AN EXPLORATION OF POTENTIAL DISPARITIES IN PHYSICAL THERAPISTS' INTERVENTIONS BASED ON RACE AND ETHNICITY OF PATIENTS

Sondra G. Siegel, PT, Ph.D, Ambrose Lovely, SPT, Haesel Osuna, SPT, Cassandra Wells, SPT

Introduction

- **Healthcare disparities** persist across racial and ethnic groups
  - Provider bias influences clinical decisions and patient outcomes (Cavanuagh et al., 2021)
  - Racial and ethnic bias may affect health care expectations, treatment, and interactions (Cooper et al., 2012)
  - Bias contributes to disparities in rehabilitation outcomes (Patel et al., 2024)
  - Disparities are well-documented in medicine/nursing; limited in physical therapy (PT) (Blair et al., 2013)
- **Purpose:** To explore racial and ethnic bias on PT prognosis, treatment, and outcomes



Methods

- Three case-based surveys were created regarding patients with shoulder pathology
- Cases were identical **except for** patient names and accompanying images to represent them. Names and images were designed to represent different ethnic or racial groups. (See lower middle of poster.)



Aaliyah



Jane



Fatimah

- Surveys were sent via email to Husson University's Clinical Instructor database. Each person received a survey for 1 of the patients, separating participants into 3 groups.



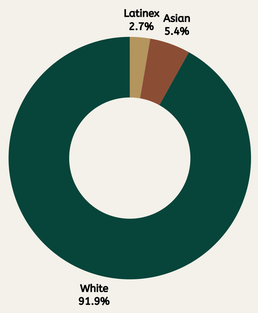
- Consent form hid the true purpose of the study, as knowledge of this would have rendered the results meaningless.

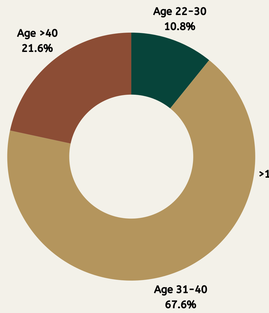


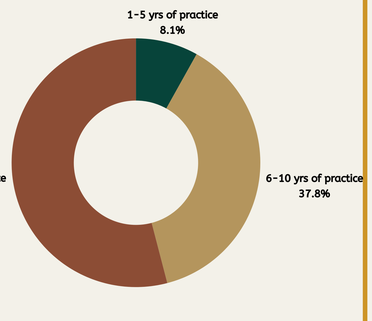
- **Outcome measures:**
  - # of exercises for home
  - Return to prior level of function?
  - Expected ending pain levels
  - # of visits per week
  - Estimated # of visits for episode of care
  - Recommended treatments
  - Recommended referrals
- Responses were compared among the groups using Fisher's Exact test for frequencies.

Results

Participants: 38 of 331 (11%) recipients completed the survey. Participants primarily identified as White, were from Northeastern USA, and were between 31-40 years of age. Most had practiced for more than 5 years. The analysis revealed **no statistically significant differences among participants in the groups, based on demographic information collected.**

