

Nazia Rahman^{1,3}, Roberta Lugo Robles^{2,3}, Nicholas Magno², Hsing-Chuan Hsieh^{1,3}, Sandra Waggoner^{1,3}, Tzu-Cheg Kao², Realisha Smith^{3,4}, Tahaniyat Lalani^{1,3,4}, Eric Garges^{1,2}

1. Infectious Disease Clinical Research Program, Department of Preventive Medicine and Biostatistics, Uniformed Services University of the Health Sciences, Bethesda, MD, USA
 2. Department of Preventive Medicine and Biostatistics, Uniformed Services University of the Health Sciences, Bethesda, MD, USA
 3. The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc., Bethesda, MD, USA
 4. Naval Medical Center Portsmouth, Portsmouth, VA, USA

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Abstract

Background
 In the U.S., military members experience a higher incidence of sexually transmitted infections (STIs) than the age and gender-adjusted general population, placing a costly and preventable burden on the military health system (MHS). These increased rates are likely due to differences in both individual and network level risk factors. To assess the feasibility of a survey examining the impact of sexual network risk factors on risk, a survey assessing STI individual and network level risk factors to include a 90-day sexual partnership inventory was piloted at a single military medical center.

Methods
 A sample of 50 military beneficiaries completed a computer-assisted self-interview (CASI) cross-sectional egocentric survey administered on a tablet. Demographical and clinical data were captured from the electronic medical record.

Results
 45 of 50 subjects (90%) completed the survey. 40 (88%) subjects completed at least one partnership survey and reported 1 to 20 partners per subject. Respondents were mostly active duty (91.8%) and had been active duty for less than five years (68.2%). Common risk behaviors were explored and included meeting partners online (68.75%) and having partners who use drugs (48.94%) or are heavy drinkers (44.68%). Partnership inventories suggest sexual concurrency and disassortative mixing on age, racial and ethnic groups, and military service.

Discussion
 While previous studies demonstrate that military members will complete sexual risk behavior surveys, this pilot egocentric partnership study demonstrates their willingness to provide detailed information on risk behaviors as well as detailed information on sexual partnerships. While we report on statistically significant associations, these may be subject to bias due to the underlying characteristics of the source population. As a result, these data will not likely be reflected in the full study population. 80% of pilot subjects completed the questionnaire and submitted at least one partnership survey, indicating the possibility of gathering more diverse individual sexual risk questionnaires from active duty service members. Based on these data, the survey instrument was refined and a multisite study of sexual networks was implemented in the MHS that is currently under analysis.

Background

- U.S. military servicemembers experience a higher incidence of sexually transmitted infections (STIs) than the age and gender-adjusted general population. These increased rates are likely due to differences in individual- and network-level risk factors.
- Servicemembers may not be amenable to a sexual network survey due to its length, the subject matter, and the existing burden of research already placed upon them.
- Objective: assess the feasibility of a survey examining individual and network-level risk factors for STI.

Methods

- This cross-sectional study enrolled a convenience sample of 50 military beneficiaries at the Adult Infectious Disease Clinic at Naval Medical Center Portsmouth (NMCP).
- The questionnaire and partnership inventory were administered on a tablet using computer-assisted self-interview (CASI).
- Demographic and clinical data were captured from the electronic medical record.

Results

Table 1: Demographic and lifestyle factors among pilot enrollees who submitted the questionnaire.

Characteristics	n (%)	N=49
Age (median (IQR))	24 (7)	
Sex		
Male	42 (85.7)	
Female	6 (12.2)	
Trans (FTM)	1 (2.0)	
Race		
White	25 (51.02)	
Black	15 (30.61)	
Asian	3 (6.12)	
Other	1 (2.04)	
Mixed Race	5 (10.20)	
Education		
Some high school	1 (2.04)	
High school diploma or GED	19 (38.78)	
Some college or associate degree	20 (40.32)	
Currently enrolled in college	4 (8.16)	
4-year college degree	4 (8.16)	
Graduate school	1 (2.04)	
Marital status		
Never married	27 (55.10)	
Married/life partner/living with someone	10 (20.41)	
Separated/divorced	12 (24.49)	
Beneficiary status		
Active duty	45 (91.84)	
Dependent	4 (8.16)	
Rank		
Enlisted	44 (89.80)	
Officer	1 (2.04)	
Dependent	4 (8.16)	
Active Time Served		
Less than 5 years	30 (68.18)	
5 or more years	14 (31.32)	
Type of residence in the last 6 months		
Military family housing	4 (8.16)	
Housing you rent, lease, or own	34 (69.39)	
Military barracks	13 (26.53)	
Temporary facility while on deployment (e.g., tent, trailer)	1 (2.04)	
On board a ship or submarine	5 (10.20)	
Deployments		
Never been deployed	15 (34.09)	
1-3 times	28 (63.64)	
4+ times	1 (2.27)	
Permanent Change of Station (PCS) in the past 10 years (median (IQR))	1 (3)	

Results (cont.)

