Sexual Behaviors and Attitudes of Women who are Intimate Partners of Ebola Survivors

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Background

- Ebola Virus (EBOV) RNA has been detected in survivor's semen more than 2 years after recovery. There have also been documented cases of Ebola virus disease (EVD) among female sexual partners of male survivors of Ebola.
- WHO guidance for prevention of sexual transmission of EVD during the outbreak changed as data became clearer. Ultimately the WHO recommended abstinence or 'safer sex' until a male partner had two negative semen tests post Ebola treatment unit (ETU) discharge.
- Research on sexual behaviors and attitudes has centered on male EVD survivors and not their partners.

Purpose

• To describe the attitudes regarding EBOV transmission risk and sexual behaviors of women who have had condomless sex with male survivors of Ebola in Liberia, West Africa.

Methods

- This study was completed within the context of a longitudinal study of Ebola survivors in Monrovia, Liberia.
 - Recruitment coupons with contact information were given to male survivors to distribute to sexual partners and eligibility criteria were explained. All referral was voluntary.
- Inclusion Criteria: Women at least 18 years of age, with a self-reported history of condomless sex with a survivor of EVD after their discharge from an ETU.
- 30 women were enrolled and surveyed regarding their sexual behaviors with a focus on risk perception and sexual behaviors.
- Mixed-method quantitative and qualitative assessment of survey responses was completed. Content analysis was used to consider open-ended questionnaire responses.

TABLE 1: Demographic characteristics and self reported sexual behaviors (N=30)

Age at study entry (years) Median Age: 30		
18-25	12 (40%)	
26-39	12 (40%)	
40-59	6 (20%)	
Cohabitation with EVD surviving partner		
Lived with partner during their initial symptom presentation	13 (43%)	
Did not live with current partner during their initial symptom presentation	17 (57%)	
Timing of initial condomles survivor	s sex with EVD	
Less than 3 months	4 (13%)	
3months to 6 months	12 (40%)	
More than 6 months to less than 1 year	8 (27%)	
1 to 2 years	2 (7%)	
More than 2 years	4 (13%)	

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TABLE 2: Representative quotations from qualitative analysis

Theme	Representative Quote
meme	
Inaccurate perception of risk of sexual transmission	My partner and I had sex without a co the ETU, after two weeks, because he prove so I was not afraid [Age, 33, Par
Dislike of condoms	We did not used condom because we [Age, 40, Participant ID_28].
Preference for abstinence	My husband and I waited for more the because I was afraid to get sick. I deci the WHO said to be safe. [Age, 34, Par
Respect for health care worker advice	Once he was treated and discharged [workers told [me] to wait. [Age, 41, Pa

uency of condomless sex with EVD vor			
e'	0		
w times'	1 (3%)		
y times'	29 (97%)		
Survivor Partner's Semen Testing ory			
ast 2 documented en tests	30 (100%)		
ive semen testing ts	3 (10%)		
nt condom use with any partner			
eported sex in last 30	8 (27%)		
ondomless sex in last ays	1 (5%)		
e condomless sex in 80 days	1 (5%)		
condomless sex in last ays	20 (91%)		

ondom right after his discharge from was declared well with certificate to rticipant ID_19].

felt safe, besides I don't like condom.

han six months before having any sex cided to go extra 3 months from what articipant ID 27].

[I] waited for the time that the health Participant ID_18]

Results

- 30 women participated in the study (age range 19-53 years)
- Most women were aware of the potential for sexual transmission of EBOV, but only half (50%) reported using any safer sex strategy to reduce this risk.
- Most participants reported condomless sex within 6 months of their partner's discharge from an ETU.
- Qualitative analysis identified the following major themes when analyzing women's perceptions of their risk for sexual acquisition of EBOV:
 - > An inaccurate perception of risk of sexual transmission of EVD
 - Negative attitudes towards condoms
 - A preference for abstinence
 - Respect for health care worker advice

Conclusion

- regarding timing and persistence of risk.
- transmission.
- and during semen testing.

Acknowledgement/References

- *Mortal Wkly Rep*. 2015;64(17):479-481.
- 2017;377(15):1428-1437. doi:10.1056/NEJMoa1511410
- 2015;373(25):2448-2454. doi:10.1056/NEJMoa1509773
- 109X(16)30243-1



• Women were aware of the potential for the sexual transmission of EBOV, but there were misunderstandings

• Women saw their partner's recovery from acute illness and/or a certificate of EVD recovery as protective against sexual

• There are opportunities for intervention to address gaps in knowledge and risk perception among women regarding the sexual transmission of Ebola. Including clear and concise communication from trusted sources as well as strategies to mitigate this risk, and counseling of survivors on ETU release

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^{1.} Christie A, Davies-Wayne GJ, Cordier-Lassalle T, et al. Possible sexual transmission of Ebola virus - Liberia, 2015. MMWR Morb

^{2.} Diallo B, Sissoko D, Loman NJ, et al. Resurgence of Ebola Virus Disease in Guinea Linked to a Survivor With Virus Persistence in Seminal Fluid for More Than 500 Days. Clin Infect Dis Off Publ Infect Dis Soc Am. 2016;63(10):1353-1356. doi:10.1093/cid/ciw601 3. Deen GF, Broutet N, Xu W, et al. Ebola RNA Persistence in Semen of Ebola Virus Disease Survivors - Final Report. N Engl J Med.

^{4.} Mate SE, Kugelman JR, Nyenswah TG, et al. Molecular Evidence of Sexual Transmission of Ebola Virus. N Engl J Med.

^{5.} Sissoko D, Duraffour S, Kerber R, et al. Persistence and clearance of Ebola virus RNA from seminal fluid of Ebola virus disease survivors: a longitudinal analysis and modelling study. Lancet Glob Health. 2017;5(1):e80-e88. doi:10.1016/S2214-

^{6.} Fischer WA, Brown J, Wohl DA, et al. Ebola Virus Ribonucleic Acid Detection in Semen More Than Two Years After Resolution of Acute Ebola Virus Infection. Open Forum Infect Dis. 2017;4(3):ofx155. doi:10.1093/ofid/ofx155 7. World Health Organization. Interim Advice on the Sexual Transmission of the Ebola Virus Disease.; 2016. https://www.who.int/reproductivehealth/topics/rtis/ebola-virus-semen/en/