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Effects of chalk dust on teacher

Lokhande Rohan Shivling

lokhanderohan294@gmail.com

Karmayogi Polytechnic College, Shelve, Maharashtra

ABSTRACT

The aim of study is effect of chalk dust on Teachers Health. Atmospheric pollutants like dust particles, poisonous gases causes air pollution and it affects adversely on human health and creates irritation to nose and throat, annoyance to human eyes. Also creates other ill effects like headache, allergies, nausea and similar effects. Chalk dust particles is one the major problems in schools and colleges.at the time of teaching some chalk dust particles enter into our body through inhalation process and suffers from diseases like asthma, burning eyes, conjunctivitis and allergic respiratory or nasal diseases. Control Group –Healthy Controls -100 subjects. Normal healthy age matched males and females subject(not exposed to any occupational dust) male and female teachers-100 were considered as the subject of this study (exposed to chalk dust particles with work experience 5-30 years) Information was collected by visiting the each teacher. The study subject were interviewed and questionnaire was filled for each subject, which included details about their age, educational qualification and health problems such as nausea, headache, irritation and dryness of throat, weakness, sneezing faced by them. The present study indicates that Teachers faces numerous health problems due to direct inhalation of chalk dust such as asthma, burning eyes conjunctivitis, and allergic respiratory or nasal diseases.

Keywords: Chalk dust, Health Effects on Teachers

1. INTRODUCTION

Atmospheric pollutants like dust particles, poisonous gases causes air pollution and it affects adversely on human health and creates irritation to nose and throat, annoyance to human eyes. also creates other ill effects like headache, allergies, nausea and similar effects. Chalk dust particles is one the major problems in schools and colleges.at the time of teaching some chalk dust particles enter into our body through inhalation process and suffers from diseases like asthma, burning eyes, conjunctivitis and allergic respiratory or nasal diseases. The majority of

occupational poisoning results from Breathing the air containing poisonous gases, vapors and dust particles.

Chalk dust particulates are one of the major or important problems in teaching field. White chalk sticks are made mainly from calcium carbonate derived from mineral chalk rock or limestone, while colored or pastel chalks are made from calcium sulfate in its dehydrate form, $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$, derived from gypsum. Chalk sticks containing calcium carbonate typically contain 40–60% of CaCO_3 (calcite). In short, swallowing a piece of white chalkboard chalk won't kill you, but breathing in chalk dust for a number of years can create or trigger respiratory problems Epidemiological studies shows that individual exposure to this type of air pollutant causes some adverse effect on health of teachers such as asthma, burning eyes conjunctivitis and allergic respiratory or nasal diseases exposed to chalk dust.

2. MATERIALS AND METHODS

Control Group: Healthy Controls -100 subjects normal healthy age matched male and female subjects (not exposed to any occupational dust)were selected as controls. Male and female teachers-100 were considered as the subject of this study (exposed to occupational chalk dust with work experience 5-10 years)

The present study was done in Shri. Pandurang Prathisthan's Karmayogi polytechnic and engineering college, Shelave-Pandharpur, Solapur district, Maharashtra, India and subject information was collected by visiting each teachers. The study subject were interviewed and questionnaire was filled for each subject

Table 1: Distribution of study subjects

Healthy Controls (Not exposed to any occupational dust)	100
Teachers (exposed to Chalk dust)	100

Inclusive Criteria: The male and female teachers within the age group 30 to 55years were selected.

Exclusive Criteria: The subject having history of smoking, passive smoking, and diseases such as Diabetes Mellitus, Renal diseases, Cardiovascular Diseases etc. were excluded from study

3. RESULTS AND DISCUSSIONS

The present study was indicate that prevalence of headache, nausea, irritation and dryness of throat, weakness sneezing were higher in occupational exposure of chalk dust.

Table 2: Working conditions for Teachers

Healthy Controls (Not exposed to any occupational dust)	100
Teachers (Exposed to Chalk dust)	100
Working Years(Experienced)	5-30years
Working Hours	8-9hrs
Lectures per day	2-4

Table 3: Health status of occupational exposure of Chalk dust.

Symptoms due exposed to chalk dust)	Healthy Controls (Not exposed to any occupational dust) (100)	Teachers (Exposed to chalk dust) (100)
Headache	02	3
Nausea	00	4
Loss Appetite	00	4
Difficulty in breathing	00	8
Skin Irritation	00	9
Eye Irritation	00	10
Dryness of throat	00	15
Respiratory problem	00	10
Sneezing	00	04

The respiratory impairments among the exposed chalks were reported to be caused by the chalk dusts in small and large scales during their teaching processes. The nature of respiratory diseases caused by occupational dust is influenced by the type of dust and duration of exposure. Occupational diseases are caused by pathologic response of the patients to their environment. The salient features of were that the subjects experienced symptoms like nausea, cough and breathlessness. In response to problems reported by teachers were:

Cough, which may be related their exposure to chalk dust

- Dryness in throat
- Sneezing
- Cough throughout the day
- Chest tightness, etc.

The major health problems associated with the teachers who used boards and chalks and they were exposed to chalk dust are respiratory ailments such as bronchitis and asthma.

4. CONCLUSION

The present study indicates that Teacher faces numerous health problems due to direct inhalation of chalk dust during teaching such as asthma, burning eyes, respiratory problems, skin irritations, obstructive bronchitis or nasal diseases

There is need to change chalk which produces dust with dustless chalk or use of pens and white boards for teaching which are not producing dusts or any hazardous effect to human body

5. REFERENCES

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