

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
CENTER FOR DISEASE CONTROL
NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
CINCINNATI, OHIO 45226

HEALTH HAZARD EVALUATION DETERMINATION
REPORT NO. 78-6-503
CUMBERLAND OUTPATIENT DEPARTMENT OF BETH ISRAEL HOSPITAL
BROOKLYN, NEW YORK 11213

JULY 1978

I. TOXICITY DETERMINATION

On the basis of a urine screening test, it has been determined that nurses at the Cumberland Outpatient Clinic of the Beth Israel Hospital, 98 Flatbush Avenue, Brooklyn, New York 11213, had not absorbed detectable amounts of methadone.

II. DISTRIBUTION AND AVAILABILITY OF REPORT

Copies of this report are currently available upon request from NIOSH, Division of Technical Services, Information Resources and Dissemination Section, 4676 Columbia Parkway, Cincinnati, Ohio 45226. After 90 days, the report will be available through the National Technical Information Service (NTIS), Springfield, Virginia 22161. Information regarding its availability from NTIS can be obtained from NIOSH's Publication Office at the Cincinnati address.

Copies of this report have been sent to:

- a) Beth Israel Hospital, New York, New York
- b) Cumberland Outpatient Clinic, Brooklyn, New York
- c) U.S. Department of Labor, Region II, New York, New York
- d) NIOSH, Region II, New York, New York

- III. Section 20 (a) (6) of the Occupational Safety and Health Act of 1970, 29, U.S.C. 669 (a) (6), authorizes the Secretary of Health Education and Welfare, following a written request by an employer or authorized representative of employees, to determine whether any substance in the place of employment has potentially toxic effects, as in such concentrations used or found.

NIOSH received such a request from a representative of the nurses employed at the Cumberland Outpatient Clinic of the Beth Israel Hospital, 98 Flatbush Avenue, Brooklyn, New York 11213. The request expressed concern that the nurses may be absorbing methadone through direct contact and/or through breathing dust.

IV. HEALTH HAZARD EVALUATION

The Cumberland Outpatient Clinic is a methadone dispensing clinic. Methadone is used for the treatment of narcotic addiction in detoxification or maintenance programs.

Methadone is a synthetic narcotic analgesic with actions similar to those of morphine. The most prominent involve the central nervous system and organs composed of smooth muscle. The principle actions of therapeutic value are analgesia, sedation and detoxification or maintenance in narcotic addiction. The most frequently observed adverse reactions are those associated with heroin withdrawal. The major hazards of methadone are respiratory depression and, to a lesser degree, circulatory depression. The most frequently observed adverse reactions in the administration of methadone include lightheadedness, dizziness, sedation, nausea, vomiting and sweating.¹

Prior to September, 1977, methadone was received in prepackaged doses, with minimal need for contact and minimal chance of contamination. Since that date, Methadone has been purchased in bottles of 100 count (Lilly) Methadone hydrochloride Diskets, 40 mg; and Vitarene Westadone Tables 5 mg). The nurses intermittently count the contents of each bottle when initially opened to make sure of the total number, and then separate out each dose, of usually one to five tablets or diskets, for distribution to individual patients. Between 150-250 tablets are distributed each day.

The methadone distribution room is approximately 12 feet by 12 feet by 12 feet enclosed on three sides, the fourth side being an open counter. The window in the room has been sealed for security reasons. Ventilation is supplied by one heating/air conditioning duct and by natural ventilation over the dispensing counter. On visits to the clinic in December and January a small amount of pink-orange dust, caused by breakage and chipping of the tablets/diskets was observed on the work surfaces where the drug is counted.

The nurses involved with dispensing methadone complained of intermittent sleepiness, itching of the face, nose and eyes, and dryness of the skin on their hands and face. Skin contact occurs intermittently when counting or breaking the tablets/diskets.

One nurse had a small dry area on the inner surface of the right index and middle fingers, which were being treated with Valisone ointment and predated the counting of the tablets. Otherwise no skin effects were noted.

Analysis of urine samples submitted by two of the three nurses indicated no detectable methadone or methadone metabolites. The lower limit of detectability was 1 microgram per milliliter of sample. The analyses were performed by the New York City Health Department, Bureau of Laboratories, using a standardized thin layer chromatographic method of analysis.

V. DISCUSSIONS AND RECOMMENDATION

Even though no absorption of methadone was detected, it is recommended that skin contact with the methadone tablets/diskets be kept at a minimum. This may be accomplished by always using an instrument to move the tablets/

diskets on the counting tray, frequent clean-up of the area to move dust from the tablets/diskets, and periodic washing of the hands.

VI. Reference 1 - Physicians' Desk Reference, 1978, pages 1027 and 1028.

VII. Authorship and Acknowledgements

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