Patient satisfaction and physician productivity in shared medical appointments for vitiligo

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Background: The shared medical appointment (SMA) allows patients with a similar diagnosis to be simultaneously cared for and educated by 1 provider, which has had success in dermatology and other fields of specialty. The SMA provides a potential solution to improve patient access to dermatologists.

Objective: The purpose of this study was to implement the SMA for patients with vitiligo and compare it to traditional appointments with regard to patient satisfaction, time to appointment, number of new patients seen per month, and generated revenue.

Methods: A vitiligo SMA was implemented, and a 12-question survey was used to assess satisfaction in both SMA and traditional appointment settings. Satisfaction, revenue, and appointment logistic data for SMAs were compared with those for traditional appointments for new patients.

Results: Patients were highly satisfied with both SMAs and traditional appointments ($P > .05$). Time to appointment was faster for the SMA, and significantly more new patients were seen monthly with the SMA ($P = .009$).

Limitations: Limitations include small sample size, inability to correlate responder characteristics with survey responses, potential response bias, and selection bias due to absence of randomization.

Conclusion: SMAs were successful in a vitiligo clinic for both patient and provider. The SMA is a solution to improve access to dermatologists without compromising patient benefit, experience, or satisfaction. (J Am Acad Dermatol 2019;81:1150-6.)

Key words: access to care; patient education; patient satisfaction; shared medical appointments; vitiligo.

Vitiligo is a disease in which autoimmune destruction of melanocytes causes patchy depigmentation of the epidermis.[1] About 0.5% to 1% of the population is affected by vitiligo,[2] and this disease significantly impairs the quality of life for affected individuals.[3,4] Because vitiligo affects a considerable percentage of individuals worldwide, there is a need for improved patient access to dermatologists. Access to dermatology is a challenge in the field overall, with a shortage of dermatologists, high need for services, and long wait times for an appointment.[5,6] This unmet demand creates the impetus to explore strategies for optimizing patient access to this specialty.

The shared medical appointment (SMA) is a format for clinical visits that allows a group of patients with a similar medical condition to be simultaneously educated and managed by 1 provider.[7] This appointment style has been used in primary care for patients with chronic conditions such as diabetes and heart failure.[8-10] These studies reported increased levels of satisfaction, improved clinical outcomes, reduced hospitalizations, and enhanced quality of life in SMA participants.[8-10]

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The SMA format has also been successful in surgical fields for bariatric, breast, and carpal tunnel surgery.[11-14]

In dermatology, the SMA has been reported as a cost-effective way to improve both access to dermatologists and physician productivity.[15] From a business perspective, the SMA produced a higher mean census level and hourly profit.[15] The SMA also had high patient satisfaction when implemented for preoperative consultation of Mohs micrographic surgery.[16] The success of the SMA in dermatology and other fields provides a potential solution to the limited access of patients with vitiligo and other skin conditions to dermatologists for education and treatment.

CAPSULE SUMMARY

- The shared medical appointment format allows more new patients to be seen per month, with patient satisfaction equally as high as with traditional appointments for vitiligo.
- Implementing shared medical appointments can improve access to dermatologists for patients with vitiligo and other skin diseases.

The proposed utility of SMAs in dermatology is 2-fold: patients benefit from being able to schedule an appointment sooner, receive thorough education, and meet other patients with a similar diagnosis. For physicians, the benefits include improved efficiency in seeing new patients, decreased repetition in offering essential educational resources, and recruitment of subjects for clinical and translational research. We sought to assess patient satisfaction and physician benefit with implementation of the SMA for vitiligo patients, and to compare the SMA to traditional clinic appointments. Because the SMA has been reported to be a cost-effective, efficient means of educating and treating patients, there is the potential to expand its use in the medical community, particularly in dermatology, where improving access is important.

METHODS

SMA structure

The SMA was offered to new patients seeking treatment for vitiligo when they called to establish care. There was no exclusion for patients who had previously been evaluated or treated, as new patient visits at our clinic involve thorough education regardless of disease duration or prior treatment. The UMass Vitiligo Clinic takes place every Tuesday afternoon from 1 to 5 PM. The SMA was implemented once per month, with the remaining 3 half-days of clinic per month consisting of traditional appointments. Patients who opted to attend the SMA were mailed a packet of documents regarding their medical history to complete before their appointment.

