RATIONALITY STUDY OF
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Dr. SHISHIR J MODAK

RATIONAL DRUG CELL
MEDICO FRIEND CIRCLE

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KERALA SASTRA SAHITHYA PARISHAD

(English)

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Written by:

Dr. SHISHIR J. MODAK

Rational Drug cell
Medico Friend Circle

50 LIC Quarters, University Road
Pune 411016.

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RATIONALITY STUDY OF ANTIDIARRHOEAL FORMULATIONS

Diarrhoea is the frequent passage of loose stools. Diarrhoeas are extremely common and endemic in our country. Almost every child upto the age of 5 years gets 1-2 episodes of acute diarrhoea in a year. It is a number-one killer in infants and small children. Therefore, every doctor should be thoroughly trained, regarding proper management of acute diarrhoeas.

A large number of formulations are sold in the market as antidiarrhoeal agents. They are usually broad spectrum and claimed to be effective in diarrhoeas due to different aetiological factors ranging from bacterial, protozoal, nonspecific..etc. However, doubts are always raised about rationality of all these preparations. The purpose of this study is to assess the rationality and effectivity of multiple antidiarrhoeal preparations available in the market.

Material and Methods

The 47 different formulations listed under the heading, 'Antidiarrhoeals' in Current Index of Medical Specialities (CIMS) - May 1984 issue were studied. Each ingredient of every formulation was evaluated separately on its own merit. The comments are based on the available scientific literature on this topic, published in recent standard text books and periodicals. Finally, each product was graded according to the resultant rationality of its ingredients.

Antimicrobials as single ingredients (e.g. Ampicillin. Tetracycline...etc.) are not included in this assessment.

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RESULTS

Please see the accompanying Table and the resuitant gradation of each formulation in the table. The overal resultant gradation of each formulation has been done as follows .-

A. Use of the product is justified.

B. Electrolytes or other irrational ingredients should be deleted.

C. The proportion of the ingredients should be altered,

D. The drug should be avoided and it should be available strictly against prescription.

E. The formulation should be officially banned.

The resultant tally of these formulations was as follows:-

Grade	:	A	B	C	D	E
No. of products	:	7	6	9	8	20.

(Total products studied are 47. Excess number in the above table is due to some products having more than one grade at a time).

Sr. No.	Brand Name	Composition	Comments	Grading	Reference
1)	*Aristogyl F* (Aristo) 90 ml : Rs. 8.00	*Per 5 ml:* Furazolidone 30 mg	: Shotgun therapy, incorrect ratio bet: Fura & Metro. The ratio should be 1:5.	C	13, 14, 2 12, 18.
		Pectin - 20 mg Light Kaolin-1 gm	: Of cosmetic use if at all. inadequate dose. May actually increase electrolyte loss.		
2)	*Chlorambin suspension* (Anglo-French) 60 ml : 6.11	*Per 5 ml:* Light Kaolin-1 gm Pectin-50 mg.	,,	E	3, 17, 5
		Neomycin - 50 mg.	: Inadequate dose of Neomycin, Many strains are becoming resistant to Neomycin.		
		Di-iodo-150 mg.	: Di-iodo. not a safe drug especially in children. May produce SMON. Should not be used in fixed dose combination.		

Sr.No.	Brand Name	Composition	Comments	Grading	Reference
		Tincture belladona - 0.06 ml	: Antimotility drugs should be avoided in childhood diarrhoea; should never be added in fixed dose mixtures.		
3)	*Chlorostrep* (Cap. & Suspension) (Parke Davis)	*Per Cap. per 4 ml* (Chloramphenicol-125 mg)	: Chloro-not useful in Salmonella gastroenteritis; severe side-effects; carrier state may be prolonged after chloro.	E	5, 7, 1, 2, 10, 12,
	60-ml:Rs. 10.59	Streptomycin sulphate-125 mg	: Shigella & other enteropathogenic organisms have become resistant to Streptomycin; rapid development of resistance; sensitization; should not be combined with Chloramphenicol for fear of increased risk of optic neuritis.		
4)	*Combactin* (CEL Pharma)	*Per 30 ml*:		E	3, 5, 12, 17,
	60-ml; 5.19	Neomycin-300 mg	: Dose of Neomycin inadequate; Many strains resistant to Neo.		

