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Alberto Coustasse

Marshall University, coustassehen@marshall.edu

Karan P. Singh


Sue G. Lurie

Yu-Sheng Lin

Claudia S. Coggin

See next page for additional authors

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Authors

Alberto Coustasse, Karan P. Singh, Sue G. Lurie, Yu-Sheng Lin, Claudia S. Coggin, and Fernando Trevino

Gender Disparities: A Medical Detoxification Program

Alberto Coustasse, MD, MBA, DrPH
Karan P. Singh, PhD
Sue G. Lurie, PhD
Yu-Sheng Lin, PhD
Claudia S. Coggin, PhD, CHES
Fernando Trevino, DrPH, PhD

ABSTRACT

Significant gaps exist in health care regarding gender in the United States. Health status, social roles, culturally patterned behavior and access to health care can be influenced by gender. Women have been the primary users of health care and minority women usually have received poorer quality care than Non-Hispanic White (NHW) females. The objectives of this study were to identify gender, racial and ethnic disparities in access to substance abuse treatment in a Texas hospital. Secondary data collected on 1,309 subjects who underwent detoxification were studied. Gender, race/ethnicity, drug of abuse, relapse and financial classification were included in the analysis. Results indicate Hispanic females and Non-Hispanic Black (NHB) females were about 5 and 3.5 more likely than NHW females to use Medicaid services respectively ($p < .05$). NHW and NHB males were more likely to use Medicare than females ($p < .05$). NHB and Hispanic females were 5.8 and 2.1 times more likely to receive care for abuse of cocaine when compared to NHW females respectively ($p < .05$). Hispanic females were 2.3 times more likely to relapse than Non-Hispanic females, and uninsured NHB females were 7.1 times at a higher risk to abuse multiple drugs compare to NHW females ($p < .05$). Socio-economic factors, lower labor force participation rates, and less financial independence can explain females utilizing more often Medicaid *regardless* of their race/ethnicity. These results can be also explained by aggressive case management utilization, socio cultural barriers and/or discriminatory practices, both intentional and unintentional.

INTRODUCTION

Despite the high quality of the U.S. health care delivery system, many Americans do not receive the health care that they need. Equal access to quality health care is a crucial issue facing the United States (IOM, 2002; AHRQ, 2003; Trevino and Coustasse, 2006). Improving the quality of care that Americans receive could save thousands of lives, millions of lost work days, and billions of dollars each year (NHDR, 2004). Latinos experience the highest uninsured rates of all ethnic groups. About four of ten (40%) non-elder Latinos are uninsured (DHHS, 2004). Among Latinos, Mexican-Americans and Central and South Americans have the highest rates of uninsured (38% and 42%, respectively), but Latinos of every national origin, including Cubans and Puerto Ricans, have significantly higher uninsured rates than NHW (McKenzie, Pinger and Kotecki, 2005). This is linked to socioeconomic inequities, ambiguous legal status, lack of understanding of the U.S. health care system or civil rights, and discrimination, both intentional and unintentional; these factors exacerbate lack of access to health care and health disparities (U.S. Commission on Civil Rights, 1999; Blendon, 2001; IOM, 2002).

Significant gaps exist in the care received by men and women in the United States (Brucker, 2003; VanDyck and Kogan, 2003). The United States Census 2000, counted 140 million females (51% of the U.S. population), of whom 40 million were members of racial or ethnic minority groups (DHHS, 2004; Smith and Spraggins, 2006). By 2050, it is projected that just under half of females in the United States will be members of racial or ethnic minority groups (Day, 1996; U.S. Census Bureau, 2004). While the population of racial/ethnic minority groups is growing in the U.S., the disparities in health care between minority and the majority groups remain large in some cases (House, 2002). Furthermore, foreign-born individuals represent increasing shares of the minority population of the United States, and immigrant status is related to many health outcomes (DHHS, 2004).

