BIOLOGICAL DETERMINATION OF BEAUTY SOAP

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Abstract
The present study was performed to evaluate the microbial contamination in the soap . Total bacterial count, isolation and identification of pathogenic microorganisms were performed on the collected eiqut popular branded bath soap. The viable count for aerobic bacteria shows more than 1586 bacteria per gram of sample. Almost all sample shows presence of E.coli and some are contaminated with S.aureus, Salmonella and Pseudomonas. The contaminated soap unable to suppress the growth of several microorganisms represent a potential health hazards.

Keywords: Pathogenic, Dermatological, Coliform.

Introduction

Soap are the combination of fats, oils (animal and vegetable origin) and salt (*Friedman M. etal 1987*). Dermatological bars and disinfectants are chemical of different from soap and contains modified detergents to enhance their use for'antimicrobial ' soap can remove 65% to 85% bacteria from human skin (*Norboy, 1987*). The aim of this investigation is to examine the presence of E.coli, S.aureus, Salmonella, Pseudomonas and Coliform and observe the total viable bacterial count in each sample. The soap should have good ingredients which have the ability to kill the bacteria but not allow the growth of bacteria in soap.

Material and Methods

Methods:-

(A) Total viable count of bacteria by standard plate count:-

From each sample by standard count dilution such as 1:10, 1:100, 1:1000 and plating with appropriate amount of nutrient agar viable count is taken.

(B) Detection of coliforms for contamination:-

From 1:10 dilution of each sample inoculated in MacConkey broth and after inoculation of 37^0C for 24hours observed for acid and gas.

(C) Isolation of pathogenic bacteria:-

From 1:10 dilution inoculated on selective medium for isolationof pathogenic microorganism.

(1) Manitol salt Agar – For S. aureus.
(2) Bismuth sulfite Agar – For Salmonella.
(3) Cetrimide Agar – For Pseudomonas.
(4) Easine Methylene Blue Agar- For E.coli.

From the growth appeared on selective medium the specific bacteria is confirmed by gram staining, biochemical test and enzyme test.

Observation and results:-

(A) Total viable count by standard plate count (Table no.1) :

Sample no.	Number of colonies			Number of bacteria per gm in soap
	1:10	1:100	1:1000	
S-1	126	15	02	1586
S-2	03	01	620	206710
S-3	167	191	490	170256
S-4	232	65	398	135606
S-5	88	298	320	116893
S-6	163	257	88	38443
S-7	138	391	509	183160
S-8	276	344	318	118366

From the above observation it is found that all the 8 samples contain more than 1500 bacteria per gram of soap.

(B) Coliform: - Coliforms are absent in all sample (Table no. 2)

Sample No.	BSA	MSA	CA	MacConkey broth
S-1	-	-	-	-
S-2	-	-	Pseudomonas	-
S-3	S. typhi	S. aureus	Pseudomonas	-
S-4	S.typhi	S. aureus	-	-
S-5	-	-	-	-
S-6	S. typhi	-	Pseudomonas	-
S-7	S . typhi	S. aureus	-	-
S-8	S. typhi	S.aureus	-	-

(C). Growth on selective media:- (Table no. 2)

It is observed that soap sample S-3, S-4, S-6, S-7 and S-8shows presence of Salmonella, Soap sample S-3, S-4, S-7, S-8shows presence of S. aureus. Soap samples S-2, S-3 and S-6shows presence of Pseudomonas.

The above observations indicates that soap are contaminated with pathogenic microorganisms, so many unable to suppress the growth of microorganism, so may causes of potential health hazards in adults and childrens.

Conclusion

The bacteriological examination of bath soaps performed for total bacterial count and isolation and identification of pathogenic microorganisms are respresentes a potential health hazards.

References:-

1) Friedman, M and et. al.(1996) - Journal of Clinical Dermatology.
2) Norboy and et. al. (1987) – The Journal of Infectious Diseases.