DIFFERENCES BETWEEN CHINESE AND AMERICAN WOMEN AND THEIR EXPERIENCE WITH STRESS URINARY INCONTINENCE IN PREGNANCY

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OBJECTIVES

- The learner will be able to describe by the end of this session:
  - The prevalence and risk factors for stress urinary incontinence globally and the inter-professional care treatment teams.
  - The differences identified between Chinese and American women related to risk factors, treatment preferences and quality of life with stress urinary incontinence.

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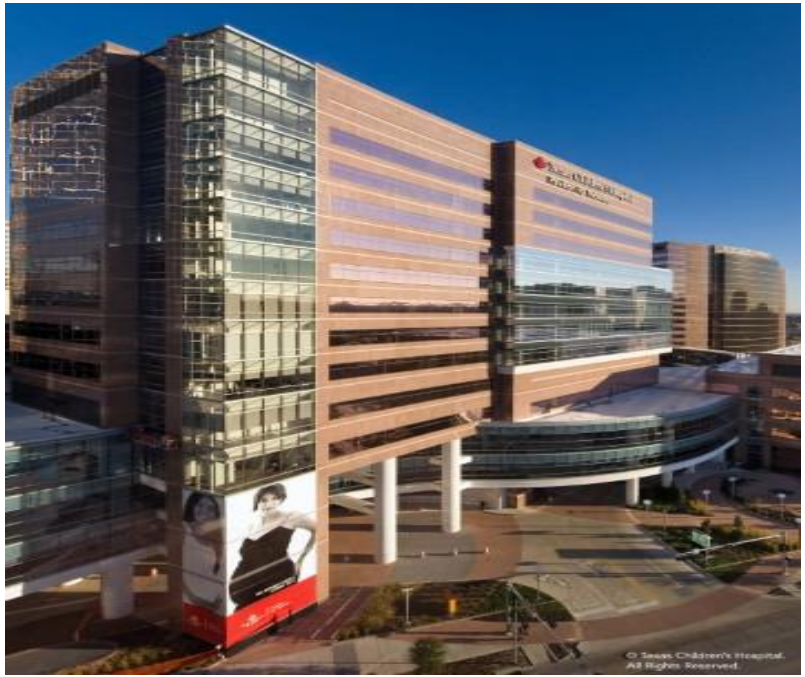
OUR TWO WORLDS



OUR COLLABORATION

- Dr. Zhair BCM Research Fellowship with Baylor College of Medicine in collaboration with the Department of OBGYN at TCH/PFW.
  - Goal:To collaborate on research that affects women globally
  - Blended our expertise in women's health and conducting research
  - Helen became part of our team!

PURPOSE & BACKGROUND

The purpose of this study was to explore the severity of Stress Urinary Incontinence (SUI) during pregnancy, its prevalence and associated risk factors, and acceptance of treatment options.

- Stress urinary incontinence (SUI) is a common health problem for childbearing women with a prevalence rate that varies between 30-60% (Fozzatti et al., 2012).
- Although known to be prevalent in women during pregnancy and postpartum, SUI is associated more with women during the menopausal stage of life.
- Recognizing the presence and significance of SUI during pregnancy may be key to preventing exacerbation of SUI later in life.
- The lack of understanding of the relationship between SUI throughout the life span may affect quality of life. High impact exercise is an activity in women of childbearing age and is known to increase SUI (Fozzatti et al., 2012).
- Examination of a multi ethnic population of pregnant women cared for in the same health system revealed significant differences related to ethnicity (Bo, Oglund, Sletner, Morkrid, & Jenum, 2012).
- Treatment can include medication, physiotherapy, and lifestyle behavioral therapy combinations (Ghaderi & Oskouei, 2014). The choice of treatment may be guided by culture and healthcare system beliefs.

RATIONALE FOR STUDY

- There is a shortage of SUI studies of women during pregnancy
  - There is a myth that it is just something that happens.
- A study of cultural differences related to SUI is rare although the phenomenon is global
  - How SUI is perceived by different ethnic groups cared for in two different health care systems has not been explored.
- There is insufficient research on the prediction of SUI
  - This comparison study would support creation of a prediction model for women early in life.