Sr. No.	Brand Name	Composition	Comments	Grading	Reference
		Dicyclomine-10 mg	: Antispasmodic drugs should not be added in fixed dose mixtures.		
		Light Kaolin-6 mg Pectin-130 mg	: As in (1) above		
		Sod. Lactate-800 mg. Pot. Chloride-300 mg Sod. Chloride-470 mg	: Electrolytes should not be : included in antidiarrhoeal preparation; inadequate and wrong proportion.		See WHO formula
5)	*Darzin with Neomycin* (Chemage)	*Per 10 ml:* Light Kaolin-2 gm Pectin-43 mg	: As in (1) above	E	5, 2 and 12
	60-ml: 6.88	Neomycin-125 mg	: As in (2) above		
		Sod. Lactate-267 mg Sod. Chloride-157 mg Pot. Chloride-100 mg	: As in (4) above		
		Piptal-4 mg	Antispasmodic drugs should not be added in fixed-dose mixtures.		

Sr. No.	Brand Name	Composition	Comments	Grading	References
6)	*Dependal Tabs* (Eskaylab)	*Per tablet:* Furazolidone-100 mg.	Effective antibacterial agent, also useful in Giardiasis.	E	2,
	12 tabs: 2.91	Quinioidochlor-200 mg:	May produce SMON; not confined to Japan; 7 cases were reported in Bombay; not a safe-drug; should not be used in fixed dose combination.		
7)	*Diarmycin-N* (Nicholas)	*Per 10 ml:*		C	3, 5, 17
	60ml: Rs. 5.10	Neomycin Sulph. 100mg Sulphadimidine - 134mg Pectin-67mg Light Kaolin-1.34gm	: As in (1) above : Most of the bacteria are resistant to sulphas by now. As in (1) above.		2, 12, 16
8)	*Diarrest* (Ebers)	*Per 5ml*:		C	13, 14, 2
	50ml: Rs. 7.00	Metronidazole - 100mg Furazolidone - 33mg Pectin - 75mg Kaolin - 700mg	: Same as in (1) above.		12.
9)	*Dysenchlor Tab* (S. G. Pharm)	*Per tab*		D	2
	10 tabs: Rs. 1.32	Chloroquinaldol - 100mg	: As in (6) above.		

Sr. No.	Brand Name:	Composition	Comments	Grading	References
10)	*Emantid* (MM Labs)	*Per 30ml*:		E	2, 12, 3, 7
	60ml: Rs. 6.25	Furazolidone - 200mg Pectin - 130mg hight Kaolin - 6mg	: Effective antibacterial agent; also used in Giardiasis. As in (1) above		
		Tincture belladone-0.6ml	: Same as in (2) above.		
		Sod. Lactate - 800mg Pot. Chloide - 330mg Sold. Chloride - 470mg	As in (4) above. :		
11)	*Enteromac* (Mac)	*Per 5ml*		C	5, 17, 2, 12.
	64ml: Rs. 4.21	Neomycin - 75mg	: Same as in (2) above.		
		Ligt Kaolin - 750mg Pectin-30mg.	: See (1) above. Irrelevant & useless as		
		Diphenhydramine-3mg.	antidiarrihoeal.		
12)	*Enterosan* (Wockhardt)	*Per tab*	...	E	3,7
	10: Rs. 1.86	Berberine HC 1-40mg	May cause hemolytic jaundice.		
		Di-iodo-300mg	As in (2) above.		
		Homotropine-0.8mg	-,,-		

Sr. No.	Brand Name	Composition	Comments	Grading	References
13)	*Enterostrep* (Dey's)	*Per Cap. & per 4ml*:	...	E	Same as in Chlorostrep
	12: Rs. 5.16 60: ml: 6.76	Chloro - 125mg Strepto - 125 mg	Same as in Chlorostrep (3) above.		
14)	*Enterovioform* (Ciba)	*Per tab*		D	
	500: Rs. 54.00	Quiniodochlor - 250mg	: As in (6) above		
15)	*Furamide Compound* (Boots)	*Per tab.*	...	B & C	15, 5
	10: Rs. 4.55	Diloxamide Furate-250mg	: Useful in cyst-passers; not the drug of choice in acute amoebiasis.		
		Strepto - 120 mg	: Shigella & other entero pathogenic organisms have become resistant to streptomycin; rapid development of resistance; sensitisation.		
		Chloroquine - 50 mg	: Uunecessary; not indicated in amoebic dysentry.		