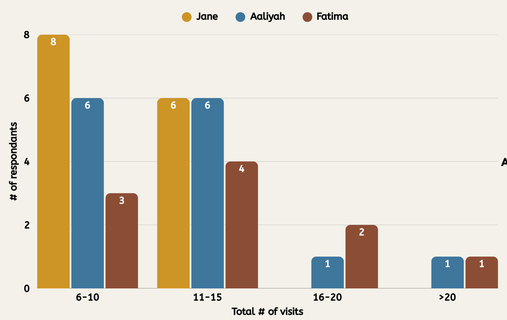




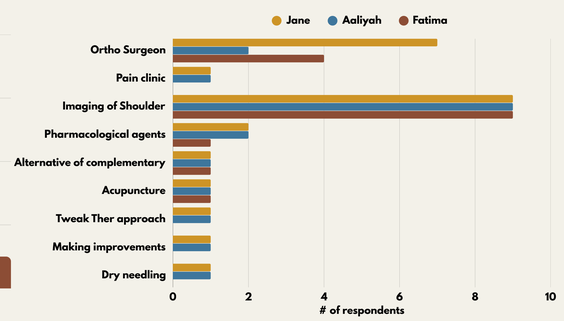


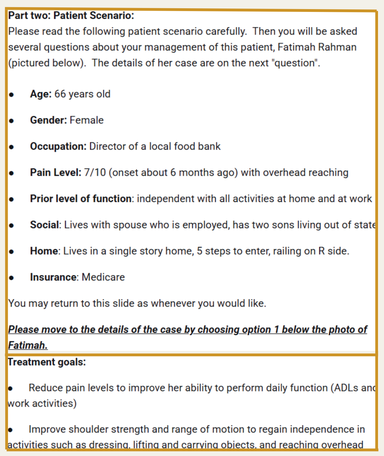
Outcome Measures: No stastistically significant differences among the groups **in all measures assessed.** Two interesting trends were noted. **Non-white patients** were most **associated** with expectations of **longer duration of care** and were the **least often referred to an orthopedic specialist** after limited progress. (Shown in graphs below.)

Estimated Number of Visits for Episode of Care



Recommended Referrals After Progress Assessment





Part two: Patient Scenario:

Please read the following patient scenario carefully. Then you will be asked several questions about your management of this patient, Fatimah Rahman (pictured below). The details of her case are on the next "question".

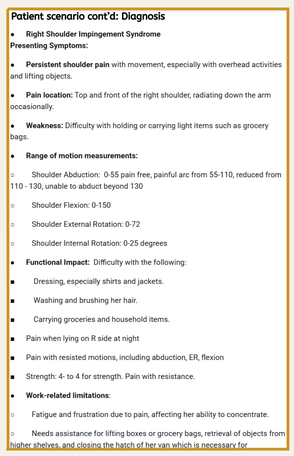
- **Age:** 66 years old
- **Gender:** Female
- **Occupation:** Director of a local food bank
- **Pain Level:** 7/10 (onset about 6 months ago) with overhead reaching
- **Prior level of function**: independent with all activities at home and at work
- **Social**: Lives with spouse who is employed, has two sons living out of state
- **Home**: Lives in a single story home, 5 steps to enter, railing on R side.
- **Insurance**: Medicare

You may return to this slide as whenever you would like.

Please move to the details of the case by choosing option 1 below the photo of Fatimah.

Treatment goals:

- Reduce pain levels to improve her ability to perform daily function (ADLs and work activities)
- Improve shoulder strength and range of motion to regain independence in activities such as dressing, lifting and carrying objects, and reaching overhead

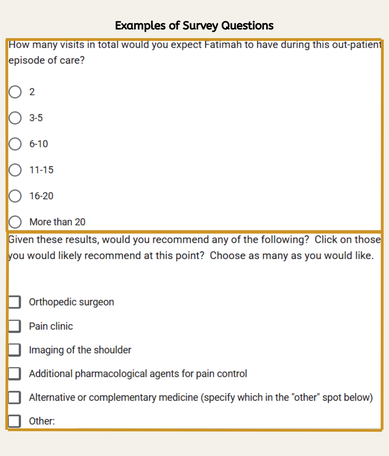


Patient scenario cont'd: Diagnosis

- **Right Shoulder Impingement Syndrome**

Presenting Symptoms:

