

Integrative Group Visits for Sleep Disturbance: A Brief Report

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Abstract

Background: There is limited research on the efficacy of group visits using integrative treatment modalities and for people whose chief concern is sleep disturbance. This quality improvement project delivered integrative health content in group visits for people with self-reported sleep disturbance.

Objective: To describe an integrative group visit for sleep disturbance, explore the evaluation process for several outcomes, and report on lessons learned.

Methods: A group visit series involved 4 sessions over the course of 1 month, covering integrative health topics such as acupuncture, mind-body therapies, and herbal medicine. Participants were administered 2 validated surveys (PSQI and PROMIS-29) at baseline and 1- and 3-months post-intervention.

Results: In 4 4 week GV series, 18 people participated in-person pre-pandemic, and 5 people participated virtually during the pandemic. The mean age for the entire cohort was 63.2 years. Of the 23 participants, 18 (78%) attended all 4 GV sessions within their series.

Conclusion: Preliminary findings from this study suggest that an integrative group visit approach to sleep disturbance is feasible yet would benefit from a more rigorous investigation.

Keywords

group visits, integrative medicine, sleep, sleep disturbance, mind-body therapies

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Introduction

Approximately one-third of adults report dissatisfaction with their sleep quality or quantity on a weekly basis.¹ There is the recognition that suboptimal sleep can have effects on many aspects of health and wellbeing. For example, the U.S. Department of Veteran Affairs, through its Veterans Health Administration (VHA) clinical care services, weaves in an evaluation of sleep and rest for its patients. By using a Whole Health Tool and completing a Personal Health Inventory (PHI), VHA patients analyze their sleep and rest, listed as “Recharge: Sleep & Refresh”, 1 of the 8 primary self-care areas pertinent to health and wellbeing.²

There are various treatments, including those that fall under the umbrella of integrative health, that can be considered for people with a disturbance in sleep. For example,

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herbal medicines, acupuncture, and meditation show some efficacy for improvement in sleep quality and quantity in people with insomnia.^{3,4}

As an alternative to the one-on-one provider-patient model, group visits (GVs) are being used by clinicians to counsel a group of patients about a variety of topics either focused on disease prevention or a health condition.⁵⁻⁹ The structure of GV may vary, but commonly have a private component with the health care provider and may involve 1 meeting or a series of meetings. Many GV benefits have been documented in the medical literature, including improvements in stress, pain, fatigue and mental health.⁵⁻⁹ Also, a GV may have benefits through peer interactions¹⁰ and improved provider satisfaction.¹¹

Bringing together the emerging efficacy of some integrative health interventions and the benefits of group visits for patient outcomes, this quality improvement (QI) project was designed to deliver integrative health content via a GV for people with self-reported sleep disturbance. As a clinical QI project, the purpose was to explore the feasibility of discussing several evidence-based integrative therapies in a group setting, and whether it would be possible to evaluate the intervention using validated surveys. The results of this project could then be used to inform the development of a more formalized pilot project to test the integrative GV intervention.

Methods

Recruitment and Eligibility

Recruitment involved marketing through primary and specialty care clinics in the Midwestern region through emails and other announcements. Study staff reviewed eligibility criteria with potential GV participants by phone. Eligibility criteria included adults age ≥ 18 years with self-reported sleep disturbance. Potential participants were included if they reported some sleep disruption, no use or non-daily use of sleep aids (eg, over-the-counter medications, dietary supplements, prescription medications) and an interest in improving their sleep quality or quantity. Exclusion criteria included those with daily use of 1 or more sleep aids, sleep apnea, narcolepsy, co-existing untreated mental health conditions, and/or visits to a sleep medicine specialist.

IRB Exemption. The protocol was submitted to the University of Wisconsin Institutional Review Board and deemed exempt as a QI project.

Group Visit Structure

A GV series involved 4 sessions over the course of 1 month. In total, 4 GV series took place during the QI period, 1 during 2019 (in-person), and 3 during 2020 (1 in-person, and 2 via a virtual format). Each of the weekly GV sessions lasted approximately 90 minutes. The in-person GVs occurred at the 1 of the clinical

sites that had kitchen facilities and an activities room for yoga, meditation, and other movement activities. The virtual GV utilized a HIPPA-compliant interface known as VidyConnect, a video platform distinct from the electronic health record. Modeled after a published GV study,⁷ participants were asked to agree to adhere to, and sign, a community agreement that honored confidentiality and respect for others.

