

Examining Cancer-Related Pain and Quality of Life in Lehigh Valley Home Care Patients

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Examining Cancer-Related Pain and Quality of Life in Lehigh Valley Home Care Patients

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Introduction:

- Despite the availability of effective pain management measures in the United States, cancer-related pain relief is frequently inadequate (NCCN, 2011; Stokowski, 2011; APS, 2008).
- The purpose of this descriptive pilot study is to characterize the status of pain management for Lehigh Valley Health Network medical oncology patients who are receiving home care services.
- The study's theoretical framework is an adaptation of Michael Harrison's (1987) model in which the healthcare organization is conceptualized as an open system (Alley, 2001).

Study Objectives:

- To describe the severity and nature of cancer-related pain experienced by Lehigh Valley Home Care (LVHC) oncology patients and self-care measures they take to relieve their pain.
- To examine relationships between selected pain and quality of life variables.
- To evaluate the feasibility and strengths/weaknesses of study protocols.
- To modify study materials for use in future, larger scale pain management projects.

Methods:

- Design: Descriptive, cross-sectional design, using a convenience sample of LVHC cancer patients, to obtain quantitative data on subjects' self-reports about their pain, pain management, and perceived quality of life.
- Sample and Setting: 25 of 50 cancer patients enrolled thus far, receiving home care services from LVHC.
- Self-Report Measures:
 - Cleeland's Brief Pain Inventory (BPI)
 - Ferrans and Powers Quality of Life Index (FP-QLI)
 - European Organization into Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ-C30)
 - Investigator-developed 5-Day Pain Diary
- Procedure: Study Interviewer conducts a one-hour structured in-home interview with each subject. Enrolled patients who agree also complete the 5-Day Pain Diary.

Preliminary Results:

- 25 of 50 subjects have completed the study, to date. Refer to Subject Demographics in Table 1.

- BPI findings, particularly noteworthy relative to the study's purpose and objectives:
 - Of the 19 subjects reporting having pain in the last week, 17 (89%) rated their worst pain as ≥ 5 (on a 0 to 10 scale), reflecting "substantial" pain intensity ratings (as defined by Cleeland, Gonin, Hatfield, Edmonson, Blum, Stewart, & Pandya, 1994) that require focused healthcare provider interventions to reduce pain ratings to more tolerable levels.
 - The mean pain intensity at its worst in the last week, reported by the 19 subjects, was 6.9 (SD=1.8).
 - All 19 subjects reporting pain had at least 1 active opioid prescription. For the remaining 6 subjects reporting no pain in the last week, most (n=4) had at least one active opioid prescription.
 - Tables 2 through 4 below present additional selected results from the BPI, as well as selected results from the FP-QLI and the EORTC QLQ-C30, respectively.

Table 1. Subject Demographics (n=25)

| | n | % |
|------------------------------|----|-------|
| Female | 19 | (76%) |
| Age | 64 | (13)* |
| Caucasian | 23 | (92%) |
| Education | | |
| < High School | 5 | (20%) |
| High School Graduate | 7 | (28%) |
| Some College or More | 13 | (52%) |
| Karnofsky Performance Status | 76 | (15)* |

* Mean and standard deviation.

Table 2. Brief Pain Inventory (BPI)

| | Only Subjects with Pain in Last Week n=19 | | All Subjects n=25 | |
|------------------------------------|---|-----|-------------------|-----|
| | M | SD | M | SD |
| Pain at its worst in the last week | 6.9 | 1.8 | 5.2 | 3.4 |
| Pain at its least in the last week | 1.6 | 1.6 | 1.2 | 1.6 |
| Mean pain interference composite | 3.3 | 2.7 | 2.5 | 2.8 |

All BPI pain ratings here range from 0-10, with higher ratings indicating higher pain severity/intensity or more interference with seven daily activities (n=25).

Table 3. Ferrans and Powers Quality of Life Index (FP-QLI) (n=25)

| | M | SD |
|----------------------------------|------|-----|
| Overall Quality of Life Score | 21.3 | 5.2 |
| Health & Functioning Subscale | 17.5 | 7.3 |
| Social & Economic Subscale | 24.0 | 4.3 |
| Psychological Spiritual Subscale | 21.8 | 7.2 |
| Family Subscale | 26.1 | 4.1 |

Scores range from 0 – 30, with higher scores indicating better quality of life.

Table 4. European Organization into Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ-C30) (n=25)

| | M | SD |
|---------------------------------------|------------------|------|
| Global Health Status QoL ⁺ | 58.3 | 26.1 |
| Functioning Subscale ⁺ | | |
| Physical Functioning | 66.5 | 24.9 |
| Role Functioning | 64.0 | 25.8 |
| Emotional Functioning | 74.3 | 26.5 |
| Cognitive Functioning | 79.3 | 20.6 |
| Social Functioning | 58.7 | 32.3 |
| Symptomatology Subscale [®] | | |
| Fatigue Scale | 47.6 | 24.7 |
| Nausea/Vomiting Scale | 0.0 [^] | |
| Pain Scale | 32.7 | 29.8 |
| Dyspnea Scale | 22.7 | 28.4 |
| Insomnia Scale | 28.0 | 35.6 |
| Appetite Loss Scale | 37.3 | 35.1 |
| Constipation Scale | 22.7 | 32.9 |
| Diarrhea Scale | 0.0 [^] | |
| Financial Difficulties Scale | 31.9 | 39.9 |

⁺ Scores range from 0 – 100, with higher scores indicating better QOL & functioning.

[®] Scores range from 0 – 100, with higher scores indicating worse symptomatology or problems.

[^] Median value presented, given scores not normally distributed; 17/25 subjects reported no nausea/vomiting or diarrhea.

- All 21 subjects who agreed to use the 5-Day Pain Diary at home successfully completed and returned it to the Study Interviewer.

Main Study Limitations:

- LVHN home care cancer patients experiencing the most severe pain may not be well represented in the study sample. Some home care patients have declined study participation because they felt too ill and/or had a large amount of cancer-related symptoms.
- Although the individual opioids prescribed are being documented for each subject in the current study, the total amounts of opioids taken by subjects during the completion of the 5-Day Pain Diary are not being recorded. Thus, relationships between opioids taken and pain intensity ratings cannot be examined in this project.
- In most cases, a family member stayed in the room with subjects throughout the assessment visits, which may have prevented fully candid responses by subjects. Given that these home visits were the first time that subjects had met the Interviewer in person, the Interviewer did not ask family members to leave.
- To minimize the possibility of missing data, the Study Interviewer documents all responses to the pain and quality of life instruments, using Teleform-formatted paper data collection tools. Not having the instruments be self-administered by subjects may affect some scores (as reported by the EORTC).

Initial Conclusions and Implications:

- Data gathered thus far indicate that most subjects' (17 of 19) worst pain reported in the last week was "significant" (≥ 5 on a 0-10 scale, as defined by Cleeland et al., 1994), warranting increased attention and further interventions by healthcare providers, to lower worst pain ratings to < 5 . Of the 19 patients reporting some pain in the last week, all had at least one active opioid prescription.
- All subjects who agreed to complete the 5-Day Pain Diary (n=21) have done so successfully, suggesting that the diary is not burdensome to home care patients and that it may provide useful information to healthcare providers working to relieve cancer patients' pain.