Group Visits for Chronic Pain

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Scholarly Report Title: Group Visits For Chronic Pain

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Abstract

TITLE: Group Visits For Chronic Pain
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Purpose: To evaluate the efficacy of group visits for chronic pain patients on opioids.
Methods: Nineteen chronic pain patients participated in a year-long program consisting of monthly visits. Visits consisted of a check-in with a healthcare provider, urine sampling, assessment of mood and pain by surveys, an educational component, and group support discussion. Mindfulness meditation, music therapy, education on use of pain medications, and other topics were taught. Five patients also participated in a focus group to evaluate their experiences with healthcare as a chronic pain patient and to elicit thoughts on the group visit program. Fourteen primary care providers of the same clinic were surveyed to assess thoughts on treatment of pain patients on an individual and clinic-wide level.
Results: Baseline assessment with the Opioid Risk Tool showed >50% of patients had a moderate to high risk for opioid abuse. There was no significant difference in opioid usage at 6 months. Due to the increased frequency of urine sampling with the program, several patients were noted to have cocaine in the urine and were able to be counseled appropriately. Most (89%) of subjects had a substance use contract established when one did not exist previously. Patients in the focus group felt they had been subject to bias in the healthcare system as pain patients, but were comfortable with their current primary care provider and not concerned that the group visit program would force them to stop taking opiates that they might need. Providers surveyed at the clinic felt that there needed to be clear, clinic-wide guidelines for how to treat pain patients to allow for better individual practice and improved cross-coverage of patients. Results of PHQ-9 (depression), PEG (pain), GAD-7 (anxiety), and SF-20 (physical functioning) are pending completion of the study in the fall of 2017.
Conclusions: Interim results of a group visit program for chronic pain patients suggest that this format is a low-cost, effective way to improve management of this population.

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Section 1: Introduction

In the ten-year period between 1997 to 2007, there was a 700% increase in opioid analgesic prescriptions, along with an even larger increase in methadone prescribed.[1] Treating chronic pain is a complex issue, and the dangers of opioid addiction have recently been highlighted in both popular press as well as medical literature, including such outlets as National Public Radio, New York Times, and the New England Journal of Medicine.[2,3] Massachusetts has its share of troubles with opioid overdose. According to the state's Department of Public Health, the numbers are rising—with an increase in deaths from 668 to 1,089 (a 63% increase) from 2012 to 2014. The town of Revere, MA recently released an urgent public service announcement as there were 14 opioid overdoses in a span of 7 days in February 2017, thought to be related in part to fentanyl-laced heroin.[8] On a national level, in 2016 the FDA released a special report detailing their concern over opioid abuse, addiction, and overdose, along with a plan to reverse the epidemic.[4] This plan includes supplementing better pain management options, including alternative treatments. Although both patients and providers may want to decrease opioid use, it can be particularly difficult for a patient already being managed with opioids chronically to make this shift after developing tolerance to the drug.

Chronic pain is widely recognized as a major cause of decreased quality of life. The use of opioids for managing chronic pain has increased dramatically in recent decades. Along with this increase, however, has come a backlash of concern over adverse effects from these medications. There has been an increase in dependence on and abuse of prescription pain relievers from 2002 to 2012—the last year data is available from the National Survey on Drug Use and Health.[2] In conjunction, the number of deaths caused by prescription opioids increased annually for 11 years and was as high as 16,651 in 2010. It is often feared that prescription opioids will be a gateway to stronger, more dangerous opioids like fentanyl and heroine—indeed, over half of young heroin users in several studies reported having started with a prescription opioid. Some individuals report switching to heroin because it is cheaper and easier for them to obtain than a prescription opioid.[9,10]

At the same time, research is questioning whether or not evidence shows that chronic opioid use is even effective for improving pain, function, and quality of life.[5] Some sources suggest that the rate of prescriptions has recently been flattening, for unclear reasons.[2] This may be from

increased awareness among physicians and subsequent reduction in prescribing practices. If a decrease in physician prescribing is a contributing factor, it is important to evaluate ways to safely transition those who are on opioids to lower doses or off prescription pain medication completely.

