



Clinical Impact of a Pharmacist-led, Multidisciplinary Pain Management Service in a Primary Care Setting: A Retrospective Review.

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Background

- Chronic pain is a widespread and difficult to manage problem that can seriously impact a person's quality of life
- Ideal treatment of chronic pain must be individualized to each patient and requires careful monitoring and education
- Pharmacists can provide these services, but in most outpatient settings they do not have enough time to devote to patient care
- Establishing pharmacist-led pain management services in a primary care setting would allow pharmacists to devote their full attention to counseling chronic pain patients and managing their medications

Objective

- To assess the impact that a pharmacist-led pain management service has on patients with chronic pain
- To justify the establishment of additional of pharmacist-led clinical services for the management of patients with chronic pain

Methods

Study Design

- The study was a retrospective review conducted using data collected from patients of SIHF Healthcare's pain management clinic located in O'Fallon, Illinois

Participants

- Age 18-89 years
- Experiencing chronic pain with or without opioid use disorder
- Had at least two appointments within the data collection period
- Data collected from March 2017 to July 2021
- A total of 228 patients met this criteria

Intervention

- Patients were seen by a pharmacist at each appointment who performed counseling and medication management
- Patients rated their pain scores and current mood using the Brief Pain Inventory (BPI) and the Patient Health Questionnaire (PHQ-9) at each appointment
- The BPI asks patients to rate their pain with 0 to 10 numeric scales, and the PHQ-9 rates current mood based on a total score ranging from 0 to 27
- The pharmacist would then adjust the patient's pain regimen with the approval of a collaborating physician within the site

Primary Outcome

- Average change in total BPI score from first to last recorded appointments
- Average change in subcategories of BPI questions which measure pain severity or interference from first to last recorded appointments

Secondary Outcome

- Average change in PHQ-9 from first to last recorded appointments

Data Analysis

- A 2-sided student's t-test with a confidence interval of 95% was used to assess for statistically significant changes in the average of the BPI and PHQ-9 scores from first to last appointment.

Results

Table 1 – Mean Changes from First to Last Recorded Appointments for Total Scores

	First Appointment	Last Appointment	P-value
BPI Severity	25.60 (7.90)	24.40 (8.43)	>0.05
BPI Interference	50.46 (16.76)	43.93 (18.24)	<0.05
BPI Total	76.02 (21.76)	68.49 (24.46)	<0.05
PHQ-9 Total	12.45 (7.11)	11.25 (7.53)	>0.05

Table 2 – Mean Changes in the Scores of Individual Questions from the BPI and PHQ-9

		First Appointment	Last Appointment	P-value
BPI Severity	Worst Pain	7.77 (1.89)	7.54 (2.19)	>0.05
	Least Pain	5.12 (2.46)	4.76 (2.52)	>0.05
	Average Pain	6.44 (2.01)	6.05 (2.12)	>0.05
	Current Pain	6.29 (2.52)	6.07 (2.56)	>0.05
	% Relief	36.02 (29.23)	41.47 (28.79)	>0.05
BPI Interference	Activity	7.51 (2.41)	6.71 (2.78)	0.004
	Mood	6.92 (2.59)	6.11 (3.04)	0.007
	Walking	7.23 (6.89)	6.28 (3.06)	>0.05
	Work	7.60 (2.49)	7.04 (2.83)	0.048
	Relations	5.89 (3.18)	4.99 (3.38)	0.01
	Sleep	7.59 (2.47)	6.46 (3.11)	<0.001
	Enjoyment	7.63 (2.67)	6.31 (3.19)	<0.001
PHQ-9	Interest/pleasure	1.77 (1.16)	1.56 (1.14)	>0.05
	Feeling down	1.44 (1.14)	1.30 (1.12)	>0.05
	Sleep disturbance	2.08 (1.03)	1.88 (1.10)	>0.05
	Tired/ lack of energy	2.07 (1.02)	1.92 (1.06)	>0.05
	Eating problems	1.30 (1.12)	1.33 (1.18)	>0.05
	Feeling bad	1.25 (1.21)	0.91 (1.12)	0.008
	Trouble concentrating	1.35 (1.21)	1.25 (1.12)	>0.05
	Speaking too fast or slow	0.89 (1.10)	0.87 (1.12)	>0.05
	Thoughts of self-harm	0.30 (0.77)	0.36 (0.84)	>0.05

Discussion

- The total BPI score was reduced from baseline, and more specifically the interference scores were what was most affected
- The PHQ-9 scores were not affected, showing that patient's mood did not significantly improve from baseline
- The baseline pain of some patients may not have been collected properly if their first appointment was before the data collection period
- Future work on this project would collect data from a wider date range and ensure a patient's baseline scores are properly accounted for
- The single-site design of this study reduces the generalizability of the data
- Additional measures such as opioid dependence and misuse could also be explored

Conclusion

- The research conducted in this study helped to show that pharmacists can have a beneficial effect on patients by reducing how severely chronic pain interferes with their life
- Establishing additional services such as this would serve to expand the role that pharmacists have in patient care and provide more options to patients with chronic pain