- **Persistent shoulder pain** with movement, especially with overhead activities and lifting objects.
- **Pain location:** Top and front of the right shoulder, radiating down the arm occasionally.
- **Weakness:** Difficulty with holding or carrying light items such as grocery bags.
- **Range of motion measurements:**
  - Shoulder Abduction: 0-55 pain free, painful arc from 55-110, reduced from 110 - 130, unable to abduct beyond 130
  - Shoulder Flexion: 0-150
  - Shoulder External Rotation: 0-72
  - Shoulder Internal Rotation: 0-25 degrees
- **Functional Impact:** Difficulty with the following:
  - Dressing, especially shirts and jackets.
  - Washing and brushing her hair.
  - Carrying groceries and household items.
  - Pain when lying on R side at night
  - Pain with resisted motions, including abduction, ER, flexion
  - Strength: 4- to 4 for strength. Pain with resistance.
- **Work-related limitations**:
  - Fatigue and frustration due to pain, affecting her ability to concentrate.
  - Needs assistance for lifting boxes or grocery bags, retrieval of objects from higher shelves, and closing the hatch of her van which is necessary for



Examples of Survey Questions

How many visits in total would you expect Fatimah to have during this out-patient episode of care?

- ○ 2
- ○ 3-5
- ○ 6-10
- ○ 11-15
- ○ 16-20
- ○ More than 20

Given these results, would you recommend any of the following? Click on those you would likely recommend at this point? Choose as many as you would like.

- ☐ Orthopedic surgeon
- ☐ Pain clinic
- ☐ Imaging of the shoulder
- ☐ Additional pharmacological agents for pain control
- ☐ Alternative or complementary medicine (specify which in the "other" spot below)
- ☐ Other:

Discussion

No statistically significant differences among groups, but two meaningful trends observed

- Suggest racial/ethnic bias may still influence PT clinical judgment (e.g., length of care, referrals)

Impact of racial/ethnic bias on clinical decision-making

- May influence clinical judgment regarding prognosis, pain, referrals, and duration of care

Study limitations

- Small sample size, regional bias

Comparison to results of studies in Medicine and Nursing

- Less bias among PTs than among Doctors and Nurses

Why might there be less bias among PTs?

- PT care: often longer, repeated patient interactions, which may reduce impact of bias compared to brief medical encounters
- PT education: emphasizes patient-centered care and therapeutic alliance, which may help mitigate bias
- Participants were Clinical Instructors, who may engage more in teaching and reflective practice

Future directions: equity-focused practice

- Expand research and implement racial/ethnic bias-reduction strategies in PT care

Conclusions

1. Overall, PTs displayed no statistically significant disparities based on patient race or ethnicity when recommending treatment for shoulder pathology in an out-patient setting.
2. Non-white patients were more highly associated with longer episodes of care and fewer orthopedic referrals.
3. Although statistically significant differences were not observed, trends suggests a potential influence of racial and ethnic bias in outpatient PT decision-making.
4. Further research with larger and more diverse samples, representing different areas of the country is warranted to better understand and address disparities in rehabilitation outcomes.

References

Blair, I. V., Steiner, J. F., Fairclough, D. L., Hanratty, R., Price, D. W., Hirsh, H. K., Wright, L. A., Bronsert, M., Karimkhani, E., Magid, D. J., & Havranek, E. P. (2013). Clinicians' implicit ethnic/racial bias and perceptions of care among Black and Latino patients. Annals of Family Medicine, 11(1), 43–52. https://doi.org/10.1370/afm.1442

Cavanaugh, A.M., Mitchell J.R. (2021) Does patient race affect physical therapy treatment recommendations? J Racial Ethnic Health Disparities. 8(6):1377-1384. doi:10.1007/s40615-020-00899-0

Cooper LA, Roter DL, Carson KA, et al.(2012) The associations of clinicians' implicit attitudes about race with medical visit communication and patient ratings of interpersonal care. Am J Public Health, 102(5):979-987. doi:10.2105/AJPH.2011.30055.

Patel RM, Prusynski RA, Williams-York B, et al. (2024) Disparities in physical therapy outcomes based on race and ethnicity: A scoping review. Phys Ther & Rehabil 104(10) (1-14) pzae090. doi:10.1093/ptj/pzae090.