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ZINC INDUCES LIPOPOLYSACCHARIDE-MEDIATED UPREGULATION OF HUMAN β -DEFENSIN-2 IN HUMAN PROSTATE EPITHELIAL CELLS

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Introduction & objectives: Zinc is considered to be one of the most essential trace minerals for the immune system. High levels of prostatic zinc are associated with prostatic antimicrobial activities. Zinc-deficient individuals experience increased susceptibility to a variety of pathogens. Zinc appears to play a crucial role in maintaining prostate health. This study aimed to clarify the role of zinc in human prostate epithelial cell defense against bacterial infection.

Methods: To explore the effect of zinc on lipopolysaccharide (LPS)-mediated induction of human β -defensin-2 (HBD-2), the normal human prostate epithelial cell lines (RWPE-1) were co-treated with zinc/LPS and HBD-2 mRNA expression was quantitated by the reverse transcription polymerase chain reaction (RT-PCR). We also conducted a Western blot analysis to determine whether zinc stimulates p38 mitogen-activated protein kinase (MAPK) and extracellular signal-regulated kinase-1 and -2 (ERK1/2) signaling pathways. To investigate the involvement of the p38MAPK and ERK1/2 signaling pathways in zinc-mediated upregulation of HBD-2, quantitative real-time PCR and immunocytochemical staining were then used to quantify HBD-2 mRNA expression and protein production, respectively, which was treated with either U0126 (ERK1/2 inhibitor) or SB203580 (p38MAPK inhibitor) prior to each analysis of HBD-2.

Results: Cotreatment of RWPE-1 cells with zinc/LPS-upregulated HBD-2 expression to an even greater extent than either LPS alone or zinc alone. Moreover, the treatment of RWPE-1 cells with zinc significantly increased both the total and phosphorylated forms of ERK1/2 and p38MAPK. ERK1/2 and p38MAPK signaling via the inhibitors U0126 and SB203580 pharmacologically inhibited zinc-mediated upregulation of HBD-2.

Conclusions: These results strongly suggest that zinc plays an important role in the immune response of the prostate. Furthermore, we demonstrate that zinc-mediated upregulation of HBD-2 expression upon bacterial infection of prostate epithelial cells involves the ERK1/2 and p38MAPK signaling pathways.

Keywords: Zinc, defensin, prostate

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BIASES OF VISUAL ATTENTION IN SEXUAL ANXIETY: AN EYE-TRACKING STUDY

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Purpose: Eye-tracking may aid in understanding the cognitive processes involved in processing sexually appetitive material. The aim of this study was to examine the correlation of visual attention to sexual stimuli and personal sexual anxiety (SA).

Method and material: 19 heterosexual adults completed Sexual Anxiety Scale to measure personal SA and an eye-tracking task used free-viewing paradigm. Participants were presented with a couple array composed of hard-core, soft-core, and neutral interaction for 3s in each trial. Eye tracking was recorded throughout the trial to assess

the attentional processing including first looks towards, percent time looking at, and probability of looking at, defined regions of the pictures.

Result: Higher level of SA for "Sexual Communication" had initial orienting bias and higher fixation probability for faces in hardcore stimuli, but did not exhibit in soft-core and neutral stimuli. No correlation was found for "Solitary and Impersonal Sexual Expression" and "Exposure to Information".

Conclusions: The present findings suggest that sexual communicate anxious individuals are characterized by enhanced engagement with sexual threat at an early stage of processing and difficulty in disengaging from emotional clues once their initial attention is located on it.

Keywords: sexual anxiety, visual attention, eye-tracking

Conflict of Interest and Disclosure Statement: None.

SEXUAL ORIENTATION AND DRIVE: A COMPARATIVE PILOT STUDY ON SEXUAL DESIRE

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Introduction & objectives: Many studies addressing sexual drive and hypersexuality stated that homosexuals are used to report higher levels of sexual desire and compulsive sexual behaviors. Literature showed a lack of comparisons between perceived level of desire in hetero and gay population. This study aims to analyze some variables which could predict levels of sexual desire in both heterosexual and homosexual men such as sexual satisfaction, distress, sexism and dysfunctional sexual beliefs.

Population sample: 312 male subjects (239 heterosexuals and 73 homosexuals) were recruited on internet. The average age was 31.95 (SD = 9.62), ranged between 18 and 72 years.

Method(s): A self-administered online survey was available from March 2015 to April 2016. It was composed of 13 questionnaires exploring biopsychosocial elements involved in sexual response: IIEF, SSS-M, SDS-M, ASI, and SDBQ.

Results: No significant difference was found between sexual orientation and self-reported level of sexual desire. Independently from their orientation, subjects with high level of desire reported less distress ($F_{(2,287)}=3.11, p<.05$) and more satisfaction with their sex life ($F_{(2,287)}=9.54, p<.001$). Gay reported lower levels of sexism and dysfunctional sexual beliefs, especially to stereotypical beliefs about male ($F_{(1,283)}=15.72, p<.001$). Dysfunctional sexual beliefs predicted lower desire level on heterosexual men, but not on homosexuals.

Conclusion & recommendations: This study highlighted how sexual orientation had no direct effect on sexual desire level. Differences between heterosexuals and homosexuals, if any, should be search in frequency of sexual activity, easier accessibility to sex, meaning of sex for male and gay identities, and the secondary benefit which sex could lead to (physical contact, pleasure, temporary filling of "emptiness" feelings, sense of belonging to a minority) more than directly to sexual desire level. Moreover, homosexual people reported to be more free from some stereotypes which, in heterosexuals, are strictly connected with sexual dysfunctions.

Keywords: sexual desire, homosexuality, stereotypes

Conflict of Interest and Disclosure Statement: None.

FRATERNAL BIRTH ORDER AND ANAL-EROTIC ROLES OF MEN WHO HAVE SEX WITH MEN

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Introduction and objective: The *fraternal birth order effect* (FBOE) describes the phenomenon that homosexual men tend to have a greater number of older brothers than do heterosexual men. FBOE is widely believed to be a phenomenon that is a marker for an innate, biological predisposition for androphilia in chromosomal males, and it is "the most consistent biodemographic correlate of sexual orientation in men" (Bogaert, 2006, p. 10771). The objective of the study was to determine whether FBOE applies to all men who have sex with men (MSM), or only to MSM whose anal intercourse behavior is predominantly receptive (*Bottoms*).

Population sample and methods: The study participants included 211 North American adult MSM who had engaged in anal intercourse with a male during the preceding year. Each participant was surveyed as to whether his anal intercourse