

## An Assessment of Iron Supplements in the Indian Market

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### Background

India is one of the countries with a very high prevalence of anemia in the world, affecting almost 75% of the Indian population. Iron supplements are the mainstay of therapy. They are also used for prophylaxis of iron deficiency anemia. There is an increasing concern over the large-scale availability of various iron supplements as fixed dose combinations with other vitamins/minerals/antioxidants as 'over the counter' agents, thereby escalating cost of treatment.

### Aims & Objectives

To determine the number, composition and pharmacological rationale of the various iron supplement formulations available in the Indian market.

### Materials & Methods

Data was collected from an annual Drug Compendium entitled 'THE DRUG TODAY' of the year 2013 (January-March). Medications were assessed for total number, different formulations, and number of constituents present in each formulation, their pharmacological group, amount of each constituent and rationality.

### Results

There are over eight hundred iron supplements in the

Indian market, and more than 90% of the preparations were fixed-dose combinations (FDCs) with various minerals and vitamins. The majority of preparations (46%) contain carbonyl iron or ferrous sulphate. In a large number of products, the amount of iron was not specified (31%). The most common formulation for oral administration was capsules (35%). Majority of the preparations had 2-3 constituents. A wide variation in the amount of each constituent present per dose in different formulations was observed. Rationality assessment of the various FDC preparations (iron with minerals, vitamins, amino acids, antioxidants and miscellaneous products) revealed that most of these preparations were irrational, priced higher than single constituent formulations and had no documented benefit in the treatment of iron deficiency anemia.

### Conclusions

The composition and amount of each constituent in an iron supplement should be detailed and properly labelled to ensure adequate treatment of iron deficiency anemia and prevent toxicity due to overdose. Availability of a large number of preparations with unknown composition as 'over the counter' agents requires a serious review of the legal provisions and regulations in India for drug manufacturing, labeling and marketing. Strict enforcement of such provisions is essential to safeguard the health of the population and limit the escalating cost of treatment of this important public health problem.

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## To Study Theantibiotic Sensitivity of the E.Coli, Staph. Aureus, Klebsiella, Acinetobacter, Pseudomonas and Enterococci (ESKAPE) Organisms Isolated from the Endotracheal Tubes from Intensive Care Units of a Tertiary Care Hospital

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### Background

In the recent past, antibiotic resistance observed from the isolates of the intensive care units was one of the biggest problems faced by the clinicians. E.coli, Staph.aureus, Klebsiella, Acinetobacter, Pseudomonas and Enterococci (ESKAPE organisms) are the most commonly implicated organisms when multi drug

resistant pathogens are discussed.

### Aims & Objectives

To study theAntibiotic sensitivity of the E.coli, Staph.aureus, Klebsiella, Acinetobacter, Pseudomonas

and Enterococci (ESKAPE) organisms isolated from the endotracheal tubes from Intensive care units of a tertiary care hospital.

### Materials & Methods

Data was collected from the Microbiology department, J.J.M. Medical College, Davangere, where the culture and sensitivity was done for all the Endotracheal tube tip/ aspiration samples received from both pediatric and adult ICUs. Prevalence of ESKAPE organisms in our hospital and percentage of these isolates that are sensitive to the commonly used antibiotics was analyzed.

### Results

122 culture and sensitivity results were analyzed in the study. 64 of the samples were from pediatric ICU and 57 were from adult ICU. ESKAPE organisms constituted 99.18% of the total results; 96.87% in the pediatric isolates and 98.24% in the adult isolates. Among the pediatric isolates Klebsiella, Acinetobacter and Pseudomonas constituted 87.48%. 100% of Acinetobacter and Pseudomonas isolates showed sensitivity to Imipenem and 87.50% isolates of Klebsiella sensitivity to Imipenem. Among the isolates obtained from the adult ICU,

Acinetobacter, Klebsiella, Staphalococcus aureus and Pseudomonas constituted 89.40%. 100% of Acinetobacter and Staph.aureus isolates showed sensitivity to Imipenem and Doxycycline. Among Klebsiella and Pseudomonas 85.71% isolates showed sensitivity to Imipenem. 4.68% and 7.07% of the isolates were Escherichia coli from pediatric and adult ICU respectively and 100% pediatric isolates were sensitive only to Imipenem whereas 100% adult isolates were sensitive to Amikacin, Ceftriaxone, Imipenem and Co-amoxyclav. Citrobacter was isolated in 2 samples each from both pediatric and adult ICU and all of the isolates were sensitive to Imipenem.

### Conclusions

Among all the ESKAPE organisms, Acinetobacter, Klebsiella, Staphalococcus aureus, E.coli and Pseudomonas were isolated from the Intensive Care Units of this tertiary care hospital. Resistance of these organisms is widespread none of the commonly prescribed antibiotics is ideal for a patient intubated in these ICUs. Imipenem is the only antibiotic that seems ideal which can be administered until the cultures are reported.

## A Comparative Study of Anthropometry and Risk Factors among Diabetics and Non-Diabetics in Puducherry

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### Background

Diabetes has emerged as a major healthcare problem in India. According to Diabetes Atlas published by the international diabetes federation (IDF) there were an estimated 40 million persons with diabetes in India in 2007 and this number is predicted to rise to almost 70million people by 2025. Diabetes Mellitus is multifactorial disease main risk factors include modifiable variables like Body Mass Index (BMI), physical inactivity, diet, infections and non-modifiable variables like age, family history of Diabetes Mellitus.

### Aims & Objectives

To assess Body Mass Index (BMI), Waist Hip Circumference (WHR) and Waist Circumference (WC) of known diabetics and also to compare the known risk factors of diabetes between diabetics and non-diabetics.

### Material & Methods

Thirty diabetic patients and thirty non-diabetic healthy persons were randomly selected from the Villiyannur commune Panchayat of Pondicherry aged 35-70 years in the service area of Sri Lakshmi Narayana Institute of Medical Sciences (SLIMS) in June 2013 .They were subjected to anthropometric analysis in the form of Body Mass Index (BMI) ,Waist and Hip ratio. The diabetic subjects were already "known diabetic patients" registered for follow up in SLIMS Medical College Hospital. Age and gender matched neighborhood controls were selected for each known diabetics. Selection of variable: Height, Weight, BMI, WC and WHR were measured following the standard procedures. Anthropometric measurements were taken with subjects in light clothing and without shoes. Height and weight were measured using calibrated stadiometer and portable weighing machine respectively. The height and weight