

Occupational Exposure to Emissions of
Photocopying Machines in Iloilo City:
An Exploratory Study

Special Problem Presented to the
Faculty of the University of the Philippines in the Visayas
College of Arts and Sciences
Division of Biological Sciences, Miagao, Iloilo

In Partial Fulfillment of the
Requirements in
PH 190 Special Problem

By:
Cristina M. Becodo
Zynie B. Dignadice
Ma. Thessa Urdolyn M. Gaviola
Analyn G. Jumeras
Cathy Q. Nievaes
Vanessa Grace L. Panizales
Josie A. Teruel
Glynis S. Tingzon

April 2004

ABSTRACT

Photocopying is a profitable business in Iloilo City. The photocopying machines are known to emit ozone and volatile organic compounds. This study aims to determine whether long-term exposure to photocopying machines will have adverse health effects on the operators.

The group extracted blood samples from the respondents; had them undergo chest x-ray examination; answer questionnaires and checklists. From the blood samples, the group determined the WBC count, differential count and serum albumin, total protein and uric acid of the respondents. From the chest x-ray examination, the group aimed to see particles from photocopier emissions deposited in the lungs. From questionnaires, the group aimed to determine the operators' common health complaints. From the checklists, the group aimed to know if the photocopying establishments have a suitable working space area and ventilation.

The group aimed to determine the effect of years and hours of exposure to photocopiers; number of machines; ventilation; working space area; kind and number of toner on WBC count and differential count; health complaints; serum albumin, total protein and uric acid levels; and chest x-ray results of the respondents.

Results showed that years and hours of exposure had no significant effect on the photocopier operators. However, other factors such as the number of machines, working space area and ventilation, number and kind of toner had significant effects on selected cell and serum levels in the blood of the operators and on their common health complaints.

The group concludes that exposure to photocopying machines have significant effects on the health status of the photocopier operators based on the common health complaints they frequently experience, white blood cell count and differential count and blood serum levels.