

## INTRODUCTION

Bed sores, also called pressure sores and decubitus ulcers, and are caused by prolonged pressure on the skin, mostly over bony areas. Small vessels become compressed, nutrients and oxygen are restricted to the skin and underlying tissue, tissue cells begin to die and slough off, so microorganisms can invade the damaged tissue causing it to become infected (**Diana, 2009**).

Pressure sores or bed sores are a common and serious complication of spinal cord injury. It is the most common sores of sepsis paraplegia (**Kevin, 2007**).

Individuals who are at risk of developing bedsores include those who are bedridden, are unable to change positions and those who use a wheelchair, advanced age, poor nutrition (obesity, underweight, protein deficiency, anemia), dehydration, poor hygiene and diabetes are other factors that increase ones risk (**Diana, 2009**).

The pressure sores are developed in stages. Stage 1 is reddening of area, stage 2 is redness with blistering of the area, stage 3 is breakdown of the uppermost layers of skin or the dermis and stage 4 is breakdown of the subcutaneous skin layers including deeper tissue and even muscle fascia. Once an ulcer or pressure sore has started, the sore is extremely hard to reverse without extraordinary means such as specialized care. Specialized care can include as load reducing surfaces such as air beds, special dressing such as permeable (breathable membrane) dressing and even in the event of some stage 4 ulcers packing and irrigation with fluids on a daily basis or more (**Vanessa, 2008**).

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A variety of microorganisms normally live on the skin without necessarily causing infection (uncomplicated skin). Infection usually caused by Gram-positive cocci of the normal microflora and wound infections in immune compromised or debilitated patients which often involve Gram-negative pathogen e.g. *Pseudomonas aeruginosa* (Ana *et al.*, 2006).

In recent years, a great deal of progress has been made in the management of bacterial infection especially that caused by *Pseudomonas aeruginosa* and *Staphylococcus epidermidis* by using natural or chemical substances that may have antibacterial activity (Aiello *et al.*, 2005). Antiseptics and disinfectants are used to minimize contamination; these include plain liquid soap, betadine and iodine (Cristina *et al.*, 2005).

The treatment of adults and children skin and skin structure infection was conducted by different antibiotics as azithromycin (Rodriguet, 1993). Antibiotics and medicinal plants as well as their extracts have been used for skin infection treatment (Jain *et al.*, 1996). Aridogan *et al.*, (2002) reported that *Mentha piperita* L. & *Foeniculum vulgare* L. have strong inhibitory effect on *Staphylococcus aureus*. Plants and plant products as essential oils have been used extensively throughout history to treat medical problems (Kalembe and kunicka, 2003).

Honey and propolise are the most important products of bees, where propolise can relieve various types of dermatitis caused by bacteria and fungi (Castaldo and Capasso, 2002). In the twentieth century the use of honey as having antimicrobial properties and aiding wound healing have been reported by Bansal *et al.*, (2005). The Russians used it in World War I to prevent wound infection and to accelerate wound healing. The Germans combined cod liver oil and honey to treat ulcers, burns, fistulas and boils (Bansal *et al.*, 2005).

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