



## Efficacy of stagnant chlorhexidine gluconate 0.5% solution for hand washing

Wening Sari

Faculty of Medicine YARSI University, Jakarta, Indonesia

Handwashing, the primer action to prevent cross transmission and nosocomial infection, should be done with optimal antiseptic and running water; but it is difficult under limited resources.

The aim of this study is to assess the efficacy of stagnant chlorhexidine gluconate 0.5% solution in reducing hand contamination during 5 hours observation. The specimens were taken from fingertip of 25 healthcare workers placed in nutrient agar plate before and after handwashing in stagnant chlorhexidine gluconate 0.5% at the 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> hour of observation. As control, 0,5 ml solution was taken before and after 5 hours usage to observe bacteria growth.

There was significant reduction of bacteria population in healthcare workers' hand after handwashing (p=0.00) and no significant difference between the 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> hours of handwashing (p=0.67). Bacteria growth found at 2 out of 5 sample solution.

We conclude that handwashing can reduce hand bacteria population and stagnant solution of chlorhexidine gluconate 0.5% can be used for handwashing in limited resources.

**Keywords:** chlorhexidine, hand hygiene, nosocomial infection

CDK 2009; 36 (5) : 324-327

## Susceptibility Patterns of Salmonella typhi and Salmonella paratyphi A to Ciprofloxacin, Levofloxacin, Chloramphenicol, Tetracycline, Ceftriaxone and Trimethoprim-Sulfamethoxazole in Jakarta, 2002-2008

Lucky H Moehario, Enty\*, Ariyani Kiranasari

Department of Microbiology, Faculty of

Medicine, University of Indonesia, Jakarta, Indonesia, \* Department of Microbiology, Faculty of Medicine, Catholic University of Atmajaya, Indonesia

Enteric fever caused by *Salmonella enterica* subsp. *enterica* serovar Typhi (*S. typhi*) and *Salmonella enterica* subsp. *enterica* serovar Paratyphi A (*S. paratyphi* A), still remain a global problem, especially in countries with poor hygiene. The prevalence of Typhoid Fever in Indonesia was 358-810/100,000 population in 2007, 64% was found in age 3-19 years. Mortality rate varies from 3.1-10.4% among hospitalized patients. Worldwide emergence of multi-drug resistant strains of *S. typhi* to antimicrobials Chloramphenicol, Trimethoprim-Sulfamethoxazole and Ampicillin has been reported. *S. typhi* strains resistant to fluoroquinolone has also been found in India, United States, United Kingdom, Vietnam, Korea and many more.

This study described susceptibility patterns of *S. typhi* and *S. paratyphi* A to several antibiotics in the last six years in Jakarta. *S. typhi* isolated from blood specimens in Laboratory of Clinical Microbiology, Faculty of Medicine Univ. Indonesia during 2002-2008 were tested for their susceptibility patterns to antibiotics: Ciprofloxacin, Levofloxacin, Chloramphenicol, Ceftriaxone, Tetracycline and Trimethoprim-Sulfamethoxazole. Among 35 isolates of *S. typhi*, all were found susceptible to Ciprofloxacin, Levofloxacin, Tetracycline and Trimethoprim-Sulfamethoxazole, and more than 90% were also susceptible to Chloramphenicol and Ceftriaxone. While 6 isolates of *S. paratyphi* A showed 100% sensitivity to those antibiotics tested. The results showed good susceptibility of all antibiotics against *S. typhi* and *S. paratyphi* A *in vitro*. Nevertheless, clinicians must pay attention in the interpretation of this susceptibility patterns due to low number of isolates tested.

**Key word:** *S. typhi* and *S. paratyphi* A, Ciprofloxacin, Levofloxacin, Chloramphenicol, Tetracycline, Ceftriaxone and Trimethoprim-Sulfamethoxazole.

CDK 2009; 36 (5) : 328

## Pattern of Microbes and Its Susceptibility in Dr.Oen Hospital

Rizal

Dr Oen Hospital, Central Java, Indonesia

### Abstract

Antimicrobial drug resistance is a worldwide problem that is exacerbated by the diminishing number of new antimicrobial drugs, especially in hospitals in Asia and the Pacific. As the pattern of bacterial resistance is constantly changing, monitoring of antimicrobial susceptibilities is important.

This is an analysis of antimicrobial resistance patterns of bacteria isolated from 390 various specimens from hospitalized patients and outpatients over a two-year period (January 2006 to December 2007). This report identified high rates of resistance, especially to Gram-Negative bacteria.

**Keywords :** antimicrobial, resistance, Gram-Negative bacteria

CDK 2009; 36 (5) : 330-339

## The Prospect of Nucleic-Acid Based Immune System - RNAi as Potent Antiviral Agents

Andreas Soejitno<sup>1</sup>, Prichilia Sarah Permadi<sup>1</sup>, Desak Made Wihandani<sup>2</sup>

<sup>1</sup>Undergraduate 4<sup>th</sup> Semester Faculty of Medicine Udayana University, Denpasar, Indonesia, <sup>2</sup>Department of Biochemistry and Biomolecular Faculty of Medicine Udayana University, Denpasar, Indonesia

The invention of RNA interference (RNAi) machinery as a gene expression silencer may revolutionize the approach to infectious diseases treatment. A long-standing problem such as viral resistance to chemotherapeutic agents due to the high rate of mutation seen in HIV-1 may soon be overcome by the application of RNAi as a nucleic-acid based immune system. The RNAi uses dsRNAs converted into multiple siRNAs which is designed to be highly complement to the targeted RNA (i.e. viral RNAs or mRNAs). Through the incorporation to RISC and unwinding of siRNAs, it target and bind the viral RNAs or mRNAs of interest, and subsequently destroy it before the viral RNAs are integrated into host genome or mRNAs are translated to become amino acids and later, the viral products. This article discuss future therapeutic potential of RNAi in response to viral infections.

**Keywords:** RNAi, antiviral agent, gene silencing, dsRNA, siRNA

CDK 2009; 36 (5) : 340-343