

AN EXAMINATION OF THE GONORRHEA
 CASES & PLACES STUDY:
 A THEORETICAL ANALYSIS OF
 CORRELATIONS BETWEEN VARIABLES
 RELATED TO RISKY SEXUAL BEHAVIOR

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Presenter Disclosure

Mandy Roberts, DrPH, MPH

(1) The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:

"No relationships to disclose"

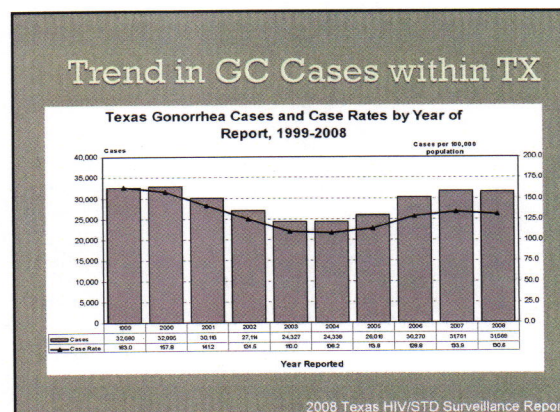
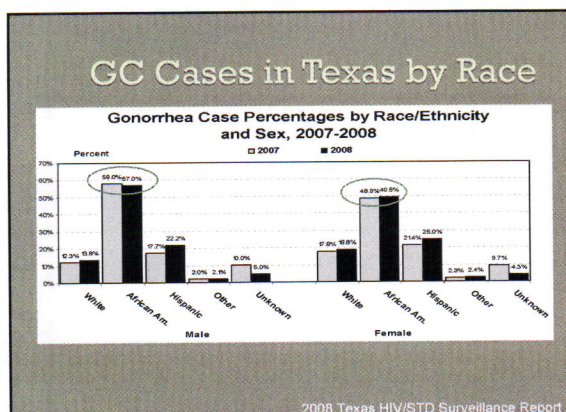
Overview

- Public Health Significance of Gonorrhea
- Presentation of Cases and Places Study
- An analysis of three theories as they relate to risky sexual behavior among AA adults
 - Theory of Gender and Power
 - Situational/Environmental Variables Theory
 - Sexual Script Theory

Public health significance

- GC is the second most common STI in TX
- GC cases in TX were 31,761 in 2007 and 31,569 in 2008, with rates in epidemic proportions
- 53% of GC cases in TX are among AAs and 23.7% are among Hispanics.

Zhang et al. 1997, Martino, J et al. 2002, Martino, J et al. 1999, Merchant, J et al. 1999; 2007 & 2008 Texas HIV/STD Surveillance Report



Social determinants of GC rates among AAs

Behavior

- Risky sexual behavior
- Illicit drug use
- Open sexual relationships (lack of monogomy)

Environment

- places where risky behaviors are normative (ie: night clubs)

Situations

- Combination of setting and environment

Cases and Places Study

- Purpose of study: To assess behavioral, environmental, and situational determinants for GC transmission among high-risk and low-risk populations.
- Recruited 215 Houston residents
 - 159 women and 66 men
- 4 recruitment sites
- Study Design: behavioral surveillance questionnaire

Methodology

119 questions administered

All study subjects received \$30-\$40 for participation

Sampling Frame 1: Female patients (N=57) attending 2 clinics with positive GC results

- Medical Center Clinic and West End Clinic

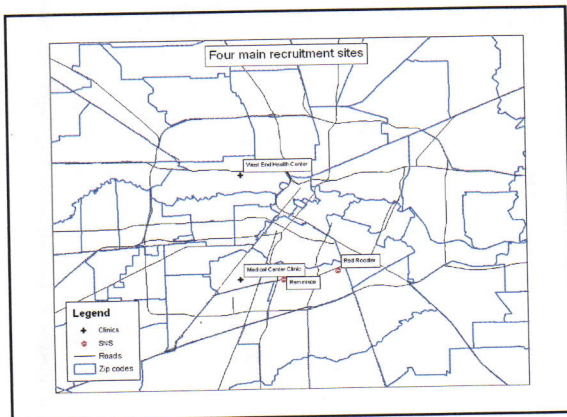
Sampling Frame 2: Male (N=66) and Female (N = 92) attendees at 2 participating club/bars