On the day of the SMA, patients would check in between 12:30 and 1 PM (Fig 1). The group presentation would follow from 1 to 2 PM, allowing time for questions from attendees throughout. The presentation consisted of PowerPoint slides that described the clinical features of vitiligo, typical work-up during a clinic visit, treatment options, and research in the field, including a simplified explanation of the pathogenesis and emerging treatments. The remaining SMA time was allotted to approximately 15-minute individual, private appointments, depending on the number of patients in attendance that day. The goal for total number of patients seen per SMA clinic was 10, and actual attendance ranged from 6 to 10 patients. The private appointment consisted of a patient history, physical exam, answering additional questions not asked during the shared session, and creating an individualized treatment strategy for the patient. Two or 3 resident physicians worked with the attending physician to see the patients.

Following the shared session, patients were notified of the order in which they would be seen, with children and those with travel restrictions prioritized. Clinic staff would record the patient's cell phone number and call to alert him or her when it was time for the individual appointment. This allowed patients to speak with staff about clinical research and with other patients with vitiligo as a support network. At the individual visits, patients received the satisfaction survey together with other medical paperwork to fill out.

Traditional appointment structure

Traditional appointments for new patients were scheduled for the remaining 3 half-days of the UMass Vitiligo Clinic each month. These appointments were scheduled for 20-minute time slots, however ranged in duration from 20 to 60 minutes.

Outcome measures

Patient experience was assessed by using an anonymous survey for both SMA and traditional appointment patients. The SMA survey consisted of 5 yes or no questions specific to the SMA experience and 7 questions rating appointment satisfaction on a Likert scale (Table I). The traditional appointment survey consisted of only 2 yes or no questions, and the same 7 questions rating appointment satisfaction

Abbreviations used:

SMA: shared medical appointment
RVU: relative value unit

on a Likert scale (Table I). A Likert scale is a rating scale commonly employed in research that uses questionnaires and surveys.[17] Our survey questions were modeled after Knackstedt and Samie.[16] Survey completion was defined as stated by Lenexa.[18] Unpaired *t* tests were performed to compare SMA and traditional appointment data using GraphPad software (GraphPad Software, La Jolla, CA). Two-way analysis of variance was used for analysis with GraphPad Prism software (version 7.00 for Mac) (Fig 2).

RESULTS

A total of 83 individuals attended 11 SMAs during the 19-month period between July 2016 and January 2018. Of those individuals, 38 SMA participants (45.8%) returned a satisfaction survey. A total of 32 surveys (84.2%) were filled out completely. SMAs were not conducted every month during the duration of data collection, either because the number of follow-up appointments for that month greatly exceeded the number of new patient appointments, in which case the SMA was replaced by a traditional appointment clinic, or because of physician travel, in which case there was no clinic on that day. For the SMA, 10 patient visits were scheduled per 4-hour clinic and attendance averaged 8.3 patients.

Of those patients who completed surveys, 19 (59.3%) were female and 12 (37.5%) were male (Table II); 1 participant declined to answer this question. The mean age of the SMA participants was 28 years (range, 2-68). For the 7 participants (21.9%) who were 8 years or younger, family members helped to complete the survey.

A total of 68 new patients attended traditional appointments between June 2017 and February 2018. Of those, 26 patients (38.2%) returned a satisfaction survey. Of the 24 patients (92.3%) who filled out the survey completely, 17 (70.8%) were female and 7 (29.17%) were male (Table II), with the remaining 1 patient declining to record his or her sex. The mean age of the traditional appointment participants was 34.2 years (range, 6-63). During the 19-month period during which SMA data were collected, there were an average of 3 new patients per traditional appointment clinic day.

The average satisfaction score of all survey questions pertaining to the SMA was 4.81 (standard deviation, 0.52) out of 5 on a Likert scale, compared with 4.87 (standard deviation 0.38) for the traditional appointment format (Table II). The difference in average satisfaction was not statistically significant (P = .1866). Out of a maximum possible summative score of 35 (5 Likert points × 7 questions), the average total satisfaction score for the SMA was 33.75, compared with 34.12 for traditional appointments (Table II). More than 96% of patients attending the SMA thought that the appointment was effective, and more than 71% stated that they would choose to attend another SMA (Table III). Of the SMA participants, 46% preferred the SMA to a traditional appointment, 68% believed that they learned more about vitiligo with the SMA, and 54% stated that they would be willing to participate in research studies.