Women have been the primary users of the health care system averaging one-third more physician visits, one-fourth more hospital discharges, and five percent more hospital days of care than men (Friedman, 1995, Sox, Swartz, Burstin, and Brennan, 1998). In addition, women represented 56% of Medicare beneficiaries, 60% of Medicaid enrollees and represent 70% of all nursing home residents (AHCA, 1997; HRSA, 2005). Poor and borderline poor women have been more likely than high income women to report lack of health insurance, dissatisfaction with

their health plan when insured, and not having a usual source of care (Kaiser Family Foundation, 2004; Brucker, 2003). Financial barriers, including being uninsured, underinsured and publicly insured, are barriers to timely access to the healthcare system (Langwell and Moser, 2002; Aday, 2001; Weinick, Zuvekas and Cohen, 2000).

In addition, gender disparities have been observed among women of different racial/ethnic and socioeconomic status. Some of the measurements of the 2004 National Health Disparities Report (NHDR), which addressed gender disparities were as follows: Non-Hispanic Black (NHB) women received poorer quality care than Non-Hispanic Whites (NHW) for 53% of measures and had worse access to care for 29% measures. Hispanic women received poorer quality care than NHW for 60% of measures and had poorer access to care for 87% of measures; for services unique to women, NHB and Hispanics both received poor quality care for 75% of measures (NHDR, 2004). In 2001, a higher percent of NHW women than Hispanic, NHB or Native American women received early prenatal care; these proportions were reversed for women who received late or not prenatal care (U.S. Department of Health and Human Services, 2003).

The prolonged negative impact of racism, discrimination, poverty, substandard housing and neighborhood conditions, insurance status, and insufficient availability of and access to quality health care, have all been linked to poor health outcomes among Non-Hispanic Blacks (Leventhal and Brooks-Gunn, 2003; Mechanic, 2005; Satcher et al., 2005). Moreover, despite the rapid growth of Latino population in the United States, the quality of health care being delivered to them is still limited. Linguistic, socio-cultural and systemic barriers have been documented as contributing to poor health of the Latinos in the United States (Carrillo, Trevino, Betancourt, and Coustasse, 2001). In addition, many health care providers are biased against women in general and have stereotypical views of women of color in particular (Giachello, 2001; IOM, 2002).

Detoxification is sometimes called a distinct treatment modality but is more appropriately considered a precursor of treatment, because it is designed to treat the acute physiological effects of stopping drug use (NIDA, 2005). Medications are available for detoxification from opiates, cocaine, benzodiazepines, alcohol, barbiturates, and other sedatives. In some cases, detoxification may be a medical necessity, and untreated withdrawal may be medically dangerous or even fatal (NIDA, 2005). Previous studies have suggested NHB were more likely to be insured

compare to NHW, mostly by public insurance, but this did not hold for Hispanics, who were about three times more likely to be uninsured compare to Blacks. In addition, lower median of length of stay was observed in Hispanics using Medicaid (Coustasse, Venegas, Singh and Trevino, 2006). The structure and organization of treatment providers can affect access to substance abuse treatment. For-profit treatment programs are more likely to provide treatment to clients with health insurance coverage or the ability to pay-clients who generally are not treated in publicly financed treatment programs (Wheeler & Nahra, 2000). Publicly funded treatment facilities may not have sufficient capacity to provide services to all individuals who request treatment. Too often, individuals with substance use disorders end up going through short-term detoxification multiple times before beginning long-term treatment solutions, or relying on emergency departments of private and public hospitals for palliative treatment (McCarty, Capsi, Panas, Krakow, & Mulligan, 2000; McGeary & French, 2000; Wingerson, Russo, Ries, Dagadakis, & Roy-Byrne, 2001). The 2002-2003 National Surveys on Drug Use and Health ranked Texas, as one of the ten states with lowest substance abuse and dependence facilities, with only 7.15% of its population and 556 reported treatment facilities (SAHMSA, 2005).

The objectives of this study were to identify gender, racial and ethnic disparities in access to substance abuse treatment and to determine if there were ethnic/racial differences among women in drug utilization and relapse rate.