We hypothesize that well-organized group visits for chronic pain patients can result in improved processes for chronic opioid prescribing and, for some patients, can significantly decrease opioid use for chronic pain. Previous work on group visits has shown a wide range of results. Two uncontrolled prospective cohort studies sponsored by Kaiser using group visits for the management of chronic headaches showed approximately a 15% decrease in the use of narcotics.[6,7] In contrast, many other studies of group visits for pain management do not have opioid reduction as a primary outcome, instead evaluating measures such as decreased depression and disability.[7] The Family Physicians Inquiries Network has called for studies on group treatment for patients with nonspecific pain, particularly in the primary care setting. This highlights the need for more studies in the primary care setting with a particular emphasis on opioid reduction, which is a national priority at this time.

The current project aims to design an educational curriculum of group visits for patients of diverse backgrounds to learn to manage chronic pain without or with the minimum amount of opioids. Providers who struggle to support patients with chronic pain may benefit from being able to reproduce this program or use components of it as they see fit.

Section 2: Student role

The student's role in this project was to help with designing the curriculum of group visits, coordinating a group of medical students involved with teaching the group, conducting a focus group, presenting results in poster format, and analyzing data from patient surveys. Student involvement spanned a year from winter 2016 to winter 2017.

Section 3: Methods

A focus group took place prior to implementing the curriculum and was run by a medical student. Care was taken to ensure this group was not run by the primary physician of the participants to encourage open, honest comments. There were five participants in this focus group. They were asked about their experiences in the healthcare system with chronic pain and what things they would like in the upcoming group sessions. The main concerns/desires of these patients were disseminated to the healthcare providers to incorporate patient preferences into the design of the group visits.

Primary care providers of the clinic were surveyed to evaluate perceptions of pain management at both an individual and clinic-wide level. This was done using a 7-item Likert-type scale and free response.

The curriculum was designed using literature on ways to manage pain, alternatives to medication, and group support. An initial full evaluation was given to each participant by a physician to assess the characteristics of the pain, the history of treatment and response to modalities used, any behavioral health and substance use issues, and to establish goals of treatment. At each subsequent visit, patients checked in with a physician to evaluate medication use, other substances used, level of pain, functionality, and any other medical concerns (to be referred to the participant's primary care provider if needed). The group visits also consisted of an educational curriculum, an experiential component, and group support facilitated by a provider from behavioral health. The educational component was designed by a primary care physician in conjunction with a panel of medical students and members of behavioral health. It included basics of pain/opioids, music therapy, and ergonomics, as well as future plans for education on sleep, yoga, acupressure, and physical therapy. The experiential component was designed to introduce patients to alternative techniques for pain management and to enhance their understanding of the mechanisms of pain/pain medication. As part of the experiential component, mindfulness meditation was practiced at each group visit.

Nineteen subjects were enrolled from the chronic pain patients of a primary care provider at Windsor Street Health Center (Cambridge, MA). Group visits began in August 2016 and were held monthly at two different times for patient convenience. Urine samples were collected at baseline and at each visit to assess for medication use and screen for other substance use. At the initial visit, patients were assessed using the following surveys:

- Opioid Risk Tool (ORT)—a brief, self-report screening tool designed for use with adult patients in primary care settings to assess risk for opioid abuse among individuals prescribed opioids for treatment of chronic pain.
- 20-Item Short Form Health Survey (SF-20), which was developed for the Medical Outcomes Study (MOS), a multi-year study of patients with chronic conditions. It looks at physical functioning, social functioning, mental health, pain, and other areas. Results are on a scale from 0 to 100, with 100 indicating better status.
- PEG: A three-item scale assessing pain intensity and interference with general activity.
- Generalized Anxiety Disorder 7-item (GAD-7) scale.
- The Patient Health Questionnaire (PHQ-9): Used for screening, diagnosing, and measuring the severity of depression.

Section 4: Results

QUALITATIVE

PATIENT FOCUS GROUPS:

Participants spoke about their individual reasons for having pain and offered advice to each other. A theme of past experiences with being stereotyped negatively by healthcare providers for wanting opioids emerged. None of the participants thought that they were viewed negatively by their current provider, however. They were not concerned that the group sessions were going to pressure them to stop taking pain medication that they needed. Some participants viewed written contracts about medication use as exemplifying a lack of trust in the patient. Some were concerned about the group sessions being a "safe space" without judgment from other members. The goals of the participants included: dealing with the psychological impact of how isolating medical issues had become with the help of the community of the groups, improved functioning, learning more about pain and ways to deal with it, and learning more healing techniques.

