

# Hubungan lingkungan kerja panas dengan kristalisasi urin pada pekerja di bagian dapur RS X Tangerang = Relationship between hot working environment and urine crystallization on the kitchen workers of Hospital X Tangerang

Aynita Halim, author

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## Abstrak

[<b>ABSTRAK</b><br>

Latar belakang: Berdasarkan data riskesdas 2013, prevalensi batu saluran kemih di Indonesia adalah 0,6 persen. Batu saluran kemih disebabkan oleh beberapa faktor; lingkungan kerja panas dan BJ Urin. Sebagian pekerja dapur RS X Tangerang mengeluh lingkungan kerja yang panas berlebihan sehingga berkeringat dan data medical check up tahun 2014 tidak ada pemeriksaan urin sehingga gambaran status kesehatan pekerja akibat lingkungan panas tidak dapat diketahui. Penelitian ini bertujuan untuk mengetahui hubungan lingkungan kerja panas dengan kristalisasi urin pada pekerja dapur RS X Tangerang.

Metode: Rancangan penelitian yang digunakan adalah kros sektional. Pengumpulan data dilakukan di RS X Tangerang dari bulan Januari sampai Maret 2015, dengan menggunakan kuesioner, wawancara, pemeriksaan tanda vital responden sebelum dan sesudah kerja, pemeriksaan urinalisa sebelum dan sesudah kerja serta pengukuran suhu lingkungan kerja dengan menggunakan alat area heat stress monitor Quest Stemp 36 dan perhitungannya berdasarkan Indeks Suhu Bola Basah. Berdasarkan metode total populasi dan setelah mempertimbangkan faktor eklusi dan inklusi didapatkan sampel sebanyak 105 orang.

Hasil: Prevalensi kristal urin ditemukan sebesar 6,7% pada pemeriksaan urin sebelum kerja dan 10,5% sesudah kerja. Lingkungan kerja panas tidak mempunyai hubungan yang bermakna dengan terjadinya kristalisasi urin pada pekerja ( $p=0,316$ ). BJ urin mempunyai hubungan yang bermakna dengan terjadinya kristalisasi urin ( $p<0,05$ ), dimana risiko untuk terjadinya kristalisasi urin meningkat 1,8 kali sesudah kerja. Faktor risiko lain seperti umur, jenis kelamin, riwayat penyakit, Indeks Masa Tubuh, kebiasaan makan dan minum, masa kerja, lama kerja, dan jenis pekerjaan tidak terdapat hubungan yang bermakna ( $p>0,05$ ).

Kesimpulan: Lingkungan kerja panas dan faktor risiko lainnya tidak berhubungan dengan terjadinya kristalisasi urin pada pekerja di bagian dapur RS X Tangerang. BJ Urin responden berhubungan dengan terjadinya kristalisasi urin baik pada pemeriksaan urin sebelum dan sesudah kerja, Ini berarti sebelum kerja responden sudah dehidrasi, mungkin karena kurang minum atau paparan panas sebelumnya. Ditambah lingkungan kerja panas kepekatan urin meningkat, karenanya dianjurkan pekerja mengkonsumsi cairan minimal dua liter perhari.

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<b>ABSTRACT</b><br>

Background: According to 2013 Riskesdas data, the prevalence of urinary tract calculus in Indonesia is 0.6%. Several factors like temperature of working environment and urine specific gravity contribute to the formation of urinary tract calculus. Some of kitchen workers in the hospital X Tangerang complain about their hot working environment which caused them to sweat excessively and medical check-ups data in 2014, there was no urine examination so that an overview of health status of workers due to hot environment can't be obtained. This study aims to determine the relationship between hot working environment

and urine crystallization on the kitchen workers of hospital X Tangerang

Methods: The research used a cross-sectional design. Data collection was done in Hospital X Tangerang from January to March 2015 using questionnaire, interview, and vital signs examination of the respondents before and after work, urine examination before and after work. Environment temperature was measured using area heat stress monitor Quest Stemp 36 and the calculation was done based on WBGT (Wet Bulb Globe Temperature Index). Using total population methods after considering the inclusion and exclusion factors, we acquired 105 people as samples.

Result: The prevalence of urinary crystals was 6.7% on urine samples before work and 10.5% after work. The relationship between hot working environment and the formation of crystals in the urine was not significant in the kitchen workers ( $p>0.316$ ). Urine specific gravity has a significant relationship to the formation of crystals in the urine ( $p<0.05$ ) in which the risk of the crystals formation increase 1,8 time after work. The other risk factors such as age, sex, hospital sheet, body mass index, eating and drinking habits, tenure, long working, and type of work showed no significant relationship ( $p>0.05$ ).

Conclusion: Hot working environment and the other risk factors are not related to urine crystallization in the kitchen workers of Hospital X Tangerang. Urine specific gravity is related to the formation of crystals in the urine before and after work. This means, before working respondents already dehydrated, probably due to lack of drinking or heat exposure before. Hot working environment increases urine concentration.

It's recommended for workers to consume at least two liters of fluid perday., Background:

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