Group Visit Content

The GV was co-taught by a fellowship-trained integrative physician and a health coach who was also a yoga instructor. A typical 4-session GV series is outlined in Appendix 1. For all sessions, a medical assistant began the GV by checking in participants, the GV physician spoke individually with participants, the physician and health coach shared sleep-related educational content, and there was a mind-body activity. Of note, during the individual participant physician interview, the other participants had the opportunity to complete the GV evaluation surveys. Also, there was some flexibility built into the curriculum, guided by participants' particular interests. Core concepts were covered throughout all of the GVs to address common misconceptions about sleep health and share evidence-based integrative treatments for insomnia. The latter included information about dietary supplements, including herbal medicines, melatonin, and magnesium, that are commonly used for sleep and relaxation. GV participants were able to sample herbal medicines teas either onsite or at home. For the virtual GV, a package of herbal teas and lavender (*Lavandula officinalis*) essential oil were sent to each participant. The herbal teas that were used included chamomile (*Matricaria recutita*), lemon balm (*Melissa officinalis*), valerian (*Valeriana officinalis*), hops (*Humulus lupulus*), passionflower (*Passiflora incarnata*), and skullcap (*Scutellaria lateriflora*). The risks and benefits of these treatments were thoroughly discussed, and safety concerns were reviewed to personalize the session for each GV participant. The GV physician used the Natural Medicines database (<https://www.naturalmedicines.com>) to ensure the absence of adverse plant-pharmaceutical interactions relevant to each participant's case.

Measures

Participants were administered 2 validated, self-report surveys targeting sleep habits accessed through the REDCap shared library system of evidence-based measures. Assessments were conducted at baseline, and 1- and 3-months post-intervention.

The 19-item Pittsburgh Sleep Quality Index (PSQI) captured GV participant sleep parameters, including sleep quality, quantity, and disturbances.¹² The questions are rated from zero (no difficulty) to 3 (severe difficulty). The Global PSQI score represents the sum of the 7 component scores and ranges from zero to 21, with higher scores indicating worse sleep quality.

The Patient-Reported Outcomes Measurement Information System (PROMIS-29), administered to GV participants,

includes 7 health domains: physical function, anxiety, depression, fatigue, sleep disturbance, ability to perform in social roles and activities, and pain interference.¹³ Responses items range from 1 to 5. The total raw score per domain is mapped on to a T-score metric. Additionally, there is question asking the participant to rate their average pain over the past 7 days from zero (no pain) to 10 (worst imaginable pain).

For the in-person series, participants were encouraged to fill out the survey while the GV physician was conducting the one-on-one participant interview. For the virtual GVs, surveys were sent to patients ahead of the start of the first and last GV meetings to collect baseline and 1-month post-intervention data. For all groups, surveys were mailed to participants for the 2-months post-intervention timepoint.

Data Analysis

Descriptive data for age and survey responses were described by means and standard deviation (SD) and medians [interquartile range (IQR)]. Feasibility was determined with respect to curriculum (via facilitator observation), participant (as measured by attendance), and surveys (as measured by completion rates).

Results

Twenty-three people (15 women and 8 men) enrolled in 4 4-week GV series over approximately 1 year; 18 people participated in-person pre-pandemic, and 5 people participated virtually during the 2 series in the pandemic. The mean age for the entire cohort was 63.2 (SD = 11.9) years.

Of the 23 participants, 18 (78%) attended all 4 GV sessions within their series. Additionally, 3 participants (13%) missed 1 of the 4 sessions, while 2 participants (9%) only attended 1 of the 4 sessions.

The GV facilitators were able to cover the core content and mind-body activities (see [Appendix 1](#)) for all 4 GV series. This was possible for both the in-person and virtual options. For 3 of the 4 GV series, an acupuncturist was able to attend 1 session and discuss the use of acupuncture and acupressure with the participants; for the other session, scheduling conflicts precluded the presence of the acupuncturists, but the GV facilitators were able to explain the modality and guide participants through some self-acupressure techniques. An iRest provider was only able to be present for 1 of the GV sessions.

For the PSQI, the number of participants who completed the survey at baseline and 1- and 3-months post-intervention was 17 (73.9%), 9 (39.1%), and 12 (52.2%), respectively. The number of participants completing the PROMIS-29 survey at baseline, 1- and 3 months post-intervention was 10 (43.5%), 5 (21.7%) and 16 (69.6%), respectively.

Discussion

The current project examined the feasibility of the delivery of integrative health options as a unified GV curriculum and the

evaluation process for several outcomes. This project was developed to address the needs of people struggling with self-reported sleep disturbance using a curriculum incorporating concepts of integrative health, a unique approach to this condition. Project facilitators found that it was possible to cover several core integrative health topics throughout the 4-week duration of the intervention, which provided a combination of experience and knowledge for participants to help with their sleep concerns. Furthermore, GV participants were engaged with this type of health care delivery; attendance rates were high, with the majority of participants attending all 4 of the sessions in their GV series.

A unique aspect of this project was the transition from in-person GVs to a virtual format at the beginning of the SARS-CoV-2 pandemic. We noted there were more attendees for the in-person GVs (n = 18) than for the virtual GVs (n = 5). It is difficult to determine the cause for the decline in attendance without participant follow-up to elucidate decision-making. There may have been a preference for in-person visits, but we also know that during the QI project period there were varying levels of marketing and community outreach about the in-person GV option that could have affected participant preference for GV type.

