

The antibacterial activity of three type of medicate soap on staphylococcus aureus isolated from wound infections was conducted. Fifty individual with would infection within the age range of 9-73 years were sampled. Swabsticks were used to collect specimens from wound infection. each swabstick was streaked separately over plates of nutrient and macconkey agar and later incubated at 37<sup>0</sup>c. out of the fifty (50) individuals sampled 25(50%) were mostly infected with staphylococcus aureus followed by pseudomonas acruingqu (22%) staphylococcus epidermis (10%) least by Exchericha coli b(12%) The organisms occur within the age range 9-13 years with 8 (16%) followed by 14-18 years 4(8%) next by the age range of 19-23 years 3(6%) followed by 24-28 years with 2(4%) followed 24-28 years with 2(4%) and the heart in the age range are 29-33,34-38,39-43,44-48,49-53,54-58 64-68 with 1(2%) each while there was no isolation in the age range 59-63. The study also revealed that all the staphylococcus aureus isolated were sensitive to the three medicated soap. The means of inhibition was highest in Aleppo medicated soap with 12.92 mm followed by temperate medicated soap with 11.2mm and least in carat medicated soap with 10.56 mm. Also the staphylococcus aureus isolated were also sensitive to the commercial autibutics used as couplers the means zones of inhibition was highest in ampiclox with 12.8 mm followed by gentamyain with 12.04 mm and the heart in penicillin with 10.4 mm. there was a close relationship in the zenes of inhibition between the three medicated soap and the commercial antibiotics used as coconutrels. The result showed that medicated soaps were effective against staphylococcus aureus involved in would infection in humans and are comparable to commercial antibiotics. There fore medicated soap can be used in cleaning the skin particularly in the affected part of the skin during the time one has hurt or cut on the skin.

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Table 2

Age distribution as well as percentage of each isolated organisms

Table 3

Preliminary identification of bacterial isolates

Table 4

Biochemical test carried out for identification of bacterial isolates

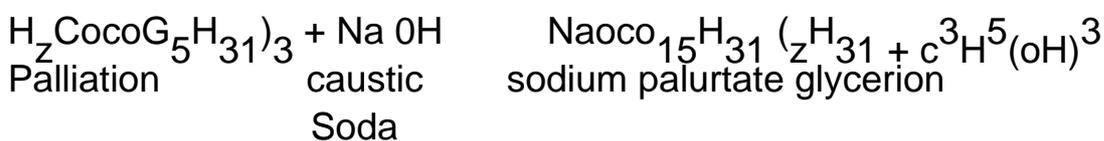
Table 5

Sensitivity test using three medicated soap and three antibiotics indicating their zones of inhibition.

## INTRODUCTION

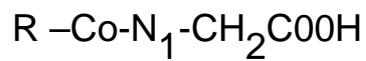
According to pelage et al (1986) antibacterial activity is the ability to either destroy bacteria or inhibit their growth. This is significant with respects to the human body in preventing sepsis and skin infections. Also Derland (1981) states that medicated soap have the germicidal substance like chloroxyhlenol potassium mercuric iodide, trichlorocarbanlide etc. incorporated into them, in order to enhance their antibacterial activity. These germicide substance are normally added in a specified amount and percentage of the substance used are always stated on the soapcase or inside the lesflet which certains the information on how to use the soap for various purposes.

Anon (1964) states that soap may be defined as a chemical compound resulting from the interaction of fathy acids oil and caustic soda (alkali) possesing the characteristic soap like properties of detergents, surface tension lowering wetting and emulsifying power and gel formation. All fatty oils and fats. Are mixtures of glycoside compounds (erters) of trihydric alcohol, glycosides and some fatty acids such as plasmatic acid the chemistry of soap manufacturing may be expressed the following equation which is know as saponification (Anon (1964).



Amon (1964) further explain that a bactericidal soap cernirts existentially of the following 0.1 to 3% weight based on the total weight of the soap.

0 to 10% by weight based on the total weight of the soap in a compound of formula



Here R represents an alkyl or alkenyl group of 8 to 18 carbon atoms.

According to Johnson (1978) antibacterial soap may include 2,4,4-trichloro 2,2-hydroxydiphenyl in an amount 0.05 to 5% by weight and at least one phosphorus oxyacid.

Phosphorus oxyacid salt phosphoric ester is represented by



Where  $\text{R}_1$  is (8-20 alkyl,  $\text{R}_2$  is hydrogen or methyl and is (1-10).  $\text{R}_1$  is the same group as  $\text{R}_2$  or H alkali metal and n is H or alkali metal. Such a soap has a wide range of antibacterial activities and marked resistance of discoloration upon exposure to sunlight (Kaw, 1981) another invention relates to an antimicrobial composition consisting of ammoniated zinc sulphate optionally formulated into sufficient formulation and toilet bars. Medicated soap incorporate in their composition germicidal agent which include hexachlorophene mercuric which trichloran, trichlorocarbaucide .

Sykes (1958) described sterilization as the complete destruction of all living matters. In medical sense, it is often used in a restricted sense to refer to the destruction of pathogenic organisms only.

According to William (1979) wound is defined as disruption of cellular and anatomic continuity while its healing is the restoration of continuity. That biological process can only be accomplished by regeneration, cell proliferation and collagen production which can be alleviated washing the wound surface especially with medicated soap which due to its content of phenolic compound help in keeping off organisms like staphylococcus aureus escherichia coli and Pseudomonas aeruginosa always from the wound to a certain stage. Wound can also result when the operative barrier of the skin is breached by traumatic invasion or whether it is caused by trauma or intentionally by surgery. The open area is susceptible to microbial invasion and once a wound has become infected pus forms in the injured area resulting to wound abscess.

Baker et al defined antiseptics as the most convenient way of preventing infection usually by

inhibiting the growth of bacteria. And most disinfectant when suitably diluted have the antiseptic action. Different methods are employed for the destruction of bacteria or for getting rid of them and those methods can be conveniently divided into chemical, physical and mechanical methods.

Baker et al (1985) explained that chemical agents function as a sterilizing agent by the following lethal mechanisms

1. Disruption of the cell membranes
2. Interfering with organelle systems of the organisms (enzyme poisons)
3. Coagulation of protein
4. Oxidation

### **1.1 AIMS AND OBJECTIVES OF THE STUDY**

1. To isolate staphylococcus aureus from wound infection
2. To determine the antibacterial activity of three medicated soaps on staphylococcus aureus isolated from wound infection.

### **1.2 STATEMENT OF PROBLEM**

Since Dorland (1981) stated that medicated soaps have germicidal substances like chloroxylenol, pottassium, mercuric iodide, trichlorocarbinol etc incorporated into them in order to greatly increase their antibacterial activity. It is therefore necessary to investigate the antibacterial activity of three medicated soaps (Asepsol, Carat and Temperate) on staphylococcus aureus isolated from wound infection.

### **1.3 HYPOTHESES**

Medicated soaps have antibacterial activity

Medicated soaps have no antibacterial activity.

### **1.4 JUSTIFICATION OF THE STUDY**

The result of the project work will indicate the antibacterial activity of medicated soap. And if favourable, then medicated soap can be used for washing the surface of minor wounds before the application of further medication.

### **1.5 LIMITATION OF THE STUDY**

The study is limited to three types of medicated soaps which are:

- a. Asepsol medicated soap

- b. Carat medicated soap
- c. Tempovate medicated soap

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