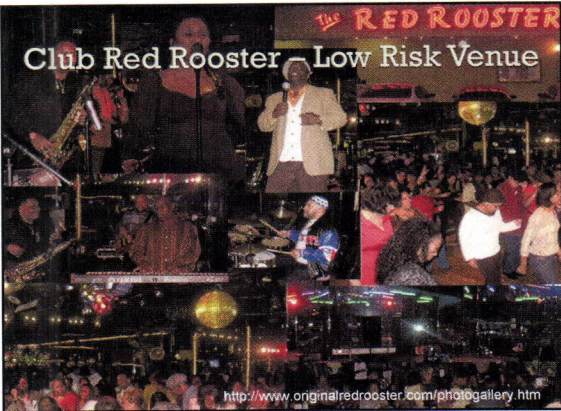
- Reminisce and Red Rooster
- Had option to received free urine screening

*All study subjects gave informed consent
Study approved by UT's IRB and CDC's IRB*

Outcome variables

- Risk index -defined as safe or unsafe sex
 - Safe sex – used a condom always
 - Unsafe sex – did not always use a condom

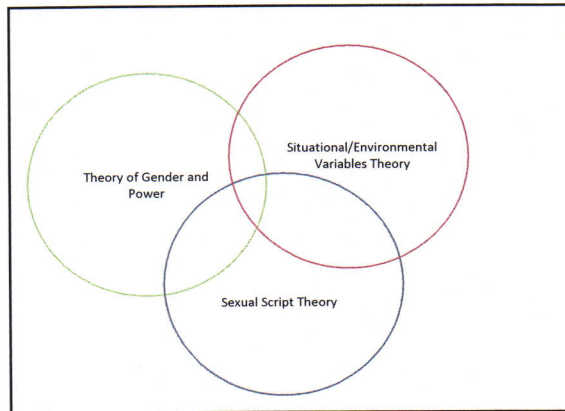




An analysis of three theories as they relate to risky sexual behavior among AA adults

Theoretical Perspective

- Theory of Gender and Power
- Situational/Environmental Variables Theory
- Sexual Script Theory
- Premise : A look at each theory and relevant elements
 - Not a test of theories against on another
 - Constructs of the theory overlap
 - Variables in questionnaire often apply to more than one theory



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Theory of Gender and Power

- Dr. Gina Wingood's perspective:
 - Social cathexis – emotional and sexual attachments women have with men
 - Sexual division of power – disempowerment of women by the media via sexual degradation
- Premise: Gender and power imbalances in male-female relationships contribute to risky sexual behavior for women

Situational Variables/ Environmental Variables Theory

- Theory elements impacting sexual decisions:
 - The basis in which a situation is perceived
 - The emotion in the situation
 - The normative way an individual deals with the situation
 - An individual's skills in dealing with issues presented in the situation

image from Rachel Jones, PhD, RN's sxtechconference.org

Sexual Script Theory

- Idea that sexuality is learned based on environmental messages defining:
 - 'What is a sexual act?'
 - 'How one knows they are in a sexual situation?'
 - 'How one behaves when a sexual situation arises?'
- Sexual scripts describe how people sort out ideas, beliefs, and expectations about sexual behaviors

Image from Rachel Jones, PhD, RN's stxtechconference.org

Results

- Frequency analysis on demographic variables
- Bivariate analysis on independent variables related to dependent variables at $p < .15$ (the level recommended by Hosmer and Lemshow), then stratified by gender

Logistic regression analysis on independent variables meeting $p < .15$ in bivariate analysis; models were analyzed by theory

