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R.P. Arshidhha, Dr. K.R. Reshmy, Dr. Chandraja CV, Dr. Sisir PR, Dr. Mohan CK & Dr. Sugathan NV

ABSTRACT

Introduction: More than 50% of women world-wide and 90% in India of reproductive age have been reported to be anemic the common cause being iron deficiency[4]. The primary function of respiratory system is the exchange of gases. The circulatory system is an essential link between the atmosphere which contained O₂ and the cells of the body which consumes O₂ which is primarily done by Hb of RBC. The common measure taken against anemia is supplementation of iron orally or through IV. Researches have shown that the iron supplementation programmes are not effective in India. In this scenario, considering Homoeopathy as a system of treatment has certain advantage on curing anemia. This study was done with the intention to bring out the possible correlation between anemia and altered Pulmonary function in females of reproductive age group and thereby exploring the scope of potentised homoeopathic medicines to cure anemia.

Keywords: anemia, spirometry, forced vital capacity (FVC), forced expiratory volume (FEV).

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Evaluation of Pulmonary Functions in Fertile Females Having Anemia with Homoeopathic Similimum

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ABSTRACT

Introduction: More than 50% of women worldwide and 90% in India of reproductive age have been reported to be anemic the common cause being iron deficiency^[4]. The primary function of respiratory system is the exchange of gases. The circulatory system is an essential link between the atmosphere which contained O_2 and the cells of the body which consumes O_2 which is primarily done by Hb of RBC. The common measure taken against anemia is supplementation of iron orally or through IV. Researches have shown that the iron supplementation programmes are not effective in India. In this scenario, considering Homoeopathy as a system of treatment has certain advantage on curing anemia. This study was done with the intention to bring out the possible correlation between anemia and altered Pulmonary function in females of reproductive age group and thereby exploring the scope of potentised homoeopathic medicines to cure anemia.

Methodology: 10 cases from SKHMCH provinces were taken and their Hb level was checked and their pulmonary function was analyzed using spirometry and similimum was prescribed then again post assessment of their Hb level and pulmonary function was done and the results were compared.

Result: According to the study nearly 60% of anemic subjects suffered from restrictive lung diseases, 20% with obstructive lung diseases and 20% had normal ventilator function and after treatment only 10% had mild restriction and 10% with moderate restriction and there was no obstructive lung diseases and the persons with normal ventilator function showed further

improved pulmonary capacities. Among the medicines used Pulsatilla showed greater improvement. Thus the co-relation between Anemia and pulmonary function suggests that subjects suffering from Anemia have decreased pulmonary functions and most of them with restrictive lung diseases and homoeopathy does a great role in treating anemia which would improve the pulmonary function and thus enhance the daily activities in Indian women.

Keywords: anemia, spirometry, forced vital capacity (FVC), forced expiratory volume (FEV).

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I. INTRODUCTION

Anemia is a condition in which the number of RBC (or) their oxygen carrying capacity is insufficient to meet the physiological needs, which vary by age, sex, altitude, smoking and pregnancy state. Anemia is classified as mild, moderate and severe based on the level of Hb in blood.

According to WHO if any disease whose prevalence is more than 40% is considered as a problem of high magnitude. In India 90% of women of reproductive age group are affected.

The common cause being iron deficiency. A regular loss of 2ml of blood per day doubles the iron requirement. During menstruation 35ml of blood is lost.[01]On average, an additional 20mg of iron is lost during menstruation, so pre menopausal women requires about twice as much iron as men. [03]

In Anemic individuals due to lack of Hb there is ineffective O_2 delivery to the exercising muscles.

The rate and depth of respiration often are increased. The minute ventilation is increased and FEV₁ is reduced. While explaining the background it is inevitable to say that most of the young girls are anemic. Though it is an extremely common phenomenon it is given least importance. Dietary calcium reduces iron uptake from the same meal, which may precipitate iron deficiency. [05] But the fruits and vegetables containing Vitamin C enhances iron absorption, it may help reduce the risk of anemia among people prone to iron deficiency [33].

