

# Reducing Pain Disparities: Treatment Strategies-RA

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# Racial and Ethnic Disparities in Pain Management in the US

- Unrelieved pain is a major health problem.
- Inadequate treatment of pain can be attributed to system-, provider-, and patient-related factors.
- Race and ethnicity identified as patient-related factors that influence whether a person receives adequate pain management.
- Definition of these terms less than clear.

# Race, Ethnicity, and Minority

- Terms race and ethnicity intertwined, although have independent meanings.
- View of race as a biologic concept discredited. Instead, race is often used as a social construct which varies over time and according to the context in which used
- Ethnicity accepted social construct that defines groups according to common language, national origin, and culture, and is rarely characterized in medical and epidemiologic research.
- 1997: OMB: American Indian or Alaskan Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White.
- 2001: NIH indicated that these racial categories are not to be interpreted as being antropological; rather, they should be considered as sociopolitical constructs.

# Race, Ethnicity, and Minority

- Minority: “culturally or physically distinctive and self-conscious social aggregates, with hereditary membership....which are subject to political, or economic, or social discrimination by a dominant segment of an environing political society”
- This definition pertains directly to the disparities in pain management, wherein minorities disproportionately received inadequate pain treatment compared to whites in the US.

# Race, Ethnicity, and Minority; Ezenwa MO et al. J Nurs Sch 2006

- Objectives:
- Determine how race, ethnicity, and minority status were measured
- To examine the magnitude of disparities between minority groups with respect to pain management.
- To examine factors that may account for the observed differences in pain management between groups.

# Race, Ethnicity, and Minority

- Most failed to define race and ethnicity.
- Both terms often used interchangeably.
- “two ethnic groups” but would list the groups as Black or AA and Whites/Caucasian/non-minority Whites.
- African diaspora group inappropriately included with African Americans.
- Similarly, members of other groups such as Hispanics and Asians have been studied as if they are homogeneous groups.

# Race, Ethnicity, and Minority

- Despite all of the attention devoted to improving pain management over the past decade, disparities continue.
- In spite of the availability of the WHO “analgesic ladder” for adequate pain treatment, the JCAHCO’s standards that delineate strategies for proper assessment and treatment of pain, and the recognition of pain as the fifth vital sign by the APS, the reality remains that disparities exist, even though these were small.

# Race, Ethnicity, and Minority

- Reasons suggested to explain disparities have not been supported by evidence.
- Low expectations of pain; language or communications barriers; financial barriers, and physicians assessment techniques found not to be explanatory.
- Heterogeneity of groups, discrimination and stereotyping, beliefs related to reporting pain and using analgesics, and the lack of availability of opioids in minority neighborhoods might explain the disparities in pain management found in 10 of the 11 studies reviewed.
- Patient's age, gender, educational level associated with inadequate pain management and dissatisfaction with pain control.

# Race, Ethnicity, and minority

- Non-White individuals in the US are short-changed in the advances made in pain management research.
- They are at higher risk than are Whites for suffering from the complications of inadequate pain treatment, such as unnecessary suffering, delayed healing, functional disability, increased length of hospitalization, and increased medical cost to the person and to society at large.
- Inadequate pain management as “medical error”.

# Health status disparities in ethnic minority patients with RA

- Patients: Obtained from ARAMIS
- Data collected using the HAQ
- Ethnic groups: White, AA, Asian or Pacific Islander, American Indian/Alaskan/Alaskan Native/Canadian Indian, Hispanic/Chicano(a)/Latino(a), or Other.
- Measures: Primary outcomes: disability, pain, and global health status.

# Health status disparities in ethnic minority patients with RA: Results:

Patient characteristics. Data ranged from 1981-2003. On average 14% was derived from questionnaires responses prior to 1990. Ethnic groups similarly distributed.

- 4730 patients with RA in the cohort.
- Caucasians: 91% and females 76%
- Caucasians: older, early 60s ( $p < 0.0001$ )
- Higher proportions of women ( $p < 0.0001$ )

# Health status disparities in ethnic minority patients with RA: Results:

- Caucasians had more education, 13 v 12 for AA and H ( $p < 0.0001$ ).
- Age of onset and duration longest for Caucasians (H: 47 vs 41 yrs old;  $p < 0.0001$ ).
- Comorbid conditions and DMARD: similar.
- Higher use of DMARD by Caucasian patients than AA and H ( $p < 0.01$  &  $0.05$ ).

# Health status disparities in ethnic minority patients with RA: Results:

- Unadjusted scores suggested some disparity between Caucasians (1.24) compared with AA (1.28) and H (1.30) in disability, but differences were not different
- Pain scores for AA and H significantly worse than Caucasians ( $p < 0.01$ ).
- Global health scores were worse for both ethnic groups compared to Caucasians, but only statistically different for H ( $p < 0.05$ )
- For all 3 measures, Hispanics had worse scores

# Health status disparities in ethnic minority patients with RA: Results:

- Disparities in disability. Multivariable analysis of covariance for HAQ-DI scores revealed some significant disparities.
- Effects of adding databank center, age, and sex showed differences for AA and H.
- Adding education attenuated disparities.
- Adjusting for disease duration and number of comorbidities increased differences between C and AA and H
- Addition of DMARD use increased disparity between AA and C, while it decreased differences between H and C
- Caucasians had the least amount of disability, AA the most disabled, with H falling in between and closer to C

# Health status in ethnic minority patients with RA: Results:

- Disparities in pain scores. AA and H were substantially discordant from C at all levels
- Differences from C were statistically different after controlling for databank center, age, and sex ( $p < < 0.005$ )
- Education and disease duration also showed differences ( $p < 0.05$ )
- Adjustment for comorbidities (0.01 & 0.05)
- Full model: pain score higher in AA (0.05)
- Overall: Caucasians fared best, AA had worse outcome, and h were in between.