Sr. No.	Brand Name	Composition		Comments	Grading	References
16)	*Furamide Susp. with Neomycin*	*Per 10 ml.*	:	...	B & C	3, 5
	(Boots) 60 ml: Rs. 5.18	Dilo. Furoate-250 mg.	:	Not the drug of choice for amoebiasis.		
		Neomycin Sulph-80 mg.	:	Very inadequate dose; strains becoming resistant to neomycin.		
17)	*Furoxone Susp.* (Eskaylab)	*Per 5 ml*:		...	A	2, 18.
	57 ml: Rs. 4.90	Furazolidone-35.7 mg	:	As in (6) above.		
		Pectin-75. mg Light Kaolin-1 gm		As in (1) above.		
18)	*Imotil* (Cevee Pharma)	Loperamide HCl-2 mg caps.	:	Antiperistaltic drugs should not be used in children below 2 yrs. Even in older children they should be avoided.	D	7, 3
	4: Rs. 2.75					

Sr. No.	Brand Name	Composition	Comments	Grading	Reference
19)	*Kaltin* with *Neomycin* (Abbott) 60 ml : Rs. 5.20	*Per 5 ml.* Kaolin-1 gm Pectin-22 mg Belladona-0.05 ml Neomycin-50 mg Sod. Lactate-133 mg. Sod. Chlor. 67.2 mg. Pot. Chlor. - 55 mg.	... : As in (1) above. : As in (2) above. : As in (4) above.	E	2,18,3, 7,3,5. WHO formula
20)	*Lactisyn* (Griffon) 6 amp: Rs. 12.73	*Per ampoule :* Lactobacillus lattis - 490 milli. Lactobacillus acidophillus-490 milli Streptococcus thermophillus-10 milli Streptococcus Lactis-10 million	: May be useful in infectious diarrhoeas but results are not proved by controlled trials.	A	18.

Sr. No.	Brand Name	Composition	Comments	Grading	Reference
21)	*Laviest* (Franco-Indian) 12 caps. Rs. 10.04	*Per Capsule:* Dried yeast powder- 10 million cells of saccharomyces Cerevisiae-250 mg.	... -„-	A	18.
22)	*Linopec* (Pharma Research) 110 ml. Rs. 5 40	*Per 5 ml:* Light Kaolin-2 gm	... As (1) above	B	2,12,18.
23)	*Lomofen* (Searle) 10 tabs : Rs. 1.97	*Per tab.* Diphenoxylate HCl-2.5 mg. : Atropine Sulphate 0.025 mg	... Antimotility drugs should not be used in children below 2 yrs. Even in older children they should be avoided; should not be added in fixed - dose mixture.	E	3,7.
		Furazolidone-50 mg	: As (6) above		

Sr. No.	Brand Name	Composition	Comments	Grading	Reference
24)	*Lomotil* (Searle) 10 tabs : Rs. 1.84 60 ml : Rs. 6. 59	*Per tablet & per 5 ml:* Diphenoxylate HCl-2.5 mg. Atropine Sulph-1.025mg.	... As in (18) above.	D	3,7
25)	*Lopamide* (Torrent Labs) 10 tabs: Rs. 3-00	*Per tablet:* Loperamide HCl-2 mg	... As in (18) above.	D	3,7
26)	*Mabinol Complex* (Mac) 10 : Rs. 4.67	*Per tablet:* Chlorophenoximide-0.2mg. streptomycin 0.16 mg. Iodochlorhydroxy-quinoline-0.15 mg.	As in (15) above. As in (2) above.	E	18.
27)	*Metroquin F Suspension* (Noel) 60 ml : Rs. 8.95	Per 5 ml: Metronidazole-100 mg Furazolidone - 35 mg Kaolin - 1 gm Pectin - 75 mg	... : As (1) above. : As (1) above.	C	13, 14, 1, 12, 18.

Sr. No.	Brand Name	Composition	Comments	Grading	Reference
28)	*Mexaform* (Hind. Ciba Geigy)	*per tab:*	...	E	3,7
	10 = Rs. 1.80	Quinodochlor - 200 mg	: As (6) above.		
		Phanquone - 20 mg	: Not the drug of choice; other better drugs available for amoebiasis.		
		Oxyphenonium bromide-2 mg	: As (23) above.		
29)	*Neldar* (Phar-East)	*Per 5 ml*	...	B, C	5, 3, 13 12, 18,
	60 ml : Rs. 8.18	Neomycin Sulph-50 mg	: As (2) above		
		Sulphadimidine-100 mg	: Most bacteria are now resistant to sulfas.		
		Kaolin-1 gm, Pectin-30 mg	: As in (1) above.		
		Pot. Dihydrogen Phos-25 mg Sod. Lact - 150 mg Pot. Chlor- 60 mg Sod. Chlor-100 mg.	As in (4) above.		WHO formula