The primary function of respiratory system is to exchange O₂ and CO₂. But in anemic individuals due to lack of Hb there is ineffective O₂ delivery to the exercising muscles, with a resultant increase in anaerobic metabolism. [02] Many times respiratory and circulatory symptoms are only noticeable following exertion. When anemia is severe, dyspnoea and awareness of vigorous heart action may be noted even at rest. The rate and depth of respiration often are increased. The minute ventilation is increased, as is the residual air, but the FEV₁ is reduced. The O₂ debt incurred during a standard work load is greater in anemic subjects. In anemic condition, it takes longer to restore heart rate and respiratory minute volume.

The recovery period for O₂ uptake was prolonged than CO₂ uptake in exercise as it attributed to the greater work required of the respiratory muscles. [06]

II. OBJECTIVE

Usefulness of homoeopathy in treating anemia with decreased pulmonary function in fertile women.

- 1) To assess the co-relation between different stages of anemia with Forced Expiratory Volume.

- 2) To assess the severity of anemia on the basis of Hb concentration and FEV₁ values.

III. MATERIALS AND METHODS

10 female cases between 12-45 years from different OPDs and IPDs of SKHMCH provinces were taken and their Hb level was checked and they were categorized into different stages of anemic subjects and their pulmonary functions were analyzed using spirometry then proper case taking was done and similimum was administered for minimum of 4 weeks then again post assessment of Hb level and pulmonary function was done and the data were compared statistically.

IV. RESULT

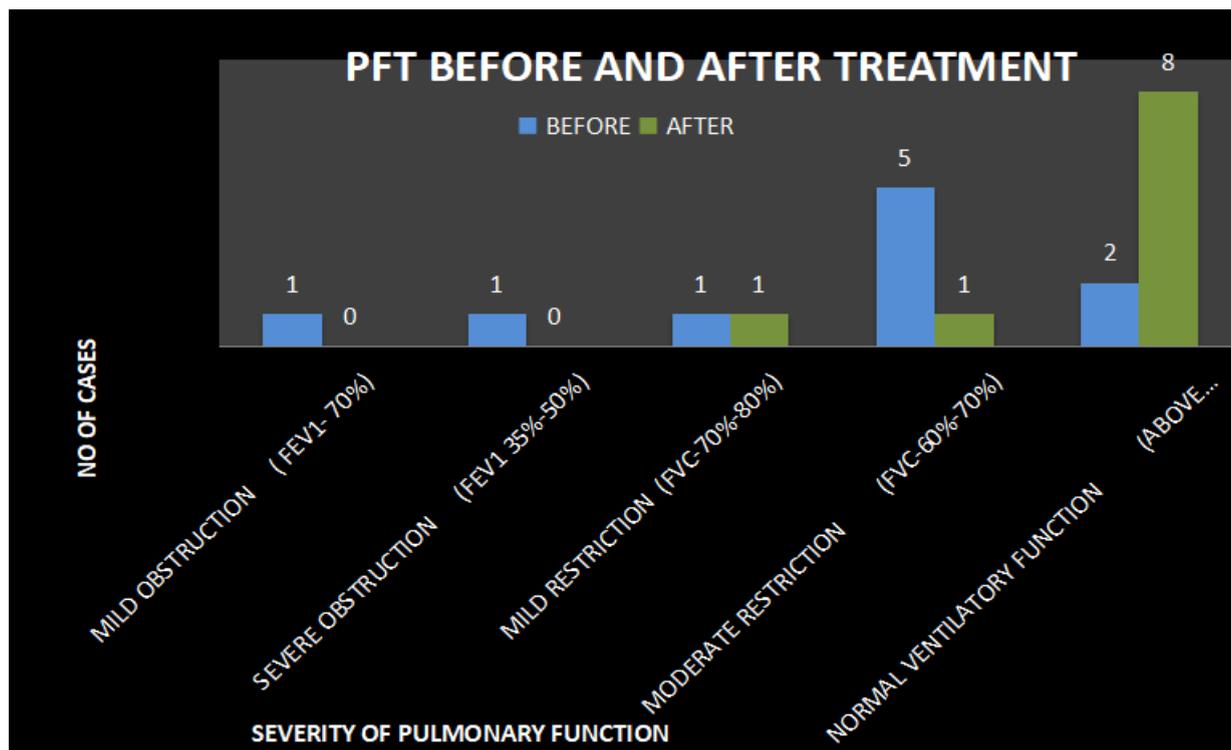
Out of 10 cases, 50% had Moderate anemia, 30% had severe anemia and 20% had mild Anemia. Out of them 50% had Moderate airway restriction, 10% had Mild airway restriction, 10% had severe airway obstruction and 10% had Mild airway obstruction. And 20% had Normal ventilator functions. After treatment for minimum of 4 weeks using exact Homoeopathic Similimum among 10 cases, 60% of them had Mild anemia, 20% of them had Moderate anemia and 20% had severe anemia. Out of them 80% had Normal ventilator function, 10% had mild airway restriction and 10% had moderate restriction.

