

ISOLATION AND IDENTIFICATION OF MUTAN'S STREPTOCOCCI BACTERIA FROM HUMAN DENTAL CARIES SAMPLES

A THESIS

BY

Md. Jahangir Alam

Registration No. 1605127

Semester: January-June, 2017

Session: 2016-2017



MASTER OF SCIENCE (MS)
IN
MICROBIOLOGY

DEPARTMENT OF MICROBIOLOGY
HAJEE MOHAMMAD DANESH SCIENCE AND
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ABSTRACT

The present study was conducted to isolate, identify and characterize the bacterial pathogens their antibiotic resistance of *Streptococcus mutans* of oral cavity of human the period from June to December, 2017 in Dinajpur Medical Institute, Dinajpur. In this study these were 150 samples collected from the student and brought to the microbiology laboratory of the department of microbiology, Hajee Mohammad Danesh Science and Technology University, Dinajpur for bacteriological examination, Isolation and identification of the microorganisms were confirmed by these morphology on different cultural media, staining characteristics and biochemical tests. A total of 100 samples were examined for the Isolation of human oral bacteria of which 80 (80%) samples were positive for *Streptococcus mutans*. The antibiogram study revealed that most of the *Streptococcus mutans* was resistance to cefuroxime, cefixime, cefaclor, nitrofurantoin. However most of the *Streptococcus mutans* was sensitive to ofloxacin. This is to indicate that this antibiotic may have the first line of drug to be choice in clinical control of *Streptococcus mutans*. Most of the isolates have importance and confirmed the presence of this communal or pathogenic for oral cavity in Bangladesh.

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LIST OF ABBREVIATION AND SYMBOLS

CFU	Colony forming unit
CP	Crude Protein
CO ₂	Carbon dioxide
<i>E. coli</i>	Escherichia coli
e.g	Example
EMB	Eosin Methylene Blue
et.al	Associated
etc	Etcetra
Fig.	Figure
GDP	Gross Domestic Product
gm	Gram
H ₂ O ₂	Hydrogen peroxide
H ₂ S	Hydrogen Sulphide
HSTU	Hajee Mohammad Danesh Science And Technology University
lbs	Pounds
Kg	Kilogram
KOH	Potassium hydroxide
Ltd	Limited
MC	Mac conkey
mg	Miligram
Min	Minute
MIU	Motility Indole Urease
mm	Milimeter
ml	Mililiter
MR	Methyl red
NA	Nutrient Agar
NB	Nutrient Broth
No.	Number
PBS	Phosphate buffered saline
S.	Salmonella
SDA	Sabourauds Dexrose agar
Sec	Second
SL.	Serial
SPP	Species
SS	Salmonella-shigella
SSA	Salmonella-Shi
TSI	Triple sugar iron
VP	Voges-Proskauer
+	Positive
-	Negative
%	Percentage
<	Less than
>	Greater than
°C	Degree Celsius