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LIST OF ABBREVIATIONS

A	: Alveoli
A1AT	: Alpha-1 Antitrypsin or α1-antitrypsin
A1PI	: Alpha-1 proteinase inhibitor
AA	: Ascorbic acid
Ad- libitum	: Diet for mice in experiment period
ALA	: α-linolenic acid
BV	: Blood vessel
BW	: Body Weight
CAP	: Concentrated ambient particles
CASH	: Mice group treated by vitamin C high dose after 12 weeks cigarette smoke exposure.
CASL	: Mice group treated by vitamin C low dose after 12 weeks cigarette smoke exposure.
CBSH	: Mice group were given high doses of vitamin C (0.075 mg/gm.BW) for the first two weeks, then stopped and exposed to cigarette smoke till the end of scheduled duration.
CBSL	: Mice group were given low doses of vitamin C (0.015 mg/gm. of body weight) by Oro gastric tube for the first two weeks, then stopped and exposed to cigarette smoke till the end of scheduled duration.
CDSH	: Mice group treated by high dose vitamin C orally during exposure to cigarette smoke for 12 weeks.
CDSL	: Mice group treated by low dose vitamin C orally during exposure to cigarette smoke for 12 weeks.
CONT	: Control group
COPD	: Chronic Obstructive Pulmonary Disease
D	: Dust and dark particles
DHA	: Decosahexaenoic acid
ELF	: Epithelial lining fluid
EPA	: Eicosapentaenoic acid
FEV1	: The forced expiratory volume in one second
GR	: Glutathione reductase activity
GSH	: Reduced glutathione
GSSG	: Glutathione oxidation
GSTs	: Glutathione S-transferases

GSTs	: Glutathione S-transferases
H&E	: Hematoxylin and Eosin stain
I	: Pheunocyte type I
IAS	: Inter-alveolar septum
IAS	: Inter-alveolar septum
II	: Pheunocyte type II
MMP	: Metalloproteinase
Ns	: Neutrophil
P1	: Type I squamous epithelium.
P2	: Type II pneumocystis
PM	: Particulate Matters
PM10	: Particulate Matters less than 10 micron in diameter
PUFA	: Polyunsaturated fatty acids
Rb	: Respiratory bronchiole
RBCs	: Red Blood Cells
ROS	: Reactive oxygen species
SBS	: Sick building syndrome
SC	: Single columnar lining epithelium
SMK	: Mice group were exposure to cigarette smoke for scheduled duration (12 weeks)
TBARS	: Oxidative stress – Free radicals determination
TRAP	: Traffic-related air pollution
TSP	: Total suspended particulate matter
TSP	: Total Suspended particles
VCH	: Mice group were given high doses of vitamin C by Oro gastric tube for two weeks
VCL	: Mice group were given low doses of vitamin C by Oro gastric tube for two weeks
VIT C	: Vitamin C
VOCs	: Volatile Organic Compounds

ABSTRACT

The research aims to evaluate the food patterns of two samples in Alexandria and Qena, and its relation to chest disease risks due to air pollution, this was achieved by conducting a field and a laboratory studies.

The field study was done on a random sample consisted of 400 families have been taken from Alexandria (Wadi Elkamar district at Alexandria governorate), and Hiw at Naje Hammadi – Qena governorate.

The required data was collected by using an especially design questionnaire, which has four parts include demographic characteristics of the family members, food consumption patterns, the sources of indoors and outdoors air pollution as independent variables, and the prevalence of chest diseases among the family members as a dependent variable.

The laboratory study was done on male mice (6 weeks age) was done to study the effect of exposure to cigarette smoke for 12 weeks on lung health in mice through some biochemical parameters in blood and lung, as well as effect of low and high doses of vitamin C before, during and after exposure to smoke.

The results show that (47%) of the studied families have patients with chest diseases. One fourth of patients (25%) are children under 16 years old. The smokers in the families consists (51.5%) and (40%) in Alexandria and Qena respectively. The results reveal that (62%) of families need to modify their food patterns.

Statistical analysis illustrate a significant negative relation was found between having healthy food patterns and prevalence of chest diseases. Healthy food patterns helps in decrease the prevalence of chest diseases by (17.1%).

Results of the laboratory study revealed that exposure to smoke increased the relative lung weight by 205%, decreased in vitamin C levels in plasma by 31.6%, increased TBARS, and decreased GSH in plasma and lung, while treatment with high doses of vitamin C before and during smoke exposure showed improvement in biochemical and histological examinations.