Sr. No.	Brand Name	Composition	Comments	Grading	References
30)	*Neo Combactin* (CFL) Pharma) 60 ml: Rs. 5.26	*Per 30 ml* Dicyclomine HCl-10 mg : Light Kaolin - 600 mg : Pectin-130 mg Neomycin Sulph-300 mg : Sod. Lact-800 mg Pot. Chlor-330 mg : Sod. Chlor-470 mg.	... As (4) above As (1) above As (4) above	E	2, 12, 18, 3, WHO formula
31)	*Pectokab* (Chemage) 100 ml : Rs. 5.98	*Per 5 ml* Pectin - 60 mg Kaolin 1 gm :	... As (1) above	B	2, 12, 18
32)	*Pectokab-MF* (Chemage)	*Per 5 ml* Metronidazole - 100 mg : Furazolidone - 35 mg. Light Kaolin - 1 gm Pectin - 75 mg.	... As (1) above	C	1, 13, 14 12, 18
33)	*Pelopem* (Mercury)	Loperamide HCl - 2 mg :	... As (18) above	D	3, 7

Sr. No.	Brand Name	Composition	Comments	Grading	References
34)	*Pesulin-O* (Cadila)	Per 15 ml: Pthalyl Sulphathiazone- 1 gm	: Most of the bacterial strains are now resistant.	E	12, 18, 3, 7
		Pectin 0.15 gm	As (1) above		
		Kaolin 3 gm			
		Tincture opium - 0.08 ml	As (2) above		
35)	*Prepared atta-Pulgite* (Dextromed)	*Per 6 gm powder*		B	
		Attapulgite-3	: Limited cosmetic value; does not decrease fluid loss.		
		Sod. Chlor-100mg Sod. Bicarb-81mg Pot. Chlor-99mg Pot. Dihydro Phos-99mg cal. gluconate-21mg.	As (4) above.		
36)	*Protoquit* (PFI)	*per 5 ml*		E	1, 12, 18
	60 ml: Rs. 7.50	Furazolidone-50 mg	: As (6) above		
		Iodochlorhydroxyquino-line-125 mg	: As (2) above		
		Pectin - 75 mg	: As (1) above		

Sr. No.	Brand Name	Composition	Comments	Grading	References
37)	*Renokab Sus.* (Manners)	*Per 4 ml:* Streptomycin base 50 mg: Neomycin base- 25 mg Pectin 50 mg Kaolin - 0.75 mg Belladona tincture- 0.05 mg Sod Chlor - 25 mg Pot. Chlor-10 mg Cal. Lact-10 mg.	 As (15) above : As (2) above : As (1) above : As (2) above As (4) above	E	
38)	*Ridol* (Gufic)	Loperamide-2 mg. tab	... : As (18) above.	D	3,7
39)	*Salazopyrin* (Carter Wallace) 50: Rs. 57.35	*Per tab:* Salicylazo sulphopyridin 0.5 gm	... : Effective in ulcerative colitis	A	
40)	*Salvaol* (Associated) 60 ml : Rs. 7.60	Per 5 ml : Neomycin Sulph-50 mg Belladona tincture- 0.05 mg Light Kaolin-750 mg Pectin-50 mg Sod. Lacate - 135 mg Pot. Chlor-55 mg. Sod. chlor. 75 mg	... : As (2) above. : As (1) above. As (4) above.	E	3, 5, 12. 18, 3, 7 WHO formula.

Sr. No.	Brand Name	Composition		Comments	Grading	References
41)	*Saril* (Rallies) (TCE)	*Per tab:*			E	5, 2, 1 12, 18.
		Streptomycin Sulfate - 240 mg	:	As (15) above.		
		Pthalyl Sulphaphiazole- 200 mg	:	As (34) above.		
		Tannic Acid-50 mg.	:	Not useful		
		Pectin - 10 mg	:	As (1) above.		
		Di-iodo. 125 mg	:	As (6) above.		
42)	*Sofrakay* (Roussel)	*Per 5 ml:*		...	A	5, 12, 18
	60 ml : Rs. 9.55	Soframycin-50 mg Kaolin - 0.5 mg	·	Very limited effectivity		
		Pectin - 50 mg	:	As in (1) abeve.		
43)	*Sporlac* (Uni Sankyo)	*Per tab:*		...	A	18
	10: Rs. 4.97	Lactobacillus - 60 million	:	Effectivily not yet proved by controlled trials.		

