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HEALTH EDUCATION IN A DEMOCRACY[1]

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THE Health Education Institute is a remarkable institution and it is a great pleasure to watch its progress from year to year. I take a certain vicarious pride in it on account of the large part that my colleague, Professor Hiscock, has played in its development in the past. It is fascinating to see its scope widen and deepen. Particularly this year, apparently, your stress has been not so much on what may properly be called propaganda—although propaganda is important and desirable—but on community organization. Such a tendency toward community organization is a practical application of your basic maxim of education by doing. Education by committee is far more effective than education by poster or bulletin or cinema. The whole trend, the inherent drive of your educational ideas has brought about the realization that community action is the most powerful educational force; it's the thing that works. While I was in this field many years ago I felt very strongly that while bulletins and posters and meetings and so on were helpful they were like the torchlight processions of those days and the rallies that were held during a political campaign. Those things were after all only the trimmings. They didn't win the election. What won the election was the ward committee and the ward chairman working 365 days in the year. The kind of permanent health organization that has been developed in many communities is not only educationally sound in that it involves the activity of self-educated members but it is also the potent way to develop community action.

[1] This paper was presented before the Health Education Institute at the annual meeting of the American Public Health Association in St. Louis, October, 1942.

so that the amount consumed by the animals on the restricted intake was at least double that of the animals on the unrestricted intake did not increase the incidence of paralysis or death. The administration of 0.5 ml of 0.3 per cent. saline twice daily by stomach tube to the mice on restricted intake, likewise did not significantly alter the results.

From the data it appears that restricting the intake of either the complete ration or just the carbohydrate delays the manifestation in mice of infection with the Lansing strain of poliomyelitis virus.

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SCIENTIFIC APPARATUS AND LABORATORY METHODS

A SIMPLIFIED PROPYLENE GLYCOL DISPENSER FOR FIELD USE[1]

A CONSIDERABLE amount of work is in progress at the present time on the effectiveness of propylene glycol as an air disinfectant.[2, 3] This agent is commonly employed in concentrations ranging from 1 gram per 5 million cc of air to 1 gram per 20 million cc of air[3, 4, 5] and is most conveniently introduced into the atmosphere by vaporization.

Because some of the suggested vaporizing equipment is rather elaborate and is not suited to large-scale field experiments, we have developed a simple device requiring no special materials for construction. It consists of an ordinary electric light bulb dipping into a beaker or tin can filled with propylene glycol. Preferably the unit is insulated to diminish heat loss by setting it in a larger container and packing paper into the space between the sides. A 10-inch electric fan is placed one or two feet away so that it directs an air stream across the liquid surface. The large heating area of the bulb eliminates the danger of local super-heating with consequent decomposition of the propylene glycol, and the inexpensiveness of the equipment makes it feasible to install as many units as may be necessary in order to maintain a given concentration of vapor.

In practice the rate of evaporation of propylene glycol from the vaporizers should be great enough to bring all the fresh air coming into the room to the concentration level desired. It is usually estimated that a closed room has 2 to 10 air turnovers per hour under ordinary circumstances. Therefore, if a room has a volume of 2,000 cubic feet and there are 5 air turnovers per hour it would require the vaporization of 14 grams of propylene glycol per hour to maintain a concentration of 1 part propylene glycol in 20 million parts of air throughout the room. A single 50-watt bulb immersed in 700 cc of propylene glycol with a surface area of 18 square inches accomplishes this. The output of a vaporizing unit can readily be increased to 100 grams per hour by the selection of proper wattage and surface area.

For any given set of conditions the rate of evaporation of propylene glycol is a function of the temperature at the surface of the glycol. As an approximate figure for calculations we have found that an increase in vaporization amounting to 5 milligrams per minute per square inch of surface accompanies each degree (C.°) rise in temperature over the range 80° to 110° C. Since propylene glycol vapor has a fairly high specific gravity, vaporizers should be placed at least six feet from the floor and a sufficient number of fans should be installed to insure thorough mixing. Otherwise the vapor will sink to the floor and lead to erroneous interpretation of experimental data.

THE PERSONNEL OF NAVAL LABORATORY RESEARCH UNIT NO. 1[6]

BERKELEY, CALIF.

[1] The opinions advanced in this paper are those of the writers and do not represent the official views of the Navy Department.

[2] O. H. Robertson, E. Biggs, B. F. Miller and Z. Baker, SCIENCE, 93: 213, 1941.

[3] O. H. Robertson, E. Biggs, T. T. Puck and B. F. Miller, *Jour. Exp. Med.*, 75: 593, 1942.

[4] T. N. Harris and J. Stokes, *Am. Jour. Med. Sci.*, 204: 430, 1942.

[5] W. Henle, H. E. Sommer and J. Stokes, *Jour. Pediatrics*, 21: 577, 1942.

[6] The Unit Personnel consists of the following members of the U. S. Naval Reserve: Albert P. Krueger, Commander, MC–V (S), officer-in-charge; Lieutenants L. E. Rosenberg and N. S. West; Lieutenants (jg) A. S. Browne, O. J. Golub, A. H. Jacobs and J. R. Mathews; Ensigns A. J. Glazko, M. D. Thaxter and H. M. S. Watkins; Chief Pharmacist Mate I. L. Schechmeister; Pharmacist Mates First Class W. L. Axelrod, E. R. Chisholm and G. B. Saviers; Pharmacist Mates Second Class H. R. Burkhead and C. R. Webb, Jr.; Pharmacist Mate Third Class J. A. Gray, Jr.; and Pharmacist Mate First Class P. J. Smith and Hospital Apprentice Second Class D. D. Metz, both of the U. S. Navy.

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