METHODOLOGY

Study population: The study was performed in a 215 bed, non-profit, stand-alone hospital in Texas, which was the primary hospital for a local medical school. This medical facility contracted services with a national detoxification program (New Vision©) that provided inpatient emergency medical detoxification services for adults with alcohol and drug related problems. Individuals, eighteen years or older (n = 1,342), receiving medical detoxification services from October 2000 to September 2003 were identified using the detoxification database program. Thirty-three of these patients, who were classified as using other financial class (e.g., workers camp) and self-pay (full cash payment) were excluded and 1,309 were identified for this study.

Study variables: Variables considered were gender, race/ethnicity, financial classification, alcohol, cocaine, opioid, relapse, and multi-drug use. Age was categorized into four groups: 18-

34, 35-49, 50-64, and 65 and older. Race/ethnicity was self-determined and recorded as Non-Hispanic Whites, Non-Hispanic Blacks, Hispanic, and others. The "Others" category included individuals of Asian, Native American, or unknown ethnicity/race. Subjects were categorized into four different financial classifications according to their methods of payment for medical detoxification services: Private, Medicare, Medicaid, and Uninsured. Private health insurance included insurance provided by employer or obtained by direct payment from a private health insurance company. Individuals were classified as multi-drug users according to their dependence to the use of a single substance, or more than one substance at the moment of intervention. Relapse was defined as seeking and receiving detoxification services on more than one occasion during the three-year period under study. This study protocol sought and received appropriate approvals related to the protection of human subjects from the Institutional Review Board of the University of North Texas Health Science Center.

Hypothesis 1: There are no differences in healthcare access by gender among all races and ethnic groups.

Hypothesis 2: There are no differences in drug of choice and rate of relapse between genders among all races and ethnic groups.

Data analysis: All hypothesis tests were two-tailed, and statistical significance was assessed at the 0.05 level. Chi-square test was used to examine the association between race/ethnicity and other variables using a binary logistic regression model. All statistical analyses were performed using SPSS version 11.5.

RESULTS

Sample description:

One thousand three hundred and nine individuals seeking medical detoxification services were included in the analysis. The sample comprised of 41.3% women and their mean age was 43.78 (\pm 12.24) years (data not shown). More than half of females (52.7%) were between the ages of 35 and 49 (Table 1). Most of females receiving medical detoxification were NHW followed by NHB with 71.5% and 18.5% respectively (Table 1). The majority females and males were in public funded programs, i.e., Medicare and Medicaid, with 67.1% and 60.4% respectively, however, females relied more in Medicaid for their access to care than males (Table 1).

Finally, 54.7% and 84.6% of the Medicare and Medicaid populations were younger than 50 years, respectively (data not shown).

Results indicate that for all races and ethnic groups, females were more likely to be insured, although it was not found statistically significant (Table 2). Hispanic females and NHB females were 4.9 and 3.5 times more likely to use Medicaid than their males counterpart respectively ($p < .05$), while NHW females used twice Medicaid compared to NHW males ($p < .05$) (Table 2). Non-Hispanic Black and White males were 70% and 33% times more likely to use Medicare than females, respectively ($p < .05$) (Table 2). Hispanic males were 65% more likely to have Medicare as insurance compared to Hispanic females; however, the ORs were not statistically significant.

Non-Hispanic White males trend to be more likely to be uninsured than females, although marginally significant within NHW ($p = 0.054$), while Hispanic females were more likely to be equally uninsured compared to Hispanic males, although non statistical significant (Table 2). The ORs of relapse were two times higher for Hispanics ($p < .05$) when compared to NHW with females having higher relapse than the males (Table 3). Hispanic females were 70% less likely than NHW to abuse alcohol ($p < .05$), while NHB and Hispanic males were 47% and 46% less more likely to abuse alcohol compared to NHW, although non-significant ($p > .05$) (Table 3).

Non-Hispanic Black and Hispanic females were 5.8 and 2.1 times more likely to receive care for abuse of cocaine when compared to the NHW females ($p < .05$), and NHB females were 2.4 times at a higher risk to abuse multiple drugs compare to Non-Hispanic White females ($p < .05$). Hispanic females were 2.3 times more likely to relapse than Non-Hispanic females, however Hispanic females were 70% less likely to receive care for alcohol abuse compare to their white counterpart ($p < .05$) (Table 3).