When new patients called to schedule an appointment, the average wait time to be seen in a traditional appointment was 4 months, compared with 2 months for an SMA appointment. Medical paperwork packets were sent to patients before the SMA appointments, and 98% were filled out before the appointment.

In the 19-month period from July 2016 until February 2018, a total of 57 traditional appointment clinics were held. The average relative value unit (RVU) per traditional appointment clinic day was 15.5, which was significantly higher (P = .003) than the average RVU per SMA clinic day, which was 11.7 (Table II). There were 8 months in the data collection period during which an SMA was not held, and for these months there were an average of 8.75 new patients seen per month. In the remaining 11 months, during which there was a monthly SMA, an average of 14.55 new patients were seen per month. Thus, the number of new patients seen per month was significantly higher (P = .009) during SMA months (Table II).

DISCUSSION

The SMA format was implemented at the UMass Vitiligo Clinic for new patients establishing care for the treatment of vitiligo. Surveys were used to measure patient satisfaction with SMA and compared to satisfaction with traditional appointments for new patients. Additional factors such as time to appointment, number of new patients per month, and revenue were also investigated. The number of SMA attendees in our study ranged from 6 to 10 patients per clinic day (average, 8.3), which is similar to that in the existing literature.[9,13,16]

The baseline characteristics of patients in SMAs and traditional appointments were similar (Table II). Satisfaction with the appointment was high in both settings, demonstrating that patient satisfaction was not compromised in the shared appointment setting

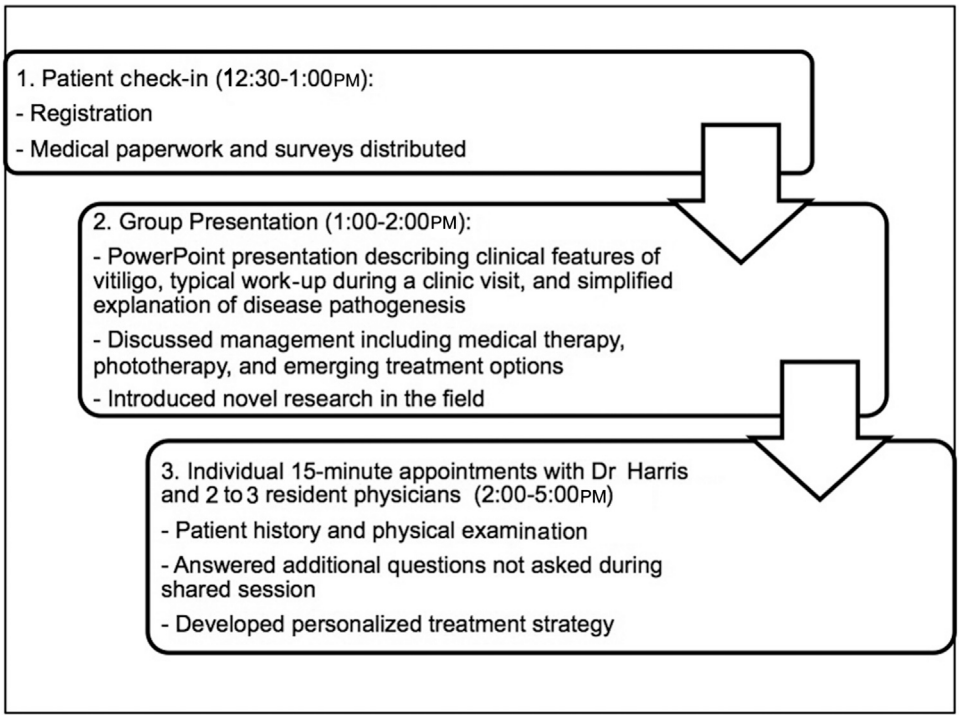

Fig 1. Shared medical appointment structure.