PROVIDER QUESTIONNAIRE:

Primary care providers from Windsor Street Health Center were asked questions about individual and clinic-wide practices related to chronic pain patients. Results are below.

1=strongly disagree
5=strongly agree

Survey of Clinic's Primary Care Physicians	**Average**	**Standard Deviation**
Our clinic's approach to chronic pain patients is coordinated and clearly defined	2.2	1.1
Caring for chronic pain patients is a rewarding part of my work	2.6	1.2
My chronic pain patients receive appropriate care	3.0	1.0
I feel overwhelmed by caring for patients with chronic pain	2.9	1.2
Many chronic pain patients at this clinic receive inappropriate opiate prescriptions	3.0	1.1
Chronic pain patients at this clinic often receive inadequate medicine to control their pain	2.9	1.0
Chronic pain patients at this clinic often divert or abuse their opiate prescriptions	2.9	0.9

PROVIDER FREE RESPONSE:

Many providers mentioned a need for clear clinic-wide guidelines on how to manage chronic pain patients. One noted that cross-coverage was difficult due to "a lot of variation and not clearly stated plans." Another felt that guidelines would help him/her in their own practice because "I often feel as though I'm operating based on a gut feeling which I don't like." Several providers commented on pain contracts—either the lack of them altogether, the lack of regular updates to such contracts, or in a lack of consistency with where they are accessed in the online medical record system.

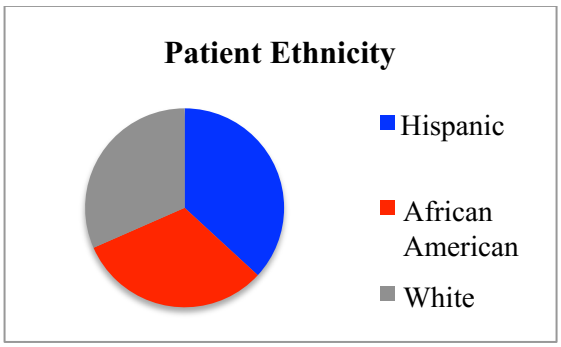
QUANTITATIVE

PATIENT DEMOGRAPHICS

There were a total of 19 patients enrolled in the study. One of these patients dropped out of the study (reason unknown).

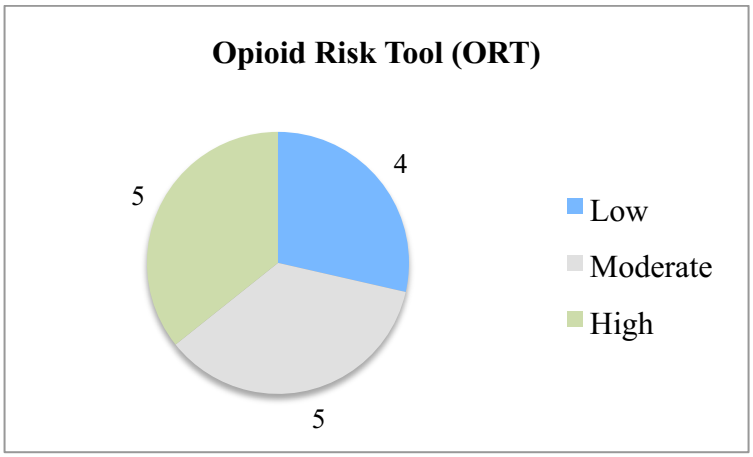
Patient Characteristics:	
Total	n=19
Male	n=6; 32%
Female	n=13; 68%
Age (mean, SD)	56.5, 7.7

Patient Ethnicity:	
Hispanic	n=7
African American	n=6
White	n=6



OPIOID RISK TOOL (ORT)
Data available for n=14 patients

Opioid Risk Tool Scores:	
Low	n=4
Moderate	n=5
High	n=5



Individual components of ORT

The number of patients with a personal history of substance abuse as reported on the ORT was 10 out of 14 (71%). These included alcohol, illegal drugs, and prescription drug abuse.

The number of patients who reported having a psychiatric history on the ORT was 9 out of 14 (64%). One of these was bipolar disorder, the others were depression.

20-ITEM SHORT FORM HEALTH SURVEY (SF-20):

Looks at physical functioning, social functioning, mental health, pain, and other areas. Results are on a scale from 0 to 100, with 100 indicating better status. Data available for n=16 patients.

