Pain Management Outcomes: Comparing Post-Operative Patients in the US and China

Gwen Sherwood, PhD, RN, FAAN, ANEF
- University of North Carolina at Chapel Hill, USA

Hui Wang, RN, PhD,
- Peking Union Medical College, Beijing, China

Huaping Liu, PhD, RN, FAAN
- Peking Union Medical College, Beijing, China

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Objectives and Disclosure

Gwen Sherwood, University of North Carolina at Chapel Hill
Hui Wang, Huaping Liu, Peking Union Medical College
There is no conflict of interest.

Describe post-operative pain management outcomes for surgical patients in an American and a Chinese hospital

Examine the cultural considerations of pain management outcomes for implications of patient centered care.
Joint project between UNC-Chapel Hill and Peking Union Medical College PhD student.

Data collection by trained undergraduate students in each location.
The Experience of Pain: A Cultural Transaction

Culture: influence of affiliation and background:

- Response to pain
- Perceptions of and about pain
- Communication about pain, to whom
- Behavior regarding pain
- Adherence to treatment
- Expectations and desired outcomes

Bates Biocultural Model of Pain: melds Gates Control Theory with social learning theory.
Challenges in pain management for ethnic populations

- Inadequate management
- Lack of data
- Patient as partner
- Challenges in research
- Language
- Lack of data
Research Questions

What are similarities and differences in the experience of post-operative pain among a sample of US and China in-patients?

What are similarities and differences in outcomes of post-operative pain management between the two populations?

Human Subjects review in both locations
Instruments: English and Mandarin translation

Revised American Pain Society Pain Outcome Questionnaire (APS, 1994; Gordon et al, 2010)

• Current pain
• Average pain
• Pain severity
• Pain interference with mood, activities, sleep
• Adverse effects
• Pain management goals

Chart Review of medications ordered and administered
## Demographics: Convenience and purposeful sample

<table>
<thead>
<tr>
<th></th>
<th>USA</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sample</strong></td>
<td>N=231 completed</td>
<td>N=248</td>
</tr>
<tr>
<td><strong>Age, Range 18-84 years</strong></td>
<td>51 +/- 15 years</td>
<td>51.9 +/- 14 years</td>
</tr>
<tr>
<td><strong>Female</strong></td>
<td>61.8% (143)</td>
<td>56.5 (140)</td>
</tr>
<tr>
<td><strong>Type Surgery: Abdomen/pelvic</strong></td>
<td>47.2% (109)</td>
<td>47.2% (117)</td>
</tr>
<tr>
<td><strong>Cancer diagnosis</strong></td>
<td>19.5 (45)</td>
<td>26.2% (65)</td>
</tr>
<tr>
<td><strong>Used analgesia</strong></td>
<td>100%</td>
<td>51.8%</td>
</tr>
</tbody>
</table>
# Results:

<table>
<thead>
<tr>
<th></th>
<th>US</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>0=no pain, 10=worst pain</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average pain</td>
<td>5.93</td>
<td>3.68</td>
</tr>
<tr>
<td>Present pain</td>
<td>4.33</td>
<td>2.57</td>
</tr>
<tr>
<td>Affective interference</td>
<td>3.23</td>
<td>1.51</td>
</tr>
<tr>
<td>Least pain</td>
<td>3.45</td>
<td>2.68</td>
</tr>
<tr>
<td>Worst pain</td>
<td>8.0</td>
<td>6.04</td>
</tr>
<tr>
<td>Side effects</td>
<td>3.44</td>
<td>1.85</td>
</tr>
<tr>
<td>Perception of pain care (0-10 highest)</td>
<td>8.02</td>
<td>6.36</td>
</tr>
</tbody>
</table>
## Results summary

<table>
<thead>
<tr>
<th>Category</th>
<th>China</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did not use analgesia</td>
<td>51.8%</td>
<td>59.7%</td>
</tr>
<tr>
<td>USED PCA</td>
<td>33.1%</td>
<td>31.6%</td>
</tr>
<tr>
<td>Did not use PCA</td>
<td>51.8%</td>
<td>31.6%</td>
</tr>
<tr>
<td>Non-PCA analgesia</td>
<td>48.2%</td>
<td>68.4%</td>
</tr>
<tr>
<td>PCA users received IM Meperidine</td>
<td>31.6%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Morphine dose</td>
<td>0.43</td>
<td>0.55</td>
</tr>
<tr>
<td>Interference of pain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Side effects</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Human factors influence pain management in both the US and China populations

Health professional
- Background and experience
- Attitudes toward pain and analgesics
- Language
- Interaction with patients and families

Patients and families
- Past experience with pain
- Attitudes toward pain and analgesics
- Language
- Interaction with health professionals
- Access to health care
3 components in a System Approach to Effective Post-Op Pain Management in diverse populations

- Assessment and Documentation
- Education for providers and patients, families
- Treatment and Management
Assess and Document

Scheduled patient centered assessment using standard numeric scales that consider cultural background

Identify/monitor high risk

Provide culturally and language appropriate information and tools

Reassess after analgesic interventions

Document/Communicate with patients and care team
Standardize protocols to apply evidence based best practices:

- Administer appropriate medication for pain intensity
- Provide around the clock vs prn scheduling for initial postoperative pain management
- Use oral or IV route whenever possible, not IM
- Do not use IM Demerol unless specifically indicated
- Consider non-pharmacological, adjunct therapies
- Manage analgesic Side Effects
Education

Provide culturally and language appropriate instruction to patient/family, providers

Collaborate with patients/families, especially high risk

Set expectations; Identify and correct misinformation

Use all forms of media for instruction

Establish unit experts as resources for patients and staff
Conclusions

Patients in the two populations appear to perceive pain differently for actual pain and pain management goals.

With increasing patient diversity and global migration, pain management remains an important clinical problem.

More research is needed to examine how different populations respond to pain, use analgesics and manage pain expectations.