Demographics

Variable	Categories of Variable	Frequency (N)	Percent (%)
Gender	Female	215	100
	Male	0	0.0
Age	18-19	12	5.6
	20-24	56	26.0
	25-30	23	11.6
	31 and older	122	58.8
Race	African American	215	100
	Hispanic or Latino	1	0.5
	White	2	1.4
	Other	1	0.5
Education Completed	Elementary School	1	.5
	Junior High	31	14.4
	High school or GED	156	72.6
	College	27	12.6
Income (monthly)	None	215	10.7
	Less than \$500	58	26.9
	\$501 - \$1,000	47	21.9
	\$1,001 - \$1,500	32	14.9
	\$1,501 - \$2,000	21	9.8
	\$2,001 - \$2,500	14	6.5
	\$2,501 - \$3,000	8	3.7
\$3,001 and over	14	6.5	
Recruitment sites	Medical Center Clinic	215	12.56
	Male cases	0	0
	Female cases	27	100.0
	Peer Educ Health	30	13.95
	Classroom	0	0
	Female cases	20	100.0
	Peer Educator	80	37.21
	Male places	36	16.73
	Female places	44	20.47
	Peer educator	78	36.28
	Male places	30	13.96
Female places	48	22.33	

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Bivariate Analysis Theory of Gender & Power

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Layered variable	Independent variable	χ^2 test or t test	df	p value	Male (p value)	Female (p value)
None	Sex for drugs/money ^{ns}	4.12	2	.013	.33	.28
None	Place in the last 4 weeks: at a private party ^{ns}	4.73	1	0.03	.27	constant
None	Knowledge of partner's other sexual activities ^{ns}	9.99	4	.04	.29	.15
None	Symptoms of depression: a loss of appetite ^{ns}	9.45	4	.05	.21	.67
None	Age ^{ns} equal variances assumed	3.54	195	.00	.45	.24
None	Age of most recent partner equal variances assumed	2.82	195	.01	.62	.44
Medical Center Clinic	Income	14.16	6	0.03	.80	.71

Legend: ^{ns} = categorical variable signifying a χ^2 test
 = continuous variable signifying a t test
 constant = no statistics is computed because the variable is constant

Bivariate Analysis Situational/Environmental Variables Theory

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Layered Variable	Independent Variable	χ^2 test or t test	df	p value	Male (p value)	Female (p value)
None	History of homelessness	2.86	1	0.09	.51	.71
None	Whether or not the participants sought health care in the last 12 months	2.84	1	0.09	.81	.71
None	Crack cocaine use w/ last partner in the last 4 weeks	3.98	1	0.05	.18	.31
Medical Center Clinic	Place where partner was met: at a club - GC cases only	2.55	1	.11	.86	.71
West End Clinic	Type of drug used with last sexual partner - marijuana - GC cases only	4.00	1	.05	n/a	.71
Sex w/ main partner	Ecstasy or other party drugs in the last 4 weeks and Yes to sex with main partner	3.75	2	.15	.86	.51
Sex w/ main partner	Place in the last 4 weeks: private party and yes to sex with main partner	5.91	2	.05	.81	.51
Sex w/ main partner	Homeless and no to sex w/ main partner	3.12	1	.08	.54	.71
Sex w/ main partner	Places in the last 4 weeks: at work and no to sex w/ a main partner	3.71	1	.05	constant	.63
Sex w/ casual partner	Crack/cocaine in last 4 weeks and Yes to sex with casual partner	3.94	2	0.14	.70	.21
Sex w/ casual partner	Place in the last 4 weeks: private party and yes to sex with a casual partner	3.51	1	.06	.13	constant
Sex w/ casual partner	Alcohol in last 4 weeks and No to sex with casual partner	6.11	2	.05	.82	.71
Sex w/ casual partner	Ecstasy or other party drugs in the last 4 weeks and No to sex with casual partner	5.94	2	.05	.70	.37

Legend: constant = no statistics is computed because the variable is constant

Bivariate Analysis Sexual Script Theory

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Layered Variable	Independent Variable	χ^2 test or t test	df	p value	Male (p value)	Female (p value)
None	Sort of partner of last partner ^{ns} = main or casual partner	11.42	2	.00	constant	constant
Georgetown cases	Place where partner was met: at a club	2.55	1	.11	.86	.71
West End Clinic	Marijuana used with last partner	4.00	1	.05	n/a	.71

