Direct-to-consumer TV advertising associated with greater testosterone testing, new use, and use without testing

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Televised direct-to-consumer advertising for testosterone therapies increased across U.S. metropolitan areas between 2009 and 2013, and exposure to these ads was associated with greater testosterone testing, new use of testosterone therapies, and use without recent testing, according to a study published by *JAMA*.

Testosterone therapies were originally approved to treat hypogonadism (a condition in which the body doesn't produce enough testosterone) resulting from the disruption of the pituitary-hypothalamus-gonadal axis. Now many men take or are prescribed testosterone for age-related reduced testosterone levels or nonspecific symptoms without pathological hypogonadism.

Testosterone initiation increased substantially in the United States from 2000 to 2013, especially among men without clear indications. Direct-to-consumer advertising (DTCA) also increased during this time.

J. Bradley Layton, Ph.D., of the University of North Carolina at Chapel Hill, and colleagues examined associations between televised DTCA and testosterone testing and initiation in 75 designated market areas (DMAs) in the United States. Monthly testosterone advertising ratings were linked to DMA-level testosterone use data from 2009-2013 derived from commercial insurance claims.

Associations between DTCA and testosterone testing, initiation, and initiation without recent baseline tests were estimated. Initiation of testosterone gels, patches, injections, or implants was defined as pharmacy dispensing or in-office receipt identified through procedure codes of testosterone following six months without prior testosterone receipt.

Of 17,228,599 commercially insured men in the 75 DMAs, 1,007,990 (average age, 50 years) had new serum testosterone tests and 283,317 (average age, 52 years) initiated testosterone treatment. Advertising intensity varied by geographic region and time, with the highest intensity seen in the southeastern United States and with months ranging from no ad exposures to an average of 13.6 exposures per household. Nonbranded advertisements were common prior to 2012, with branded advertisements becoming more common during and after 2012. Each household advertisement exposure was associated with a monthly increase in rates of new testosterone testing, initiation, and initiation without a recent test.

"Although the average increase in testosterone rates associated with a single ad exposure was less than 1 percent, advertisements were widespread and frequent during the study period; with cumulative ad exposures of close to 200 in some DMAs, DTCA was associated with substantial overall increases in testosterone testing and initiation," the authors write.

"While other studies have demonstrated associations between DTCA and increasing medication use, this study demonstrates increases in potentially inappropriate use and increasing initiation during a time when most testosterone use was of questionable value for age-related testosterone decreases without strong evidence of benefit," the researchers write. "This study complements many others that suggest the contribution that DTCA may make in the early adoption of recently

approved treatments whose risk-benefit profile may be quite unclear."

More information: *JAMA*, jamanetwork.com/journals/jama/ … 1001/jama.2016.21041

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