Table I. Survey questions

Part 1: Yes/no/undecided
1. Do you think that the appointment was effective?
2. Do you prefer the SMA to a traditional appointment? (SMA participants only)
3. Would you choose to attend another SMA? (SMA participants only)
4. Do you think that you learned more about vitiligo with this appointment style? (SMA participants only)
5. Would you be willing to participate in clinical research related to vitiligo at a future visit?
Part 2: Likert scale satisfaction ratings
6. Amount of time spent with provider
7. Thoroughness of care
8. Information about diagnosis
9. Information about treatment options
10. Clarity and number of questions answered
11. Comfort level during appointment
12. Overall satisfaction
Part 3: Open response feedback questions
Were there any issues with the appointment that could be improved for future visits?
Do you have any additional comments?

SMA, Shared medical appointment.

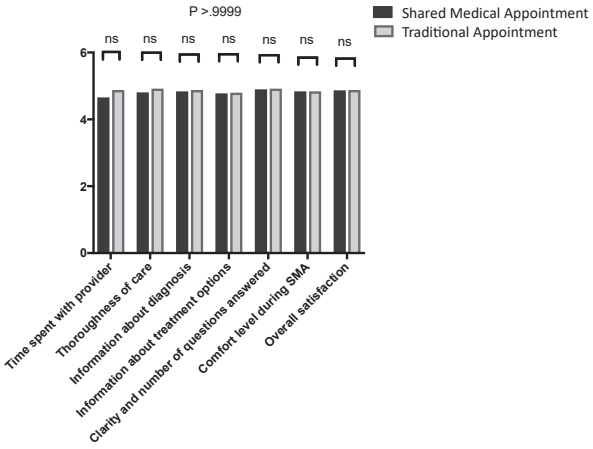

Fig 2. Average Likert score for patient satisfaction for shared medical appointment (SMA) and traditional appointment (TA) broken down by individual survey question. The *y* axis represents Likert score (1 = completely unsatisfied, 5 = completely satisfied).

(Fig 2). There were observed benefits of the SMA for both physician and patients. A primary benefit for patients was thorough education about the diagnosis, treatment options, and related clinical research and satisfaction with patient education was similar during the SMA and traditional appointments. In a traditional appointment setting, however, there is repetition for the provider and less standardization with regard to information offered (the questions asked by each patient can vary in format, clarity, etc). These data suggest that the SMA can streamline the content of educational information

Table II. Patient characteristics and outcomes for SMAs versus traditional appointments

Characteristic	SMA	Traditional appointment	*P* value
Demographic information			
Participants who completed surveys, n	32	24	
Mean age, y (range)	28 (2-68)	34 (6-63)	.3273
Female, n (%)	19 (59.34%)	17 (70.83%)	
Male, n (%)	12 (37.50%)	7 (29.17%)	
Likert score survey questions (SD)*			
Amount of time spent with provider	4.66 (0.70)	4.88 (0.44)	.1686
Thoroughness of care	4.81 (0.48)	4.92 (0.28)	.3161
Information about diagnosis	4.84 (0.45)	4.88 (0.33)	.7364
Information about treatment options	4.78 (0.49)	4.80 (0.5)	.8876
Clarity and number of questions answered	4.90 (0.40)	4.92 (0.28)	.8585
Comfort level during appointment	4.84 (0.45)	4.84 (0.47)	.9918
Overall satisfaction	4.87 (0.43)	4.88 (0.33)	.9313
Average Likert satisfaction score (SD)	4.81 (0.49)	4.87 (0.38)	.1866
Summative total satisfaction score† (% out of 35)	33.75 (96.43%)	34.12 (97.49%)	
Clinic data			
Average No. of new patients per month	14.55	8.75	.009
Average wait time to appointment	2 mo	4 mo	
Relative value unit (RVU)	11.7	15.5	.003

SD, Standard deviation; *SMA*, shared medical appointment.
*Average score out of 5, where 5 means completely satisfied and 1 means completely unsatisfied (SD).
†Maximum satisfaction score is 35, indicating a summative score of 5 (completely satisfied) for all 7 survey questions.

