



## ADDITION OF PROBIOTICS, ZINC AND HERBS IN OTHER PHARMACEUTICAL FORMULATIONS

RAKESH CHANDRA CHAURASIA

M.D,D.C.H,PDCR  
Head- Dept. of Pharmacology  
M.L.N.Medical College  
Allahabad.

**Abstract:**

*Fixed dose combinations (FDC) are highly promoted by pharmaceutical companies which has own advantages and disadvantages. Compliance is the main benefit to the users. Most of the time there combinations are irrational. Multivitamins and Haemetinics are common representative in clinical practice. In current scenario probiotics, zinc and many herbal preparations are highly promoted alone as well as with combinations .In spite of definite indications there addition is now very common .The present article highlights some points ( my view) in this context*

**KEY WORDS:**

Placebo, Symbiotic, Irrational. Fixed Dose Combination.

**INTRODUCTION**

Adjunct medications are added along with main stream of therapy to enhance the outcome by additional support .Most of the time number of additional medicine are added for the nutrition point of view .This group comprises of multivitamins, haemetinics and minerals etc. These are usually indicated in deficiency disorders but most of the time such preparations are prescribe as placebo.

In current scenario probiotics and Zinc are highly promoted .In spite of specific indications these are now added in different pharmaceutical preparations. There presence not only affect ongoing treatment(?) but left some ethical issues of rationality and ultimate cost.The present article highlights some points in this context

**PROBIOTICS**

Probiotics are nothing but gut friendly non virulent (non pathogenic) micro-organisms .It includes bacteria such as Lactobacillus sp. Bifidobacterim sp, Streptococcus sp and yeast like Saccharomyces sp. Prebiotics are special food for probiotics strains. A combination of probiotics and prebiotics is better known as symbiotic. Probiotics are indicated according to specific strains therefore ethically indicated in lactose intolerance and antibiotic induced diarrhea. Some other uses of probiotics are immunity enhancement and nutrients supplementation. Additional uses are in food allergy ,gut intolerance and restoration of intestinal flora .

Probiotics are now commercially available, specific strains such as lactobacillus acidophilus and saccharomyces boulardii are available alone and used in lactose intolerance and in antibiotic abuse diarrhea,Symbiotic, a combination of prebiotic and probiotics is now commonly recommended formulation in several gastro intestinal disorders. These are available as powder in sachet as well as in capsules.

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#### **ZINC**

Zinc is an important trace mineral required for body metabolism. Zn is normally needed for childhood growth, wound healing and as an immunity enhancer. An adequate diet will provide enough zinc needed for normal functioning. It may be lost during severe vomiting and diarrhea. Its excess from overuse may result in nausea, vomiting, abdominal pain and copper deficiency. Since long time, zinc is used along with multivitamins, haematinics and appetizer etc in variable capacities.

WHO & UNICEF recommend 2 weeks (10-14 days) course of zinc in childhood diarrhea. Dose of Zn 10 mg / day for infant less than 6 months and 20 mg/day for those more than 6 months. After its definitive role in diarrhea, now Zinc alone is available in prescribed strength. Zinc is available in syrup and tablets.

#### **PROBIOTICS AND ZINC – NOW AS ADDITIVE**

Both the probiotics and Zinc are emerging agents of pharmaceutical interest. Instead of their well known indications, these are commonly added in various pharmaceutical preparations. Probiotics strains are now added in antibiotics and different gut related medicines. One important query arises regarding strains and their strength present in various probiotic or symbiotics. There should be uniformity among different brands. Similarly zinc is added in electrolytes, probiotics, tonics and haematinics etc. It is not uncommon to see a pharmaceutical product with postfix -Zn.

#### **IMPORTANT ISSUES**

Although probiotics and zinc deserve specific indications, dose as well as duration. There is unethical addition in various preparations posing important points such as dose (normal or less) drug interaction (if any) and pharmacological basis ( pharmacokinetic and pharmacodynamic) of combination. Addition of such agents is not always indicative of effectiveness and superiority of preparation. Prescriber has an option to choose products alone or with additive. Some time it catches the psychology of consumer in terms of a better formulation. Meanwhile after addition such pharmaceutical products become more expensive.

#### **ADDITION OF HERBS - NEW TRENDS**

The use of herbs in medicine is as old as civilization. Herbal medicines are very common in different cultures and communities. Most of them are used as traditional ways. Even today herbs are commonly used as nutritional supplements, immunity promoter, anti-allergic, anti-oxidants and rejuvenators etc. Common pharmaceutical preparations available in the pharma market are lycopene, ginseng, spirulina, soya, isoflavones, grapes, green tea, neem, amla, honey, tulsi and wheat grass extract etc.

One of the myths regarding the use of herbal products in general is their safety. People believe that products containing herbs are natural and free from side effects. Thus a common man is diverted toward herbal medicine for good fitness. The pharmaceutical industries are banking on this concept and merging the plant supplements with commonly used formulations. These herbal agents are highly promoted thus the pharma market is flooded with such preparations. Most of such preparations are 'over the counter' in nature and include tonics, appetizers, multivitamins, haematinics and food supplements etc.

#### **RATIONAL ISSUE BEHIND ADDITION**

Probiotics, Zinc and herbal preparations are indicated alone for specific clinical conditions. After WHO recommendation, zinc became now a prime element for pharmaceuticals. Most of the products become catchy with postfix -Zn.

In India, some of the pharmaceutical preparations contain Zn, probiotics strains and herbs in various capacities. Some questions arise here –Is the addition rational? Does the combination follow the rational pharmacological criteria ( pharmacokinetic & pharmacodynamic) of addition? Amount of additive is sufficient or nominal? Is there any hidden risk of drug interaction or side effects? Is there any Pharmacovigilance survey? Is any provision of trial for safety? What is the cost of preparation after addition – is it same or expensive? etc.....etc.....

#### **PERSONS ATTITUDE**

In recent years people become more conscious about their health. Concept upon foods and drinks undergoes dramatic changes. People are now interested in balanced diet full in fibers, vitamins and minerals. They also drink plenty of mineral / electrolyte rich fluids. Apart from these; they spend their precious time in walking, exercise, gym, fitness club, yoga and in meditation etc.

For the sake of good health they use pharmaceutical preparations. Addition of probiotics, Zn and herbs in commonly recommended preparations is not always a criterion of superiority and effectiveness.

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.Meanwhile it cashes the psychological sentiment of consumers regarding to superiority of product after addition.

#### CONCLUSION

Probiotics and Zinc are not only indicated in gastro-intestinal disorder but also used as immunity enhancers, anti-oxidants, growth promoter and nutritional supplements. Herbs are commonly used as dietary supplements. Although they are generally safe but sometime can cause toxicity. Before addition of these agents in other pharmaceutical preparations, think about rationality behind combination. It should not to be added in other formulation on 'placebo' basis. Which ultimately increases the cost of formulations and finally posing load on the pocket of the common man.

At the last but not the least, the message of this write up is “ *there should be rational basis of addition (combination) with due consideration of economics* ”

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