BASELINE SF-20:	
Average	56.8
Standard deviation	4.5

PEG:

A three-item scale assessing pain intensity and interference with general activity. Results are on a scale from 0 to 30, with 30 indicating more pain/interference. Data available for n=16 patients.

BASELINE PEG:	
Average	22.1
Standard deviation	5.9

GENERALIZED ANXIETY DISORDER 7-ITEM (GAD-7):

Results are on a scale from 0 to 21, with 21 indicating more anxiety. Data available for n=16 patients.

BASELINE GAD-7:	
Average	6.8
Standard deviation	5.5

GAD-7 INTERPRETATION[11]:		
TOTAL SCORE	**INTERPRETATION**	**NO. OF SUBJECTS**
10+	Probably diagnosis of GAD	4
5	Mild anxiety	6
10	Moderate anxiety	3
15	Severe anxiety	1

THE PATIENT HEALTH QUESTIONNAIRE (PHQ-9):

Used for screening, diagnosing, and measuring the severity of depression. Results are on a scale from 0 to 27, with 27 indicating more depressive symptoms. Data available for n=16 patients.

BASELINE PHQ-9:	
Average	8.2
Standard deviation	5.1

A score of 10 or higher on the PHQ-9 has a sensitivity and specificity of 88% for major depression. Four patients met this cutoff. Two patients were one point short of this cutoff with a score of 9.

PAIN ISSUE

11 of the 19 patients had back pain, with or without additional causes of pain. The other causes of pain were varied and included the following:

- Migraine
- Neuropathy
- Connective tissue joint pain due to Ehlers-Danlos
- Hip malformation (congenital)
- Pelvic pain
- Crohn's-associated arthritis

As part of the screening criteria, no patients had cancer-related pain.

ATTENDANCE

The average attendance rate for the first six months was 84% (range 25-100%). Not including the subject who dropped out after one group visit, attendance was 87% (range 67-100%). One group met six times and the other group met four times due to holiday scheduling conflicts.

OPIATE USE –BASELINE VERSUS STUDY

Opiate use was calculated by totaling the number of pills prescribed to the patient and dividing by the number of days the prescriptions covered. Two calculations were made:

1. Number of opiate pills given in the six months prior to the study divided by the number of days.
2. Number of opiate pills given during the study divided by the number of days.

This yielded a "pills per day" for baseline (prior to study) to compare with the "pills per day" during the study.

Data available for n=15 subjects. The 4 missing data points are due to: one patient dropped out, one patient was on methadone only, and two patients were also getting medication prescribed in another state for which records were not accessible.

BASELINE VERSUS STUDY OPIOID USE	
Average pills per day baseline (prior to study)	4.1
Average pills per day during study	3.9
Number of subjects with decreased opioid use	n=5
Number of subjects with increased opioid use	n=2

URINE SAMPLES

Patient's charts were reviewed for number of urine samples collected to measure opiates in the 6 months prior to the study and during the study. The positive results were noted. On average, patients had 1 urine sample in the 6 months prior to the study and 2 during the first 6 months of the study. During the study, 63% of subjects had a positive urine sample for a substance they were not supposed to be taking. The most common positive finding was cannabinoids (31%), followed by fentanyl (18.8%), and cocaine (12.5%).

Section 5: Discussion, Limitations, Conclusions, and Suggestions for Future Work

DISCUSSION

Although the current study is still ongoing, the interim results are discussed below.

Patients—Focus Group

The patients who participated in the focus group discussed negative experiences in the past with healthcare providers and their pain medication but felt secure with their current primary care physician. They hoped the group visits would be a safe space where they could share openly and expressed enthusiasm about the planned educational topics.

Providers—Survey

Many primary care physicians at the clinic felt that there needed to be a more clear set of guidelines for how to manage chronic pain patients. Most providers disagreed with the statement "Our clinic's approach to chronic pain patients is coordinated and clearly defined." They mentioned not being able to efficiently cross cover patients and feeling like their own practice was not as evidence-based as they would like.