DESIGN & METHODS

- **Design:** descriptive correlational and cross-sectional
- **Methods:** A total of 356 postpartum women in China and the United States of America (USA) responded to an in person survey between September 2014 - September 2016.
- **Inclusion criteria:** Primigravida women, during the postpartum period, to assess their perceptions of SUI during their index pregnancy.
- **Exclusion criteria:** Multigravida, disease of urinary system, physiological defect, critical illness
- After informed consent, women completed a short demographic survey and two known validated measures:
  - The Incontinence Impact Questionnaire (IIQ)
  - International Consultation on Incontinence Questionnaire Short Form (ICIQ-SF)

RESULTS

- Demographics & Pregnancy:
  - American women had less health problems prior to pregnancy (p = .01) and had higher education (p = .00) whereas more Chinese women were married (p<.001) and worked outside the home (p =.00). .
  - More Chinese women experienced an episiotomy than American women
  - Chinese and American women both exercised before and during pregnancy with differences noted related to time and intensity (p< .001).
  - American women rated their state of health postpartum significantly greater than Chinese women (p = .00).
- Prevalence and Treatment
  - Overall, 37% of women experienced urinary incontinence with Chinese women having experienced more incontinence than American women (p = .0001).
  - More women in China would consider prevention and treatment during pregnancy (p < .0001). There are significant differences between acceptable prevention and treatment interventions.
  - There were no differences overall between Chinese and American women on the ICIQ-SF scores (p = .126).
  - All women would welcome pelvic floor conditioning with other treatments differing by culture.

DEMOGRAPHICS

	China N=178	US N=178	*T/χ2/Z*	*P* Value
Race				
American Indian（Non Hispanic）	0	1（0.58%）	324.05	<0.001
Asian（Non Hispanic）	178（100%）	7（4.05%）		
Black/African American（Non Hispanic）	0	39（22.54%）		
White（Non Hispanic）	0	87（50.29%）		
Other（Non Hispanic）	0	4（2.31%）		
American Indian（Hispanic）	0	2（1.16%）		
Asian（Hispanic）	0	1（0.58%）		
White （Hispanic）	0	26（15.03%）		
Other（Hispanic）	0	6（3.47%）		
Marital status				
Unmarried	7（3.93%）	53（30.46%）	45.17	<0.001
Married	171（96.07）	120（68.97%）		
Divorced	0	1（0.57%）		
Education background	162.94±917.85	192.23±917.85	2.82	<0.05
-More US Women had Masters or higher education				
Previous pregnancy loss				
Yes	51（28.65%）	33（18.54%）	5.92	0.052
No	127（71.35%）	144（80.90%）		

COMPARISON OF HEALTH HISTORY

	China N=178	US N=178	*T/χ2/Z*	*P* Value
Health problems prior to pregnancy				
None	122 (68.54%)	159 (89.33%)	23.13	<0.001
Health problems during pregnancy				
No	133(72.28%)	149(83.71%)	6.86	<0.05
Chronic respiratory diseases	6(3.26%)	9(5.06%)	0.73	0.392
Hypertension	6(3.26%)	5(2.81%)	0.06	0.802
Diabetes	10(5.43%)	4(2.25%)	2.47	0.116
Heart disease	3(1.63%)	2(1.12%)	0.17	0.680
Urinary system diseases	15(8.15%)	1(0.56%)	12.34	<0.001
Other	13(7.07%)	9(5.06%)	0.64	0.424
Urinary tract infection (UTI) during pregnancy				
Yes	30	28	0.05	0.83
No	148	147		
Family history of SUI				
Yes	152	26	0.61	0.43

PREGNANCY

	China N=178	US N=178	*T/χ2/Z*	*P* Value
Mode of Delivery				
vaginal delivery	118	102	2.83	0.09
cesarean	60	75		
Reason of cesarean				
Selective caesarean	14	0	16.83	<0.01
Non-selective caesarean	46	64		
Episiotomy				
Yes	38	2	36.50	<0.01
Shoulder dystocia				
Yes	3	1	1.01	0.31
Aiding-birth				
Yes	3	6	1.99	0.37
laceration of cervix				
Yes	168	9	9.27	0.00

COMPARISON OF SUI SYMPTOMS (ICIQ-SF)

	China	US	*P* Value
	N=178	N=178	
SUI			
Yes	76（43%）	58（33%）	0.049*
No	102 (57%)	120 (67%)	
Weeks pregnant experienced SUI M(SD) (range 2-40)	22.00±8.2	26±7.6	0.003*
How often do you leak urine? (range 0-5)	.17±.96	.26±.92	
How much urine do you usually leak? (range 0-3)	.75±.92	.57±.87	
Overall, how much does leaking urine interfere with your everyday life? (range 0-10)	.97±1.52	.67±1.52	
Total ICIQ-SF score	2.41±3.04	1.91±2.88	.126

