

SUMMARY

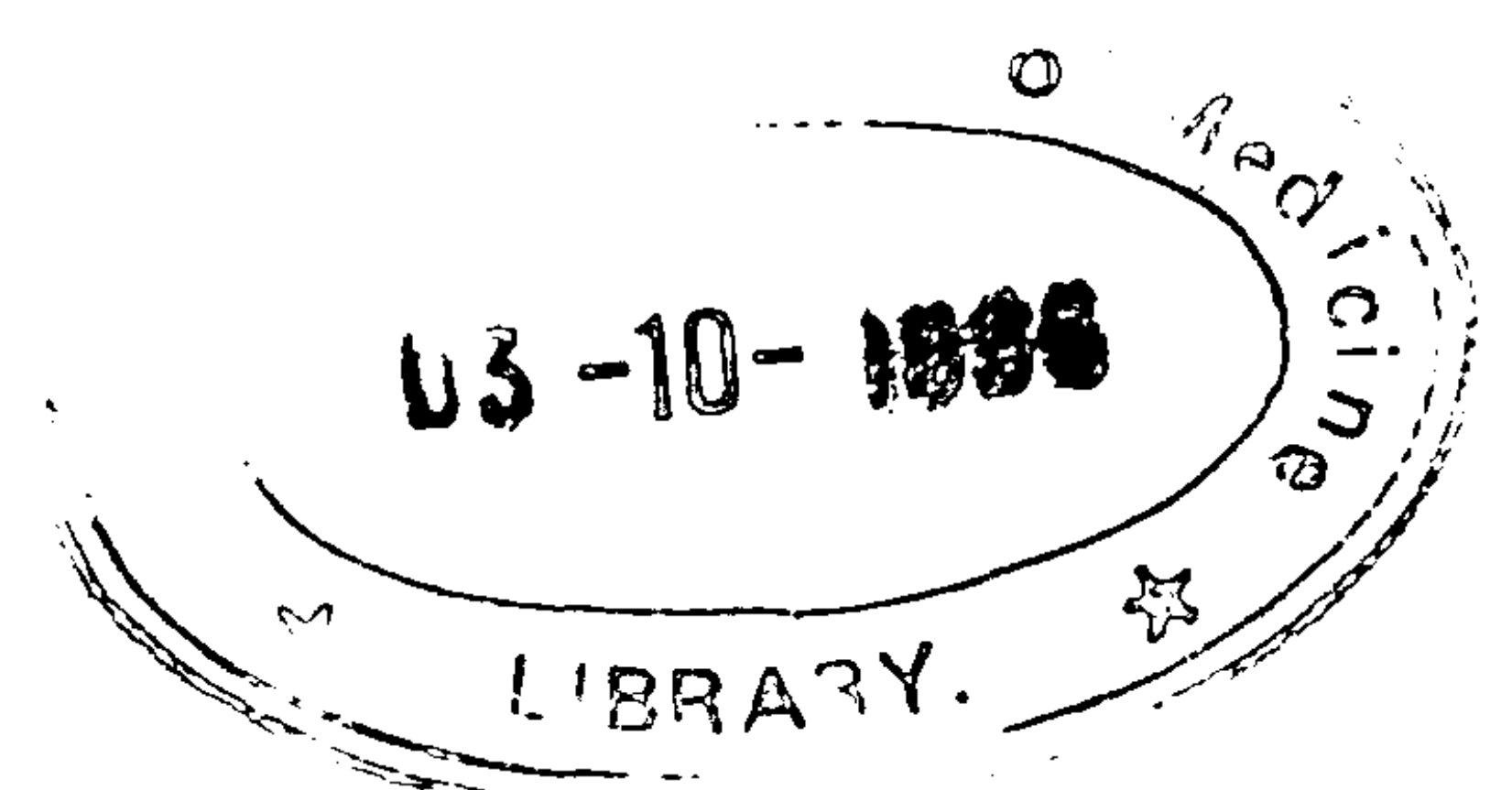
The Fire Service Department of Colombo Municipal Council Provides an important service to the city and suburbs in extinguishing fires. The fire brigade has now developed into a modern well equipped unit which has more than two hundred fire-fighters.

The fire-fighters are constantly at risk from exposure to smoke and heat. They are also subjected to injury and stress disorders due to the nature of work. It was therefore thought appropriate to undertake a study to ascertain the effects of some hazards of fire-fighting.

One hundred fire-fighters were selected by first stratifying according to the duration of service and then randomly selecting proportionate numbers from each category. Controls were group matched for age and smoking habits.

The study consisted of a questionnaire on respiratory symptoms, concurrent diseases, symptoms and habits, a clinical examination and ventilatory capacity measurement. A modified Harvard step test and electrocardiography for those over 40 years of age was also carried out.

The mean age of fire-fighters was 33.4 years, 54.3% of them were smokers. Of the smokers 52.9% were smoking less than 5 cigarettes a day. Among the fire-fighters 52.6% used face masks during fire-fights.



A high percentage (76%) of fire-fighters suffer from acute respiratory symptoms, the most prevalent ones being runny nose and cough. Those who use face masks had a lower prevalence of burning sensation and dryness of throat, or difficulty in breathing which was statistically significant ($P < 0.05$). The prevalence of chronic respiratory symptoms was 21.5% in the study group and 16.1% and the difference was not statistically significant. 60% of these in the study group were smokers. There were no cases of chronic bronchitis in both groups.

The measured ventilatory capacities were within the normal range of predicted values under the percent predicted method. However, with increasing age and/or duration of service the differences between the predicted and measured values appear to increase. The same trend is seen with the FEV1/FVC percentage. The percent predicted method does not appear to be a method sensitive to such changes.

There were no significant differences between the prevalence of concurrent diseases or habits between the two groups.