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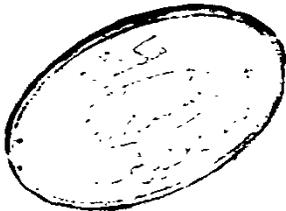
VIALB BACTERIAL COLONIES COUNT IN THE
URINE OF CHILDREN USING DIAPERS

THESIS

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ
" وَقُلْ زِدْنِي عِلْمًا "

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DEDICATED TO MY FAMILY

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Introduction

INTRODUCTION

The presence of infection in any part of the urinary system usually produces significant changes in the urine. These changes can be detected and evaluated by the methods of quantitative bacteriology and by routine procedure of urine analysis (Becker et al., 1971).

Variable methods have been used to diagnose the urinary tract infection, but mid-stream urinary viable colony count proved to be an easy and indicative method. The acceptance of popular concept that 100,000 organisms per milliliter in urine is the "Break Point" between contamination and true infection was chosen to allow for errors in collecting urine and delays in transport to laboratories (Smith, 1981). The close contact between the wet soiled diaper and the urethra might be expected to increase the chances of bacterial spread up the urethra in the age group less than 2 years of age due to the contamination (Siegel et al., 1973).

Aim of the Work:

This study is performed to find out the effect of using the commercially available synthetic diapers upon the frequency of urinary tract infection in the population groups using these diapers.

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Review of Literature

HISTORICAL REVIEW

In the 1950s there was little interest in the kidney diseases and urinary tract infection, but the clinical picture of acute pyelonephritis seemed clear and its progression to chronic pyelonephritis was easily identified (Becker et al, 1971).

In the early 1960s two observations led to concern that infections of urinary tract constituted a major unrecognized health hazard: the 1st observation, the discovery of clinically unrecognized chronic pyelonephritis in 2-20% of unselected autopsies 2nd observation, the detection of asymptomatic bacteriuria in about 6% of adult women and in 1-2% of apparently healthy female children. These two observations were interpreted as being causally related (Kunin et al, 1962).

The decade of 1965-1975 altered the perspective. It is assumed that only very few children who have urinary tract infection have serious potentially permanent or life threatening problems. Those who have repeated infections are associated with gross and easily identified structural abnormalities of

urinary tract. Such infections can pose a major risk to a child's well-being (Welch et al, 1976).

Symptomatic and asymptomatic bacteriuria during infancy are generally characterized by a benign outcome. However in some children repeated episodes may cause renal scarring and in this condition they often pose difficult management problems (Ogra and Fedin, 1985).

There was no mention of any relationship between use of diaper and health hazards until Parrot (1930) first noticed the occurrence of an eruption in the diaper area. In 1961 Burgoon and his associates first clearly stated that diaper rash is not specific disorder but rather a reaction of the skin in localized area.

Siegel et al, (1973) found the relation between use of diapers and the increase in bacterial spread up the urethra and urinary tract. Various types of diapers are now used in Egypt which are marketed under different proprietary names eg. Cuddlies R, Pampers R, Darling R, etc... .

ASYMPTOMATIC BACTERIURIA IN
THE PEDIATRIC AGE GROUP

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Asymptomatic Bacteriuria:

It is defined as bacteriuria unaccompanied by clinical symptoms. The urinary tract consists of urinary conduit, which extends from renal cortico-medullary tissue to the external urethral meatus, and the mucosal components of the external genitalia (Ogra and Faden, 1985).

Bacteria are not filtered from the blood stream by the kidney. Urine from renal pelvies, ureters and bladder should be sterile when conditions are normal. Thus, bacteria in any number detected in urine from these sources is indicative of some abnormality. The anterior urethra, on the other hand, normally contains bacteria on its mucosal surface and a voided urine sample will always contain bacteria (Stamey et al, 1965).

Bacteriuria is indicative of one of the most common infections seen by a wide variety of physicians. Because the symptoms produced by these infections vary so greatly, it is important to examine carefully, any evidence that an association of illness with bacteriuria is causal. For example, patients with

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