In a prospective longitudinal study of 284 acne teleconsults [2], 79.25% and 58.49% of patients achieved 80% and 100% reduction in the basal Global Acne Grading System score, respectively. In the same study [2], almost a quarter (21.13%) of patients were prescribed oral isotretinoin, with only one discontinuing treatment due to side effects. In a retrospective comparison of acne patients taking isotretinoin managed by asynchronous (AT) versus synchronous (ST) telemedicine visits [3], most AT visits (77.5%) were successfully completed and did not require additional ST visits, and dosing adjustments did not differ between AT and ST groups, or AT and AT converted to ST groups ($p=0.611$).

Telemedicine for psoriasis can be helpful in treating flares with excellent patient-physician relationship satisfaction. In a retrospective review of 424 patients with psoriasis seen virtually for flares and at 1 month follow-up [4], mean psoriasis area severity index decreased by 19%, 20%, and 26% in patients with mild, moderate, and severe disease, respectively. In a systematic review assessing the efficacy of telemedicine in the management of 596 psoriasis patients [5], telemedicine alone or in combination with standard care had equivalent or higher efficacy vs. standard care groups. There were positive improvements in the patient-physician relationship, and no differences in treatment compliance.

Virtual visits are particularly useful for patients with nail disorders who do not require diagnostic testing and procedures. In a retrospective study of 46 new patient and 50 follow-up nail virtual visits performed during the pandemic [6], new nail visits were 14 times more likely to necessitate in-person visits ($p<0.01$), with onychomycosis (36%) and nail psoriasis (18%) the most common diagnoses necessitating virtual follow-up visits. For those patients with suspected onychomycosis, clippings were needed to confirm the diagnosis, and many patients with nail psoriasis were treated with intralesional nail matrix injections.

Dermatologists must consider the advantages and disadvantages of telemedicine to appropriately incorporate it into clinical practice. Telemedicine is time and cost saving compared to in-person visits. In-person visits could be reserved for new patients, those with severe or unstable disease, and those needing diagnostic testing and procedures. However, there are barriers to access for patients with poor internet connectivity, patients without a mobile device or computer, elderly patients, and patients with limited technology literacy. Poor video/photo quality may also preclude the ability to make accurate diagnoses. To improve the efficiency of hybrid dermatologic care, patient education on taking high resolution images, including proper lighting and best positioning of affected clinical areas, should be explained by office staff, and complemented with written handouts.

Telemedicine in dermatology is here to stay, persisting far beyond the COVID-19 pandemic. Virtual visits are cost and time-saving, and can be used to manage patients with chronic diseases, including acne, psoriasis, and onychomycosis. Future research should focus on clinical outcomes in asynchronous hybrid models, which would be beneficial in patients with rare skin, hair, and nail diseases, or when dermatologist demand far exceeds supply.

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