Sr. No,	Brand Name	Composition	:	Comments	Grading	Reference
44)	*Streptomagma Suspension* (Wyeth)	*Per 5 ml:*		...	D	2, 18, 5 12
	350 ml: Rs. 17.10	Streptomycin Sulfate 50 mg.	:	As (15) above.		
		Kaolin-0.5 gm Pectin-45 mg Aluminium hydroxide - 66 mg	:	As (1) above. It is not an antidiarrhoeal, of limited use.		
45)	*Strepto Paraxin* (Boehringer Knoll) 10 mg 6 09	*Per 5 ml*:		...	E	2, -,,- 5, 7, 10.
		Chloro - 125 mg strepto - 125 mg	:	As (3) above.		
46)	*Streptophenicol* (Mercury) 50 ml : 7.05	,,	:	,,	E	
47)	*Wallamycin* (Suspension) (Carter Wallace)	*Per 5 ml:*		...	A	12, 18
		Collistin Sulph-12.5 mg Kaolin - 438 mg.	:	Local antibiotic, of limited use.		
	30 ml: Rs. 5.67	Pectin - 33 mg.		As (1) above,		

DISCUSSION OF COMMENTS

In the table, the comments are written briefyly against each ingredient. There is a great amount of repetition as similar ingredients appear again and again in different formulations. Here we would discuss merits and demerits of different group of drugs.

A) Antibacterial drugs:

As is now well known, these play little part in the treatment of the acute stage of gastroenteritis. Certainly none in viral gastroenteritis. They may infact do harm by further-upsetting bowel flora. They can't, in any case, act fast enough to stop further loss of fluid in a dehydrated child. It must enough to stop further loss of fluid in adehydrated child. It must therefore be seriously considered whether they have any part to to play in the treatment of gastroenteritis[5]. If no pathogens are isolated, there is clearly no point in giving antibiotics, and it is of interest to note that in 40 to 50% of cases no organisms can be isolated from stool samples.

Particular mention must be made about some antibiotics which are inadvertantly used in antidiarrhoeal formulations.

Chloramphenicol

It is a broad spectrum antibiotic effective against several gram positive and gram negative organisms. However, it is a potentially toxic drug,. It can produce aplasic anaemia, other blood dyscrasias, optic neuritis, super-infection. etc. There is always a danger of development of resistance. Therefore, this drug should be used only in typhoid fever and its misuse in trivial infections should be stopped at once. Contrary to expectations, chloramphenicol is not effective in non-typhoid salmonella gastroenteritis. 5,7 If chloramphenicol is combined with streptomycin, risk of optic neutitis increases[2]. Therefore,this combination should be condemned.

Streptomycin

It is an aminoglycoside antibiotic effective against Mycobacterium; but also effective against E. Coli, Proteus, H. infludenzae...etc. Formerly, this antibiotic was used in bacillary agastroenteritis as many organisms have become resistant to it. 5 Besides there is a danger of rapid development of resisance and sensitisation after oral use.2 The use of this drug should be reserved for the treatment of Tuberculosis. It should never be combined with Chloramphenicol as disussed earlier.

Neomycin

This is a locally acting aminoglycoside antibiotic. It i effective against some strains of E. Coli. However, organisms are fast becoming resistant to this antibiotic. Th recommended therapeutic dose of neomycin is 100 to 150 mg/kg/ day. 3 However, almost all the antidiarrhoeal preparations containing neomycin provide a very inadequate dose of this antibiotic.

Sulphonamides

Some antidiarrhoeal formulations contain sulphonamide preparatious. However, effectivity of sulpha preparations has recently gone down considerably. Most of the organisms re resistant to them and hence their use is wasteful and gives rise only to side effects.

Furazolidone

Furazolidone is an anti bacterial agent effective against a variety of bacteria. Shigella, Salmonella, E. Coli, Enterococci are susceptible to it. It is also effective against Giardia. It is a cheap drug with few side effects. So, it may be widely used as an antidiarrhoeal drug.

Metronidazole

Metronidazole is the drug of choice in amoebiasis a n Giardiasis. Therefore, it is commonly found in antidiarrhoeal

formulations. Ideally in each case of diarrhoea, stool should be examined, organisms should be identified and then specific treatment should be started. However, in our country, where majority of people cannot afford the cost of stool investigation and hence, the stool is not examined, the causative organism is not identified, the combination of metronidazole + Furazolidone may be justified as broad spectrum antidiarrhoeal.

