

CONCLUSION

Twenty five percent of microorganisms isolated from the stool specimens of these 500 cases of diarrheal patients was found to be pathogenic. Among these, 8.2 percent was Salmonellae, 4.6 percent was Shigellae, 11.6 percent was enteropathogenic Escherichia coli and 1.0 percent was Vibrios.

The plate dilution method was used for the susceptibility test of the above mentioned four groups of enteric pathogenic organisms against ten different antimicrobial agents. The most effective ones against Salmonella, Shigella and pathogenic Escherichia coli were cotrimoxazole, furazolidone, ampicillin and nalidixic acid. Chloramphenicol, oxytetracycline and erythromycin became least effective whereas neomycin and colimycin were still good against these pathogenic organisms.

The incidence of increasing resistance of microorganisms against antimicrobials was found to be high in comparison with the results of many other experiments issuing from different authors (10,33). It is possible that because the patients try to obtain the drugs without consulting the physicians. This is one of the health problems in which the Thai Ministry of Public Health is very much concerned at present.

Another point is that the laboratory detection of the susceptibility of the pathogenic isolate(s) against various antimicrobial drugs is necessary in order to apply an effective treatment to each of the patients. It would be ensure the correctness of the treatment and not to waste time and money for it.

APPENDIXBismuth Sulfite agar

Ingredients per liter

Bacto-Beef extract	5 g
Bacto-Peptide	10 g
Bacto-Dextrose	5 g
Disodium phosphate	4 g
Ferrous sulfate	0.3 g
Bismuth sulfite indicator	8 g
Bacto-Agar	20 g
Bacto-Brilliant green	0.025 g

pH 7.7

The medium should not be sterilized

Blood agar base

Ingredients per liter

Beef heart infusion from	500 g
Bacto-Tryptose	10 g
Sodium chloride	5 g
Bacto-Agar	15 g

pH 6.8

Sterilize in the autoclave for 15 minutes at 15 pounds. Cool to 50°C and add 5% sterile defibrinated blood.

Brilliant Green agar

Ingredient per liter

Proteose peptone No.3	10 g
Bacto-Yeast extract	3 g
Bacto-Lactose	10 g
Saccharose Difco	10 g
Sodium chloride	5 g
Bacto-Agar	10 g
Bacto-Brilliant green	0.0125 g
Bacto-Phenol red	0.08 g

pH 6.9

Sterilize in the autoclave for 15 minutes at 15 pounds.

MacConkey agar

Ingredient per liter	
Bacto- Peptone	17 g
Proteose peptone Difco	3 g
Bacto-Lactose	10 g
Bacto-Bile salt No. 3	15 g
Sodium chloride	5 g
Bacto-agar	13.5 g
Bacto- neutral red	0.03 g
Bacto-Crystal violet	0.001 g

pH 7.1

Sterilize in autoclave for 15 minutes at 15 pounds pressure.

Malonate Broth

Ingredients per liter

Ammonium Sulfate	2.0 g
Dipotassium Phosphate	0.6 g
Monopotassium Phosphate	0.4 g
Sodium chloride	2.0 g
Sodium Malnoate	3.0 g
Bacto-Brom thymol blue	0.025 g

pH 6.7

Sterilize in the autoclave for 15 minutes at 15 pounds.

Methyl red-Voges Proskauer medium

Ingredients per liter

Buffered peptone	7 g
Dipotassium phosphate	5 g
Bacto-Dextrose	5 g

pH 6.9

Sterilize in the autoclave for 15 minutes at 15 pounds.

Motility test medium

Ingredients per liter

Bacto Tryptose	10 g
Sodium chloride	5 g
Bacto Agar	5 g

pH 7.2

Sterilize in autoclave for 15 minutes at 15 pounds.

Phenylalanine broth

Ingredient per liter

Ammonium sulfate	2.0	g
Dipotassium phosphate	0.6	g
Monopotassium phosphate	0.4	g
Sodium chloride	2.0	g
Sodium malonate	3.0	g
Bacto-Brom thymol blue	0.025	g
Phenylalanine	2.0	g

pH 6.7

Sterilize in the autoclave for 15 minutes at 15 pounds.