Thus overall, improving the Hb concentration using Homoeopathic Similimum improved the pulmonary functions in fertile females who suffered from anemia which clearly demonstrated the effectiveness of Homoeopathic Similimum in improving the pulmonary function by treating anemia.

Table 1: Distribution of case according to haemoglobin concentration before treatment

Pulmonary Function	Before Treatment	After Treatment
Severity of Anemia	No of Cases	No of Cases
MILD (10.0-11.9)	2	6
MODERATE (7-9.99.9)	5	2
SEVERE (less than 7)	3	2

Chart 1: Comparison of pulmonary function before and after treatment



V. DISCUSSION

The study conducted by Emily P.Brigham, Meredith C, et all in US Women suggested that iron status may play a role in lung function in US Women. Similar studies conducted by Sharad Jain and JL Agarwal at Hapur, U.P, India and similar researches suggests that FVC, PEFR, FEV₁ were Significantly lowered in anemic group compared to control group. Even in this study the FVC, FEV₁ and FEV₁ % ratio was very significantly lowered in about 80% of the subjects with no history of cardiac or pulmonary pathology but 20% of the study had Normal ventilatory function. Of them restrictive lung disease was relatively higher compared to Obstructive Lung disease with 60% which is very similar to the work conducted by K Amrutha kumara, T Rama Kranthi, et all at DR.V.R.K Women's Medical College Teaching Hospital and Research Centre, Azinagar, Telungana, India.

The Fundamental principle in which Homoeopathy stands is "Individualization". Recent study conducted in the year 2015 had concluded that the treatment plan for iron

deficiency should be made on individual basis which supports our method of treatment. Thus according to symptom similarity and individualization proper similimum was selected for each individual after a brief case taking and proper repertorization and reference with proper material medica. The patients were also advised to include iron rich food in their diet. The Similimums obtained in this study were Pulsatila Nigricans, Sulphur, Calcarea Carbonica, Ignatia and Aurum Metallicum. Of them PULSATILA NIGRICANS was more useful which showed a greater improvement in Hb content which improved by 2g/dl in 3-4 weeks as accordance with the standards fixed. The potency which was used includes 200 and LM potencies.

After regular follow ups, for minimum of a month post assessment of Hb concentration was done and 90% of cases showed marked improvement.

To assess the correlation between Anemia and Pulmonary function, PFT was also done again, 80% of the cases who were interpreted with restrictive or obstructive lung pathologies were having Normal ventilatory function. 10% of the

case who had moderate restriction showed improvement and were diagnosed with mild restriction. 10% of case showed no improvement. 2 case who were having normal ventilator function had obtained better and increased values of FVC and FEV₁ values comparing to the previous test.

There are no adequate literary works that shows improvement of the Pulmonary function in anemic subjects after administration of Homoeopathic remedies according to my knowledge. Thus according to my study the effectiveness of Homoeopathic similimum in improving anemia and thereby enhancing Pulmonary function and the existence of positive relationship between anemia and decreased pulmonary function has been established clearly.

But there is no positive relationship between the severity of anemia and their pulmonary function.

As before treatment 3 who had severe anemia had their FEV₁/FVC ratio between 80%-90%, 5 who had moderate anemia had their FEV₁/FVC ratio between 50%-80% and 2 who had mild anemia had their FEV₁/FVC ratio between 80%-90%.

After treatment 2 who have severe anemia have their FEV₁/FVC ratio between 75%-85%, 2 who have moderate anemia have their FEV₁/FVC ratio between 80%- 90%, 6 who have mild anemia have their FEV₁/FVC ratio between 75%-95%.

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