The uninsured NHB females were 7.1 times more likely to abuse multiple drugs ($p < .05$) than uninsured NHW females and similarly, the uninsured NHB males were about 3.6 times more likely than their NHW males to abuse multiple drugs ($p < .05$) (Table 4).

Hispanic males using multiple drugs were 3.1 times more likely to use Medicaid services than NHW males ($p < .05$). The same was true for NHB females utilizing multi drugs who were 2.9 times more likely to use Medicaid services than NHW female counterparts ($p < .05$) (Table 4).

TABLE 1. Gender Distribution by Age, Race/Ethnicity Ethnicity and Financial Classification: Medical Detoxification Program in Texas: 2001-2003

	Females		Males	
	Frequency	%	Frequency	%
Gender	541	41.3	768	58.7
Age Group				
18-34	137	25.3	130	16.9
35-49	285	52.7	427	55.6
50- 64	79	14.6	163	21.2
65 and above	40	7.4	48	6.3
Total	541	100	768	100
Race/Ethnicity				
NWH	387	71.5	517	67.3
NHB	100	18.5	166	21.6
Hispanic	40	7.4	55	7.2
Other	14	2.6	30	3.9
Total	541	100	768	100
Financial Class				
Private	122	22.6	194	25.3
Medicare	113	20.9	253	32.9
Medicaid	250	46.2	211	27.5
Uninsured	56	10.4	110	14.3
Total	541	100	768	100

NHW, Non-Hispanic White; NHB, Non Hispanic Black

TABLE 2. Financial Class Stratified by Gender and Race in a Medical Detoxification Program, 2000-2003

Financial Class	Female/Male Odds Ratio (O.R)	95% C.I	P Value
Private			
NHW	0.86	0.64-1.15	0.3
NHB	0.71	0.28-1.78	0.46
Hispanic	0.61	0.231-1.61	0.32
Others	0.9	0.19-4.12	0.9
Medicare			
NHW	0.67	0.49-0.91	<.05
NHB	0.3	0.17-0.53	<.05
Hispanic	0.35	0.12-1.05	0.06
Others	0.75	0.17-3.4	0.7
Medicaid			
NHW	2.0	1.5-2.67	<.05
NHB	3.5	2.06-5.8	<.05
Hispanics	4.9	1.97-12.12	<.05
Others	1.74	0.48-6.28	0.4
Uninsured			
NHW	0.7	0.46-1.008	0.054
NHB	0.8	0.32-2.01	0.7
Hispanics	0.51	0.17- 1.59	0.24
Others	N/A	N/A	N/A

*P value computed by Chi square test using logistic binary regression. CI, Confidence Interval; OR, Odds Ratio; NHW, Non-Hispanic White; NHB, Non Hispanic Black. N/A: Not applicable, missing females to compare

TABLE 3. Drug Utilization Classification by Race and Gender in a Medical De-toxification Program, 2000-2003

Drug Utilization by Race	Males			Females		
	OR	95% C.I of O.R	*P value	OR	95% C.I of O.R	*P value
Cocaine	Males	Males	Males	Females	Females	Females
NHW	Ref	Ref	Ref	Ref	Ref	Ref
NHB	5.7	3.9-8.3	<.05	5.8	3.6-9.2	<.05
Hispanics	3.1	1.7-5.4	<.05	2.1	1.08-4.2	<.05
Others	2.6	1.2-5.6	<.05	0.97	0.3-3.6	0.96
Opioid						
NHW	Ref	Ref	Ref	Ref	Ref	Ref
NHB	1.1	0.8-1.6	0.53	0.6	0.4-1.01	0.054
Hispanics	0.9	0.5-1.6	0.7	1.2	0.6-2.3	0.6
Others	1.2	0.5-2.5	0.7	1.5	0.5-4.3	0.5
Alcohol						
NHW	Ref	Ref	Ref	Ref	Ref	Ref
NHB	0.53	0.4-0.8	<.05	1.08	0.7-1.7	0.74
Hispanics	0.54	0.3-0.9	0.03	0.3	0.15-0.73	<.05
Others	0.7	0.3-1.4	0.31	1.3	.45-3.8	0.61
Multi Drug Use						
NHW	Ref	Ref	Ref	Ref	Ref	Ref
NHB	2.2	1.5-3.2	<.05	2.4	1.5-3.8	<.05
Hispanics	1.2	0.6-2.3	0.52	0.9	0.4-2.0	0.85
Others	2.2	1.02-4.7	0.04	2.79	0.96-8.2	0.06
Relapse						
NHW	Ref	Ref	Ref	Ref	Ref	Ref
NHB	1.3	0.84-2.2	0.2	1.6	0.81-3.2	0.18
Hispanics	2	0.9-4	0.054	2.3	0.93-5.5	0.07