Figure 1: Questionnaire and partnership inventory completion among pilot subjects.

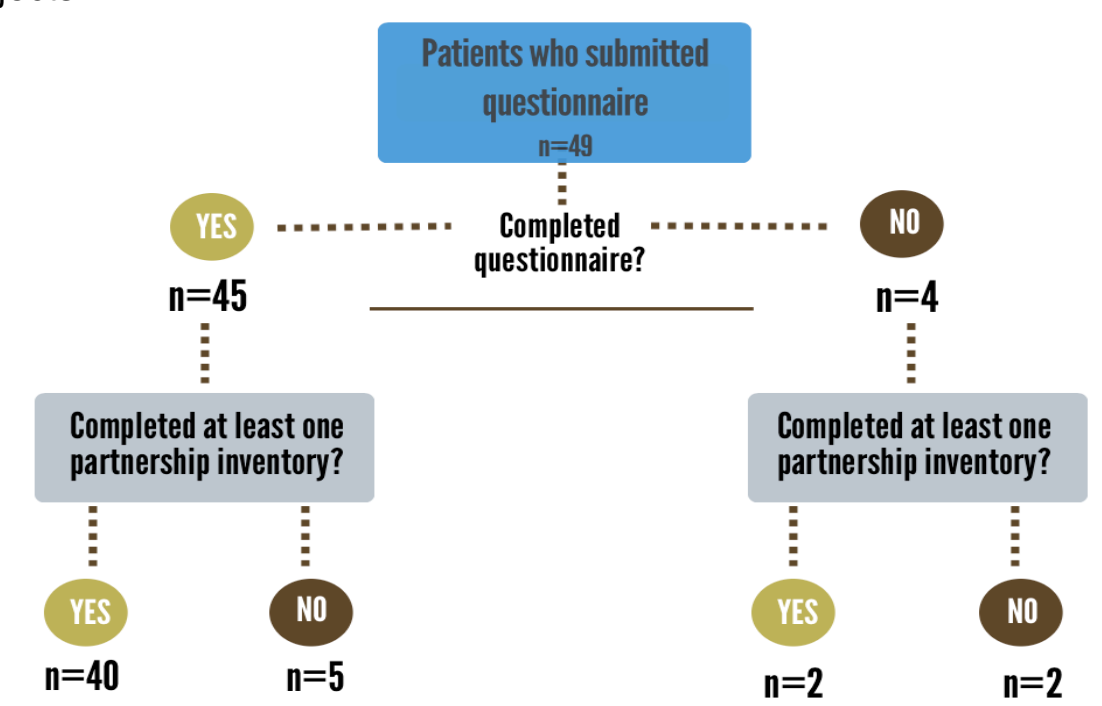


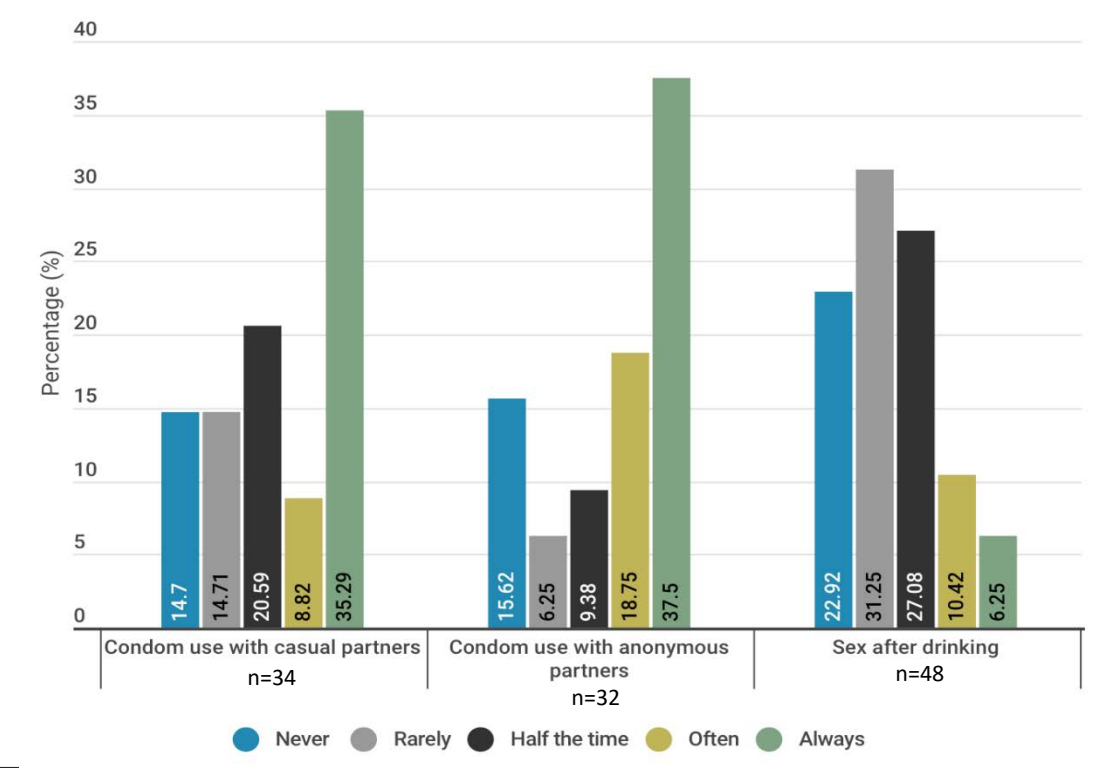
Table 2: Frequency of STI risk behaviors.

Characteristics	n (%)	N=49
Age at first sex (median(IQR))	17 (3)	
Casual partners (median(IQR))	25(35)	
Anonymous partners (median(IQR))	10 (40)	
Proportion of lifetime partners who are heavy drinkers* (frequency%)		
None	12 (25.53)	
Some	21 (44.68)	
About half	5 (10.64)	
Most	7 (14.89)	
All	1 (2.13)	
Proportion of lifetime partners who use drugs (frequency (%))		
None	17 (36.17)	
Some	23 (48.94)	
About half	3 (6.38)	
Most	3 (6.38)	
Number of female sexual partners over the last 6 months (median (IQR))	0 (2)	
Number of male sexual partners over the last 6 months (median (IQR))	1 (4)	
New partners over the last 6 months (frequency (%))		
None	13 (27.08)	
1	7 (14.58)	
2-4	13 (27.08)	
5-9	8 (16.67)	
10-19	24 (8.33)	
20 or more	2 (4.17)	
Sex after using drugs in the last 6 months (frequency (%))		
Never	43 (91.49)	
Sometimes	1 (2.13)	
Often	3 (6.38)	
Relative number of sexual partners after moving to a new place (frequency (%))		
More partners	10 (20.83)	
Fewer partners	15 (31.25)	
Same number of partners	20 (41.67)	
Using the internet to meet partners (frequency (%))		
No	14 (29.17)	
Yes	33 (68.75)	
Mixing by age group (based on partnership inventory) (frequency (%))		
No	12 (28.57)	
Yes	30 (71.43)	
Mixing by race (based on partnership inventory) (frequency (%))		
No	18 (42.86)	
Yes	24 (57.14)	

* Heavy drinking is defined as men who drink ≥15 drinks per week and women who drink ≥8 drinks per week.

Results (cont.)

Figure 2: Frequency of STI risk behaviors.



Discussion

- Servicemembers and beneficiaries at NMCP may be willing to provide detailed information on risk behaviors and sexual partnerships.
- 40 (80%) pilot subjects completed the questionnaire and submitted at least one partnership inventory. We may therefore be able to gather more diverse questionnaires from servicemembers and beneficiaries.
- The clinic population recruited for this pilot may not reflect the population of servicemembers and beneficiaries at NMCP, nor the military at large. Therefore, data generalizability from this analysis is highly limited.
- Responses to the pilot survey allowed the study team to refine the survey instrument and the enrollment strategy to allow for a more generalizable sample.
- Based on these data, a multisite study of sexual networks was implemented in the MHS (n=823) that is currently under analysis, to include factors of mixing, concurrency, and social networks.

Disclaimer

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Correspondence

Nazia Rahman, MPH | nazia.rahman.ctr@usuhs.edu