# Health status in ethnic minority patients with RA: Results:

- Disparities in global health status (GHS).
- Statistical modeling performed for GHS similar to disability and pain, having first controlled for databank center and demographic factors, the successively adding education, disease duration, comorbid conditions, and DMARD use.
- Only databank center, age, and sex different from Caucasians in H ( $p < 0.05$ ).
- Final model: AA fared the worst, whereas Caucasians and Hispanics were similar.

# Patient characteristics at last questionnaire

	Caucasians	African-American	Hispanic
	N=4294	N= 283	N= 153
Females,%	75.3	85.9	78.4
Age, yrs	61.5 (0.22)	56.1(0.91)	55.4 (1.1)
Education,y	13.1 (0.04)	12.2 (0.17)	11.8 (0.29)
Age at onset, yrs	46.7 (0.25)	44.7 (1.02)	40.9 (1.2)
Comorbi, N	1.8 (0.02)	1.9 (0.08)	1.8 (0.10)
DMARD, N	1.6 (0.02)	1.4 (0.06)	1.4 (0.07)

# Unadjusted and adjusted pain (VAS:0-100) for C, AA and H

	Caucasians	African American	Hispanic
U-scores	33.3 (0.44)	39.3 (1.9)**	41.7 (2.7)**
A-scores			
Databank, age & sex	30.6 (0.67)	37.5 (1.7)***	39.5 (2.4)***
-Education	30.0 (0.68)	34.8 (1.8)*	35.2 (2.5)*
-D-duration	30.9 (0.91)	35.6 (2.1)*	36.1 (0.6)*
-Comorbid	32.0 (0.90)	38.3 (2.1)**	38.1 (2.5)*
- DMARD	30.3 (1.1)	37.4 (2.9)*	34.3 (3.1)*

# Health status disparities in ethnic minority patients with RA

- This is one of the few studies that has explored the role of disability, pain, and global health PRO as potential contributing factors to health disparities in minority patients with RA.
- Findings suggest that in a cohort of patients with RA who are relatively similar demographically, minority health disparities exist.

# Health status in ethnic minority patients with RA

- Adjusting for demographic and other covariates allowed identification that otherwise might have been missed.
- After controlling for possible contributing factors, for all 3 measures both Hispanics and African Americans had poorer outcomes than Caucasians, with African Americans having the worst, although differences in disability and global health showed no statistical significance

# Health status in ethnic minority patients with RA

- Not surprising to find that AA and H had poorer health outcomes than Caucasians.
- Many studies have shown that Caucasians fare better than non-Caucasians in mortality and morbidity status for many chronic illnesses.
- Also recognized that AA and H experience substantial and as yet unexplained health disparities compared to Caucasians, but no data on whether and how RA patients are affected.

# Health status of ethnic minority patients with RA

- Both ethnic groups were less educated than Caucasians (possibly surrogate for socioeconomic status).
- Consistent with large body of evidence that lower educational attainment is a risk factor for poorer health outcomes.
- In patients with RA, lower educational attainment has been found to adversely influence outcomes.

# Health status in ethnic minority patients with RA

- Increasing or older age is also a risk factor for adverse health outcomes, and is plausible that age could have an effect.
- Yet, Caucasians were older and had longer disease duration which could have worked to their disfavor.
- Number of comorbid conditions could also have affected health outcomes, although these were similar across groups.
- Significant effects of the number of comorbid conditions were seen in AA and H for pain, suggesting that other health problems may be contributing to poorer health status

# Health status in ethnic minority patients with RA

- Potential limitations with the current work.
- Preliminary cross-sectional examination of ARAMIS data, so it was not possible to examine cause and effect.
- It represents an initial exploration to determine whether additional longitudinal study is warranted and to suggest hypotheses to be tested.
- Data are based on self-report and thus may be subject to misreport and confounding.
- However, HAQ self-report data shown reliable.

# Health status in ethnic minority patients with RA

- In addition, extensive data indicate that self-report measures provide important and clinically useful information that in some cases, such as pain, may not be obtained by “objective” methods.
- Also, data were obtained from ARAMIS, which may not be generalizable.
- Moreover, patients had RA for years and may differ from patients with earlier disease and who may now be better able to avail themselves of newer and improved treatment earlier after disease onset

# Health status in ethnic minority patients with RA

- There are ethnic disparities, with Caucasians faring better on all 3 of the outcomes studied.
- Additional study and longitudinal research with larger number of patients are needed to improve the understanding of these differences and to assess potential causal roles of chronic disease risk factors, medication use, and comorbid conditions.
- Health disparities in minority patients with RA have been less well studied. Elimination of these disparities requires comprehensive efforts to describe the characteristics that influence RA among minority patients.
- Understanding the patterns and burden of disease among minority groups with RA will contribute to the understanding of RA and may lead to improve treatment and prevention strategies.