*P value computed by Chi square test using logistic binary regression. CI, Confidence Interval; OR, Odds Ratio; NHW, Non-Hispanic White; NHB, Non Hispanic Black

TABLE 4. Multi Drug Utilization by Gender and Financial Class in a Medical Detoxification Program, 2000-2003

Multi Drug Utilization by Financial Class and Gender	Males			Females		
	OR	95% C.I of O.R	*P value	OR	95% C.I of O.R	*P value
Private	Males	Males	Males	Females	Females	Females
NHW	Ref	Ref	Ref	Ref	Ref	Ref
NHB	1.35	0.4-4.1	0.6	0.45	0.05-3.9	0.47
Hispanics	0.99	0.3-3.25	0.97	0.4	0.04-3.2	0.38
Others	0.5	0.06-4.2	0.52	5.4	0.48-62.2	0.17
Medicare						
NHW	Ref	Ref	Ref	Ref	Ref	Ref
NHB	2.3	1.28-4.1	<.05	1.5	0.57-4.0	0.41
Hispanics	1.1	0.34-3.6	0.9	1.3	0.21-8.4	0.8
Others	2	0.35-4.6	0.4	4	0.34-8.7	0.3
Medicaid						
NHW	Ref	Ref	Ref	Ref	Ref	Ref
NHB	2	1.57-5.3	0.04	2.9	1.03-3.74	<.05
Hispanics	3.1	0.4-3.05	0.08	1.1	0.95-9.58	0.83
Others	3.1	0.4-7.8	0.06	1.8	0.59-3.5	0.44
Uninsured						
NHW	Ref	Ref	Ref	Ref	Ref	Ref
NHB	3.6	1.29-38.6	0.04	7.1	1.01-12.7	<.05
Hispanics	0.6	0.13-13.6	0.62	1.3	0.07-5.0	0.81

*P value computed by Chi square test using logistic binary regression. CI, Confidence Interval; OR, Odds Ratio; NHW, Non-Hispanic White; NHB, Non Hispanic Black

DISCUSSION AND CONCLUSION

Gender disparities in health are linked to differences in experiences across the life course related to socio-economic, lifestyle, and psychosocial factors between men and women. Health status, social roles, culturally patterned behavior and access to health care can be influenced by gender (Marshall, Urrutia-Rojas, Mas, & Coggin, 2005). Historically, in drug abuse research, as in other fields of public health research, subjects have largely been male. Gender differences are emerging in various aspects of treatment research including modalities of drug abuse treatment including medical detoxification, barriers to treatment, services needs, treatment engagement and retention, treatment outcomes, and relapse. Accumulating epidemiological and clinical research indicates that the predictors and progression to drug abuse and dependence are often gender-specific or are gender-sensitive. Depression, conduct disorder, physical and sexual abuse, prenatal drug exposure and family dysfunction are among the variables differentially predictive of drug use, abuse, and dependence in males and females.

A previous study from this same population, demonstrated that Non-Hispanic Blacks were more likely to be insured compare to Non-Hispanic Whites, mostly by public insurance, but this did not hold for Hispanics, who were about three times more likely to be uninsured compare to Non-Hispanic Blacks (Coustasse, Venegas, Singh and Trevino, 2006). However the study did not consider gender in the analysis. The present study included about 41% of women under detoxification which is higher than the 30% of female patients in substance-abuse treatment reported by Hien et al. (2004); however, our figure included only short term medical detoxification without rehabilitation services or acute psychiatric hospitalization.