Legend: ^{ns} = continuous variable signifying a χ^2 test
 constant = no statistics is computed because the variable is constant
 n/a = results applied to females only

Logistic Regression Analysis Theory of Gender and Power

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N	Missing Cases	Variable	χ^2	df	Sig.	R ²	B	S.E.	Wald Statistic	df	Sig.
Block 1	190	25	41.75	19	.00	.26					
		Sex for drugs/money					4.45	2.11	4.45	2	.11
		Sex for drugs/money - yes					3.55	1.36	6.66	1	.01
		Knowledge of partner's other sexual activities					6.40	4.17	6.66	4	.17
		Loss of appetite					-0.4	2.42	1.22	1	.27
		Age					1.04	1.99	1.36	1	.24
		Income (<\$500)					1.27	2.01	1.36	1	.24
		Income (\$1,201 - \$2,000)									

Logistic Regression Analysis Situational/Environmental Variables Theory

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N	Missing Cases	Variable	χ^2	df	Sig.	R ²	B	S.E.	Wald Statistic	df	Sig.
Block 1	197	18	9.40	4	.05	.06					
		Homelessness					-.62	.39	2.49	1	.12
		Used health care in last 12 months					.56	.30	2.40	1	.12
		Used crack in last 4 weeks - yes					3.49	1.11	2.96	1	.09
		Used crack in last 4 weeks - no					2.33	1.39	2.81	1	.10
Block 1	197	18	20.26	10	.03	.13					
		Sex with main partner					.88	.59	2.22	1	.136

Logistic Regression Analysis Sexual Script Theory

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N	Missing Cases	Variable	χ^2	df	Sig.	R ²	B	S.E.	Wald Statistic	df	Sig.
Block 1	182	33	8.35	2	.02	.06					
		Place where partner was met: at a club					.64	.38	2.80	1	.10
		Last partner was a main partner					1.27	.51	6.34	1	.01

Discussion

- Variables contributing most to the existing body of literature were:
 - A history of homelessness
 - Crack/cocaine use, specifically frequent use
 - Type of most recent sex partner

A history of homelessness

A link may exist between a history of homelessness and polygamous sexual relationships, especially among women

- Theory of Gender and Power
 - disempowerment of women due to homelessness limits control of sexual decisions for the sake of survival
- Situational/Environmental Variables Theory
 - homelessness coincides with a risky sexual lifestyle where daily survival takes precedence over healthy sexual choices.

Crack/cocaine use

- A correlation between crack/cocaine use, especially frequent use, and unsafe sex was identified.

- Situational/Environmental Variables Theory
 - Intoxications with crack/cocaine compromises an individual's innate perceptions and obscures their relative norms, thereby broadening the window of opportunity for unsafe sexual behavior.

Type of most recent sex partner

- Spouse/regular partner – safe sex
- Casual partner – unsafe sex
- Trade sex for drugs/money – unsafe sex
 - Theory of Gender and Power
 - men abuse authority and assert control in casual sex relationships, disempowering women's decision making abilities; thereby, enabling unsafe sex
 - Situational/Environmental Variables Theory
 - Trading sex for drugs may limit preparation of sex, inadvertently increasing likelihood of unsafe sex.
 - Sexual Script Theory
 - sexual scripts for types of sex partners vary, increasing or decreasing likelihood of unsafe sex

Limitations

- The 'cases' did not achieve the desired sample size
 - Decreasing power and generalizability of findings
- Some of the significant findings represent a very small % of the population
- Self-reported data has an inherent bias

Conclusions

All 3 theories are possibly insufficient within themselves to modify sexual behavior, but the combined effect may provide a broader, more holistic way of analyzing factors contributing to unsafe sex

These 3 theories should be considered in the creation of interventions geared toward reducing risky sexual behaviors among AAs

THANK YOU!!!