Exploring outcomes was not a primary focus of this QI project given the small sample size and challenges in optimizing survey response. The primary challenge with survey administration as noted by the GV facilitators included lack of time to adequately engage with the survey instruments due to a full schedule for each of the GV sessions. Nonetheless, the survey protocol provides a model for future research efforts. Furthermore, qualitative research exploring the acceptability and satisfaction of GVs for sleep disturbance from both the patient and facilitator perspective could help in understanding the most useful aspects of the curriculum and GV process.

Group visits are being used for many health conditions and have been studied in a growing number of pilot studies, clinical trials, and qualitative research.⁵⁻⁹ Our project adds to the GV literature by applying this approach to a specific condition (eg, sleep disturbance) while delivering the curriculum in-person and through a virtual format. We envision that the virtual option could provide an option for those participants who prefer or are unable to travel to a specific site for an in-person GV.

This project took a different approach from prior research by both using integrative treatment modalities and focusing on sleep as the primary concern. One previous study related to insomnia was led by primary care nurses in Sweden who randomized 90 patients using 7 two-hour group visits to cognitive behavioral therapy or usual care and assessed changes in sleep and medication use at 1-year.¹⁴ Findings revealed an improvement in insomnia and a decrease in hypnotic pharmaceutical use in the treatment group compared to the usual care group. Though other treatment modalities, including integrative health therapies, were not included, this is an important result that espouses the importance of GVs in the treatment of insomnia. Another study featuring 19 participants with chronic

pain also included sleep and insomnia in their curriculum, though it was neither the focus of the GV intervention nor demonstrated a statistically significant outcome at the end of the GV time period.⁶ In a different study, an observational prospective cohort study of 65 people with chronic pain, researchers found a statistically-significant decrease in the PSQI after an 8-week integrative GV.⁷ In contrast to these studies, the current project explored the feasibility of delivering an integrative GV approach among participants for whom self-reported sleep disturbance was their predominant complaint.

Limitations

At no timepoint were all of the surveys available for analysis, compromising the analysis of this project's outcomes; as a QI project, our goal was not to be able to draw cause-effect conclusions, though more enhanced data collection could aid those efforts going forward. Future GV efforts should focus on enhancing survey data collection to ensure a higher response rate. Furthermore, our treatment approach included a mixture of integrative health treatment modalities; it is difficult to conclude which treatment(s) are most effective for

sleep disturbance. Additionally, without a control arm, we are unable to determine whether participants would have improved merely by gathering once weekly for 4 weeks in a space dedicated to discussing sleep problems, regardless of the integrative therapeutics offered. Finally, to facilitate having adequate numbers of participants in our GVs, we relied on very broad eligibility criteria; future research could establish targeted inclusion criteria for insomnia, rather than self-reported sleep disturbance, leading to a more uniform cohort.

Conclusions

This quality improvement project adds to the extensive literature on GVs through 2 GV types (in-person and virtual) and the use of integrative health topics. Findings from this study suggest that an integrative approach to sleep disturbance through GVs is possible to implement either in-person or virtually, and identified several important outcomes for future measurement. This research would also benefit from further examination of the modalities that are the most beneficial for sleep abnormalities.

Appendix I

Table AI. Session Structure and Content for the Four-Week Integrative Group Visit.

Week #	Medical Assistant Involved?*	Physician Check-In:**	Content Discussed	Mind-Body Activities	Miscellaneous Content
1	Yes	Yes	-Whole health circle and personal health inventory -Circadian rhythm -Sleep hygiene basics -Herbal infusions (eg, chamomile, hops, lemon balm, skullcap, passionflower)	-At beginning, 5-10 minute "centering" meditation -Qi gong movement exercise	
2	Yes	Yes	-Sleep hygiene review -Herbal decoctions (eg, valerian, kava kava) -Lavender aromatherapy	-At beginning, 5-10 minute "centering" meditation -Tai chi movement exercise	iRest meditation***
3	Yes	Yes	-CBT-i coach -Other sleep resources -Magnesium: food and supplements -Valerian capsules: Dosing and adverse effects -Melatonin	-At beginning, 5-10 minute "centering" meditation -Yoga series (with chair yoga option), 15-20 minutes	Acupuncture and acupressure for relaxation and sleep improvement
4	Yes	Yes	-Herbal combination products (infusions)	-At beginning, 5-10 minute "centering" meditation -Qi gong movement exercise	

* = Reviewed patient address, insurance coverage, medications, and dietary supplements, in addition to any changes to patient health history. Also, a set of vital signs (eg, temperature, blood pressure, heart rate, respiratory rate) was taken for the in-person visits.

** = At the beginning of each session for approximately 20 minutes, the GV physician spoke with each patient individually about their recent health history, with a focus on sleep-related concerns.

*** = iRest is a meditation practice based on Yoga Nidra (irest.org); a local expert was able to join the GV to briefly guide the participants through this meditation.

Declaration of Conflicting Interests

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