Results revealed different pattern of utilization within this public insurance, with NHB females using Medicaid 3.5 times more than males, while NHB males were 70% times more likely to use Medicare than NHB females. Same trend utilizing Medicaid was found within NHW and Hispanic females, with 2 and 4.9 times more than males respectively. Hispanic males were 65% times more likely to use Medicare than Hispanic females. Traditionally, the Hispanic population has been the minority group with the highest proportion of individuals without insurance, however in the present study gender and being a female played a role regarding their financial class. Socio-economic factors, women's greater domestic responsibilities, lower labor force participation rates, and hence less financial independence can explain females utilizing more often Medicaid *regardless* of their race/ethnicity and minority males using more Medicare

than females. Further study is needed to investigate the interacting effects of multiple variables resulting in such phenomenon. These factors may also include illegal immigration status, low education attainment and low income, and temporary employment without health benefits, which have been considered as primary level barriers in Carrillo's model (Carrillo, Trevino, Betancourt, and Coustasse, 2001).

The higher relapse rate within Hispanic females and males could mean that as they are more likely to be uninsured and as Medicaid patients are discharged earlier by the hospital which is their primary source of insurance. These results could be explained by aggressive case management utilization and/or sociocultural barriers such as culture and language and/or discriminatory practices, both intentional and unintentional (IOM, 2002). Furthermore, they cannot access the health system timely for the next step of the treatment, which is rehabilitation. In fact the waiting period for the only public rehabilitation facility in the county was 21 days (TCC, 2004), so it is not a surprise that the higher relapse rate with such a weak safety net.

This study also found that Hispanic females were less likely to abuse alcohol compared to NHW and NHB. This is consistent with other studies that have find that alcohol consumption of Hispanic women is lower than Non-Hispanic women, but that difference in consumption decreases as they become more acculturated into American society (Caetano, 1997; Zemore, 2005).

The National Institute on Alcohol Abuse supports research to identify racial and ethnic disparities in causes and consequences of alcohol-use disorders, and to develop effective treatment and prevention. Potential research areas in alcohol and illegal substance abuse are social causes and consequences of behavioral health practices among diverse ethnic groups, including Hispanic and Non-Hispanic Blacks. This can be particular relevant for the minority female population of this research study, with an elevated rate of cocaine utilization compared to NHW females and the finding of uninsured Non-Hispanic Black females were 7.1 times at a higher risk to abuse multiple drugs compare to Non-Hispanic White females. This evidence does not support findings from other previous studies, like one by Greenfield (2002), which did not determine differences, between men and women on alcohol detoxification although no race and ethnicity distributions were calculated.

There were a few limitations to this study, which indicate the need for future research. Some of the limitations included lack of measurement of the assumed high probability of this population to have opportunities for drug abuse. This would have altered the interpretation of relapse

and multi drug use to some extent; hence future research should include differential opportunities for access to drugs of abuse. This study also did not have data about other psychiatric disorders which may be co existent with the drugs of abuse, which might lead to differential magnitudes of contributing variables.

Eliminating health disparities that result from differences occurring by gender, race or ethnicity, education or income, disability, geographic location, or sexual orientation is one of the two goals of Healthy People 2010. Compelling evidence indicates that race, ethnicity and gender correlate with persistent, and often increasing, health disparities among U.S. populations that demand national attention. A national focus on disparities in health status is particularly important as major changes unfold in the way in which health care is delivered and financed (CDC, 2006). Eliminating racial, ethnic and gender disparities in health will require enhanced efforts at preventing disease, promoting health and delivering appropriate care. Gender differences in drug abuse suggests that males and females are likely to differ in many aspects of drug abuse yet to be explored and that in the long run, identifying and understanding such differences can improve our understanding of the nature and etiology of drug abuse and have implications for tailoring prevention and treatment interventions to maximize outcomes for both males and females.

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