

LETTER TO THE EDITOR

PEFR IN CEMENT PIPE FACTORY WORKERS

Sir,

(Received on March 9, 1999)

Hereby we are reporting the effect of cement exposure on PEFr in factory workers. This study was conducted in the cement pipe factory located at Ibrahimpatnam, Hyderabad in the month of Sept 98'. A total number of 48 male workers in the age group of 19-25 years were studied. Healthy workers with no previous history of respiratory or other significant illness were selected. History of exposure to cement dust was noted. Age of the subjects and anthropometric measurements like height (cms) and weight (kgs) were recorded. PEFr was measured using Pocket Peak Flow Meter. The subject was made to sit in an upright position without any back rest and was instructed to take maximal inspiration and blow into the instrument rapidly and forcefully. Close watch was made to ensure that a tight seal was maintained between lips and the mouth piece of the device. Three readings of

PEFR were taken and the highest was selected.

Data was collected and analysed by dividing subjects into 3 groups depending upon the duration of exposure into:

- Less than 1 year - Group - I.
- Between 1-2 years - Group - II.
- Above 2 years - Group - III.

Mean and SD values of age, weight, height and PEFr of each group were calculated and P value was obtained by using 2 sample T test as given in the Table below :

Infrance:- From the above observations it is infered that:-

- PEFr of the subjects show a gradual decrease from Group I to Group III i.e.,

Groups	Duration of exposure	Age (yrs)	Ht. (cms)	Wt. (kgs)	PEFR (L/min)	P value
Group I	Less than 1 yr. n=12	19.9 ± 1.8	162.1 ± 4.58	52.4 ± 3.8	459.1 ± 63.3	Between Gr.I & Gr.II 0.33
Group II	Between 1-2 yrs. n=17	22.8 ± 5.36	160.5 ± 4.37	52.2 ± 5.1	437.0 ± 53.3	Between Gr.II & Gr.III 0.085
Group III	Above 2 yrs. n=19	25.1 ± 4.02	165.5 ± 4.57	54.6 ± 3.7	410.5 ± 31.5	Between Gr.I & Gr.III 0.026

PEFR is decreasing with the increased duration of exposure.

- Though it has been reported in the studies (1, 2) that there is linear relation between Ht and PEFR, we have inferred from the above observations that the mean PEFR was the lowest in Group III even though the mean height was higher in this group, which may be due to exposure to cement dust.
- It has also been observed that there is no significant difference between PEFR value of Group I and Group II (P value - 0.33), which may be due to lesser duration of exposure, but difference

between PEFR value of Group I and Group III is highly significant (P value - 0.026) indicating that exposure above 2 years is having a significant effect on PEFR.

- When compared to the studies of natarajan et al (3), our values are less, this may be the effect of exposure to cement or it may be a regional difference, which is to be verified.

Summarizing our findings, PEFR decreases non linearly with the duration of exposure to cement; age, ht. and wt. becoming insignificant.

SIKANDAR HUSSAIN*, M. MOHIUDDIN,
M. SHAKEEL-UR-RAHMAN, ASAD RAFIQ
AND M. ASHFAQ AHMED

Department of Physiology,
Deccan College of Medical Sciences,
Hyderabad - 500 029

REFERENCES

1. Cotes JE, Higgins LTT, Rossier CR, Wilton C. Quoted from *Torax* 1972; 27: 116.
2. Kalacic I. Ventilatory lung functions in cement workers. *Arch Environ Health* 1973; 26: 84.
3. Natarjan S, Radha K. Peak Expiratory Flow rate in Normal South Indians. *Ind. J Chest Diseases and Allied Sciences* 1978; 20: 178-182.

*Corresponding Author