Aminoquinolines

Quinidochlor or other hydroxyquinoline derivatives are known to produce Subacute Myelo Optic Neuropathy (SMON) after prolonged administration. This side effect is not restricted to Japanese people but several cases have been reported in Bombay. The exact safe dose and duration of this drug is not determined especially in children; and, therefore, this drug should not be used routinely for any nonspecific diarrhoea. Certainly it should not form part of any fixed doss antidiarrhoeal mixture.

B) Antimotility and Antispasmodic Agents:

Lomotil (Diphenoxylate + Atropine), Loperamide and opium derivatives are antiperistaltic drugs. They stop the loose motions temporarily. They give a false sense of security without curing the underlying cause. 3 Paralytic ileus, respiratory depression, cardiac toxicity etc. have been reported in children following ingestion of lomotil. It is not possible to predict the toxic dose in children and while some may have only the mildest symptoms with relatively large doses, others develop severe toxicity on ingesting normal therapeutic dose. Therefore, lomotil should not be used in children below 2 years; and even in older children these drugs should be avoided in the presence of infection. These drugs should be available strictly only against prescription. The fixed dose formulations containing these drugs may prove dangerous and should be banned.

Antispasmodic agents like dicyclomine should be used very carefully to relieve spasmodic pain. They can cause

paralytic ileus and should never be included in an antidiarrhoeal fixed dose combination.

As a rule any drug with higher risk of serious toxicity should not be used in a fixed dose combination, since in such a combination it is more likely to be used when not really indicated. Hence, it is recommended that all such preparations be banned as has been pointed out above.

C) Absorbents, Astringents, and binding agents:

Pectin, Kaolin, Bismuth salts are the drugs belonging to this group. Light Kaolin is a hydrated and purified aluminium silicate. It is supposed to absorb bacteria and bacterial toxins. Pectin is purified carbohydrate product obtained from citrus fruit extracts. It is claimed to form stools. However, the dose of these drugs provided in antidiarrhoeal mixtures is too inadequate. Secondly, it is reported that these drugs may cause loss of electrolytes by preventing absorption through gastrointestinal tract. These drugs, if at all, are only of cosmetic value and may actually mask the severity of the disease.

D) Electrolytes:

In the management of diarrhoeas, administration of water and electrolytes takes precedence over all other forms of treatment. However, electrolytes should never be mixed in antidiarrhoeal drugs. Electrolytes must be administered with water in proper formula and as per need of individual patient. Electrolytes provided in the antidiarrhoeal mixtures are in wrong proportion and too inadequate. They give rise to false sense of security and may prove harmful.

CONCLUSIONS

1. Antibacterial drugs should be used very judiciously and only if absolutely necessary in the management of diarrhoea;

2. All formulations containing combination of chloramphenicol and streptomycin should be banned as antidiarrhoeal agents;

3. All formulations containing streptomycin or chloramphenicol [alone] should be avoided;

4. All other antibacterial agents if combined in antidiarrhoeal formulations, should be provided in adequate dosage. eg. Neomycin, Colistin, Furazolidone, Cotrimexazole.....etc.

5. Hydroxyquinoline derivatives should not be added in any of the fixed dose combination. As far as possible these agents should be avoided and should be available strictly against prescription.

6. Antiperistaltic drugs [lomotil, Loperamide, Opium] should not be used in children below 2 years and when used in children, should be used very cautiously in proper dosage and for very short period of time. They should not be added in any fixed dose formulations. Antispasmodic drugs like dicyclomine should be carefully used in children and should never be added in fixed-dose combinations.

7. Electrolytes should never be added in fixed-dose combinations with antidiarrhoeal agents. That gives false sense of security and may prove harmful.

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Kerala Sastra Sahitya Parishad Demands

- ☐ Urgent steps for production and distribution of Essential and life saving drugs at low costs.
- ☐ Immediate ban on the imports and production of non-essential and hazardous drugs.
- ☐ Strict quality control of drugs.
- ☐ Implementation of the Hathi Committee recommendations.
- ☐ Implementation of People's Drug Policy.

ALL INDIA DRUG ACTION NETWORK

This study is a part of the work of the All-India Drug Action Network (AI-DAN). AI-DAN is a loosely knit network of more than ten groups/organizations from different part of the country committed to oppose the irrationalities in the production and use of drugs in India and to foster a Rational Drug Policy.