Potassium Cyanide broth base

Ingredients per liter

Proteose peptone No.3 Difco	3	g
Disodium phosphate	5.64	g
Monopotassium phosphate	0.225	g
Sodium chloride	5	g

pH 7.6

Prepare a 0.5% solution of potassium cyanide in distilled water.

Add 1.5 ml of solution of potassium cyanide to each 100 ml basal medium.

Phenol red tartrate agar

Ingredients per liter

Bacto-Beptone	10	g
Sodium potassium tartrate	10	g
Sodium chloride	5	g
Bacto-Agar	15	g
Bacto-Phenol red	0.024	g

pH 7.6

Sterilize in the autoclave for 15 minutes at 15 pounds.

Salmonella Shigella Agar

Ingredient per liter

Bacto-Beef extract	5	g
Proteose peptone Difco	5	g
Bacto-Lactose	10	g
Bacto-bile salts No.3	8.5	g
Sodium citrate	8.5	g
Sodium thiosulfate	8.5	g
Ferric citrate	1.0	g
Bacto-Agar	13.5	g
Bacto-Brilliant green	0.33	g
Bacto-Neutral red	0.025	g

pH 7.0

Do not sterilize in the autoclave.

Selenite broth

Ingredient per liter

Bacto-Tryptone	5 g
Bacto-Lactose	4 g
Sodium selenite	4 g
Sodium phosphate	10 g

pH 7.0

Do not sterilize in the autoclave.

Sensitivity test medium

Ingredients per liter

Pork heart infusion from	375	g
Bacte-Yeast extract	3.5	g
Proteose peptone No. 3 Difco	5	g
Bacto-Soytone	6.5	g
Bacto-Dextrose	5	g
Sodium chloride	5	g
Bacto-Agar	15	g

pH 7.2

Sterilize in the autoclave for 15 minutes at 15 pounds.

Simmons Citrate agar

Ingredients per liter

Magnesium sulfate	0.2	g
Ammonium dihydrogen phosphate	1	g
Dipotassium phosphate	1	g
Sodium citrate	2	g
Bacto-Agar	15	g
Bacto-Brom thymol blue	0.068	g

pH 6.8

Sterilize in the autoclave for 15 minutes at 15 pounds.

Triple Sugar Iron agar

Ingredient per liter

Bacto-Beef extract	3	g
Bacto-Yeast extract	3	g
Bacto-peptone	15	g
Proteose peptone Difco	5	g
Bacto Dextrose	1	g
Bacto Lactose	10	g
Saccharose Difco	10	g
Ferrous sulfate	0.2	g
Sodium chloride	5	g
Sodium thiosulfate	0.3	g
Bacto agar	12	g
Bacto-Phenol red	0.024	g

pH 7.4

Sterilize in the autoclave for 15 minutes at 15 pounds.

Trypticase Soy broth

Ingredients per liter

Trypticase	17.0 g
Phytone	3.0 g
Sodium chloride	5.0 g
Dipotassium phosphate	2.5 g
Dextrose	2.5 g

pH 7.3

Sterilize in the autoclave for 15 minutes at 15 pounds.

Urease agar

Bacto-Agar	1.5 g
Distilled water	9.0 ml

Sterilize in autoclave for 15 minutes at 15 pounds. Cool to 50-55°C and add the contents of one tube of Bacto Urea Agar Base Concentrate (10 ml) under aseptic conditions. Mix thoroughly and distribute in sterile tubes. Slant the tubes so as to have a butt of about one inch in depth.

Xylose Lysine Desoxycholate agar

Ingredient per liter

Xylose	3.5	g
L-Lysine	5	g
Lactose	7.5	g
Sucrose	7.5	g
Sodium chloride	5	g
Yeast extract	3	g
Phenol red	0.08	g
Agar (dried)	13.5	g
Sodium desoxycholate	2.5	g
Sodium thiosulfate	6.8	g
Ferric ammonium citrate	0.8	g
Distilled water	1,000	ml

pH 7.4

Suspend the medium in distilled water and heat with frequent agitation just to the boiling point. Do not boil. Transfer immediately to a 50°C water bath and pour plates as soon as the medium has cooled. The medium should be of an orange color and clear, or nearly so. Excessive heating or prolonged holding at 50°C causes a precipitation, which may cause some differences in colony morphology.