Table III. Yes or no survey question response scores

Question	% of SMA patients answering yes (n)	% of traditional appointment patients answering yes (n)
Do you think that the appointment was effective?	96.43 % (27)	83.33 % (20)
Do you prefer SMA to traditional appointment?	46.43% (13)	N/A
Would you choose to attend another SMA?	71.43% (20)	N/A
Did you learn more about vitiligo with this appointment style?	67.86% (19)	N/A
Would you be willing to participate in clinical research related to vitiligo at a future visit?	53.37% (15)	45.83 % (11)

N/A, Not available; *SMA*, shared medical appointment.

offered to patients and improve physician efficiency without compromising patient experience. A second benefit for patients was the ability to be seen sooner, allowing for patients with a more urgent need to be seen. A possible consequence of this scheduling strategy is that patients might feel coerced into the SMA setting in order to receive an earlier appointment, although on the basis of the survey results, if this was the case, it did not result in lower satisfaction. Lastly, the SMA format provides a built-in support group and creates an environment in which patients with a similar diagnosis can connect.

In addition to increased efficiency in patient education, the SMA also allows physicians to see more new patients. The monthly number of new patients was nearly double in months during which there was an SMA compared to in months without an SMA (14.55 vs 8.75, respectively, $P = .009$). Many patients attending the SMA were traveling from a significant distance for a single consultation and would continue care with a local dermatologist, thus follow-up appointments were not always required. Though the RVU was significantly lower ($P = .003$) for SMA clinic days than for traditional appointment days (11.7 vs 15.5, respectively), the benefit of having 1 SMA per month was to enlarge the monthly new patient quota, helping to meet the increasing demand for new patient appointments. Future SMA schedules could be optimized to decrease the difference in revenue by adding a small number of follow-up visits or increasing the number of SMA patients scheduled. A prerecorded video of the presentation to be viewed at home before the appointment or at the start of the appointment is another potential solution to increase revenue. This would allow more patients to be seen per clinic and allow the provider to schedule additional follow-up visits during the education session. As the SMA

evolves within a particular practice, common questions can be incorporated into the educational video.

Whereas prior economic evaluation of SMA in dermatology found both higher census and profit,[15] this investigation assessed the precise charges and profits generated. It should be noted that RVU is the representation of reimbursement for physician services and may not be the most accurate, as collected payment can vary with insurers. Although further investigation into the true revenue of SMA is warranted, our work shows the value of the SMA for patient access and physician productivity.

An additional physician benefit was an opportunity for the recruitment of patients to clinical research studies as part of the SMA educational content. Slightly more SMA patients (53.37%) than traditional appointment patients (45.83%) were willing to participate in clinical or translational research. This increased willingness to participate may provide particular benefit for translational research, as the period during which patients are waiting for their individual appointment provides an opportunity to collect skin and other samples.

Our study demonstrates the success of the SMA for vitiligo, and a similar approach can be implemented for other specialty clinics where education and timely visits are of high importance or when a provider is in high demand with many new patients. In general outpatient dermatology, SMAs may be useful for diagnoses that require thorough education. For chronic conditions such as atopic dermatitis and psoriasis, for which education can improve quality of life and disease severity,[19] SMAs may be useful to enhance patient learning. Additionally, SMAs may be beneficial before the initiation of medications that require extensive counseling and monitoring, such as isotretinoin or biologic agents. Access to dermatologists continues to be a challenge, and we hope that our work will encourage further utilization of the SMA in diverse dermatologic settings.

A major limitation to the study is its small sample size. Because the vitiligo clinic takes place only 1 half-day per week, collection of survey responses was limited for both appointment settings. The distributed postvisit survey was anonymous to ensure obtaining the most accurate responses from the participants. Thus, precise characterization of the responders and correlation with their preferences for SMAs versus traditional appointments was not possible. Despite the anonymous nature of the survey, participant responses may still have been influenced by staff distributing the survey. Additionally, the absence of randomization increases the possibility of selection bias in our study.

CONCLUSION

The SMA clinical format is successful for evaluation of new patients with vitiligo, with benefits for both patients and physicians. Patients were equally satisfied with the SMA as with traditional appointments in all studied parameters and in cumulative satisfaction scores, and time to appointment was faster for the SMA. Additionally, the SMA allowed the physician to see significantly more new patients per month, improving efficiency while decreasing repetition of new patient educational content. With demonstrated success in vitiligo, the SMA is a valuable solution to improve access to dermatologists without compromising patient experience and satisfaction.

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