Changes in opiate from baseline to during study

Opioid use was calculated as a "pills per day" metric to look for any changes from before to during the study. More subjects decreased their intake (n=5) than increased (n=2). Overall change was minimal, however—from an average of 4.1 pills per day to 3.9 pills per day. During intake appointments and group visits, providers did *not* emphasize reduction in opioids as a necessary part of group participation. The goals of the study were to teach patients about non-pharmacologic ways to approach their pain and see if, as a byproduct, opioid intake was reduced. It was hypothesized that emphasizing a need for reduction in medication would have facilitated negative outlooks towards the program and poor participation.

Finding positive urines

A key element of this study was the increase in frequency of urine sampling, with a relative doubling—from an average of once per 6 months to twice per 6 months when the study commenced. Over half the subjects tested positive for a substance like cannabis, fentanyl, and cocaine. Given the potential for overdose with the powerful drug fentanyl, it is crucial to educate patients about the risks. Finding that even one patient taking fentanyl when it was not previously

known is arguably worth increasing urine testing. Additionally, some patients who were not known to be taking cocaine were seen to test positive, allowing for discussion of the risks of addiction and overdose with the drug.

Establishing substance use contracts

Another important element of this program was the establishment of controlled-substance agreements ("pain contracts") for participants. Despite taking opiates for some time, most patients did not have an agreement in place. Due to this study, 17 of the 19 subjects had agreements established when they did not exist previously. Many regulatory bodies recommend implementing these agreements as a way to improve use of medication as prescribed. Although controversial at times due to concerns about stigmatization, when used as a way to improve informed consent and shared decision making, controlled-substance agreements can be beneficial. The group visits program allowed for a large improvement in establishment of these agreements.

Surveys

The surveys obtained (SF-20, PEG, GAD-7, PHQ-9) are designed to look at changes over the one-year period of the group visits. Currently, only baseline data exists. If any significant differences emerge as a trend across patients, it may suggest an improvement in function, pain, depressive symptoms, or mood as a result of the study. At baseline, patients had an average opioid risk tool score of 6.2 (classified as "moderate" risk), with 71% of subjects having either a moderate or high risk for opioid abuse by ORT score. This suggests that this population of patients could stand to benefit from a reduction in opioid use and/or learning non-pharmacologic methods for pain management. The baseline SF-20 score was 56.8 (on a scale from 0-100), which indicates a relatively poor score on aspects of physical functioning, social functioning, mental health, pain, and problems in other areas. Subjects had an average PEG score at baseline of 22.1, with the worst score for pain being 30. It will be interesting to note whether this subjective rating of pain and how pain interferes with daily life compares to final PEG scores at the one-year completion mark of the group visits. This could indicate that the education and experiential learning from the visits helped improve pain as measured by the PEG survey. Also of note, subjects scored poorly on the GAD-7 (an indication of anxiety) and on the PHQ-9

(indicating depression). On the GAD-7 four subjects met the criteria for probable generalized anxiety disorder, and 10 subjects scored high enough for at least mild anxiety. On the PHQ-9 four patients met the cutoff score of 10+, which has a sensitivity and specificity of 88% for major depression. Two patients were one point short of this cutoff with a score of 9. It is not surprising to find higher levels of anxiety and depression in a chronic pain population, as physical and mental health are known to be highly interlinked.

LIMITATIONS

The design of this study is such that all patients of a particular provider at a clinic were asked to participate in the group visits. As such, there is not an element of randomization to the study and it becomes more difficult to reduce certain elements of bias. It is possible that the patients of this provider are more or less eager to participate and improve their health than is generalizable to the larger population of chronic pain patients.

The surveys obtained (SF-20, PEG, GAD-7, PHQ-9) will be interesting to look at for any changes over the one year period, but it will be difficult to interpret whether any changes—positive or negative—are due to the group visits or other factors in patient's lives.

CONCLUSIONS

In this group program for patients with chronic pain, patients had more structured management of their pain with an increased frequency of urine sampling revealing illicit substances (most notably cocaine and heroin). Additionally, substance use contracts were established for most participants. The groups were well-attended (84%). Patients had a high level of depression and anxiety by screening surveys at baseline; final results in fall 2017 will assess any changes in these metrics. Future programs may seek to establish clinic-wide guidelines for management of pain patients, as primary care providers in the current study reported a need for this.

Section 6: Acknowledgements
We are grateful for the assistance of Harvard medical students Leo Eisenstein, Jun Liu, and Anna Morenz in designing and implementing the educational component of the group visits.

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