ICIQ-SF Severity scores slight (0-5) moderate (6-12), severe (13-18), very severe (19-21) (Klovning, et al. 2009)

*p value < .05

INFLUENCE ON LIFE (IIQ-SF)

Has urine leakage affected your…	China N=178	US N=178	*P* Value
1. Ability to do household chores	.17±.46	.15+.54	
2. Physical recreation	.32±.64	.20+.63	
3. Entertainment activities	.44±.77	.17+.61	
4. Travel by car or bus more than 30 minutes from home	.30±.68	.19+.64	
5. Participation in social activities outside your home	.54±.90	.18+.62	
6. Emotional health	.37±.65	.18+.61	
7. Feeling Frustrated	.36±.68	.22+.68	
Physical Activity (1&2)	8.2±16.19		<0.001
Travel (3&4)	12.59±20.25		<0.001
Social Relationships (5)	12.42±19.06		<0.001
Emotional Health (6&7)	17.99±30.20		<0.001
(range 0, not at all to 3, greatly) adjusted to scale of 0-100			

Note: scores are statistically different, yet overall low between “not at all” to slightly”

ACCEPTANCE OF PREVENTION & TREATMENT

		China N=178	US N=178	$\chi 2$	*P* Value
None	No	87（48.88%）	120（67.42%）	12.57	<0.001
	Yes	91（91%）	58（32.58%）		
Pelvic floor muscle exercises	No	121（67.98%）	93（52.25%）	9.18	.002
	Yes	57（32.02%）	85（47.75%）		
Weight control/weight loss	No	132（74.16%）	114（64.04%）	4.26	.039
	Yes	46（25.84%）	64（35.96%）		
Correct constipation	No	168（94.38%）	136（76.40%）	23.06	<0.001
	Yes	10（5.62%）	42（23.60%）		
Changing physical activity	No	126（70.79%）	123（69.10%）	0.12	0.729
	Yes	52（29.21%）	55（30.90%）		
Quit Smoking	No	172（96.63%）	156（87.64%）	9.92	.002
	Yes	6（3.37%）	22（12.36%）		

ACCEPTANCE OF PREVENTION & TREATMENT

		China N=178	US N=178	$\chi 2$	*P* Value
Modifying fluid intake	No	145（81.46%）	140（78.65%）	0.44	0.507
	Yes	33（18.54%）	38（21.35%）		
Avoiding fluids to decrease bladder fullness	No	163（91.57%）	158（88.76%）	0.79	0.373
	Yes	15（8.43%）	20（11.24%）		
Weight vagina cones	No	173（97.19%）	162（92.70%）	3.74	0.05
	Yes	5（2.81%）	13（7.30%）		
Electrical Stimulation	No	136（76.4%）	168（94.38%）	23.06	<0.001
	Yes	42（23.6%）	10（5.62%）		

DISCUSSION & FUTURE RESEARCH

- There are significant differences between Chinese and American women related to prevalence, the presence of the risk factor of exercise and acceptable prevention and treatment interventions.
  - More American women chose none when asked which prevention and treatment would they consider.
  - Future research is needed on why women would not choose treatment
- Matching women's beliefs and understanding with acceptable treatment in relationship with the culture of the society and health care system, may improve care over time.
  - Qualitatively what is the perception of the relationship between pregnancy and SUI over time?
- Identifying the problem early and accepting prevention intervention is key.
  - First level intervention to identify women at risk and intervene early by testing an early detection system developed using prediction modeling.
  - Evaluate uptake of acceptable interventions during pregnancy.
  - Gold standard: Longitudinal study to assess SUI over time after pregnancy

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COMMENTS/QUESTIONS?

DR ZHAI WOULD WELCOME COLLABORATORS

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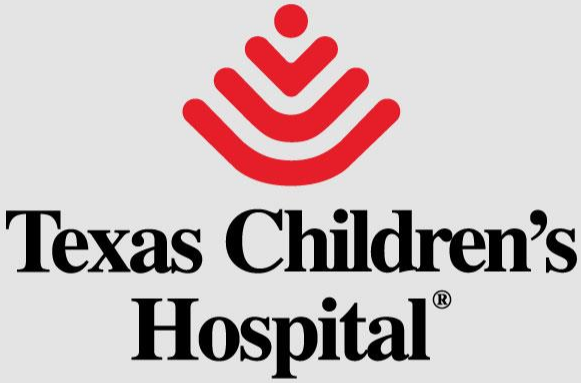

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