

Exhibit 23

LSD FOLLOW-UP STUDY

REPORT



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US ARMY MEDICAL DEPARTMENT
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EXECUTIVE SUMMARY

LSD FOLLOW-UP STUDY REPORT

Because of its potential use as a chemical warfare agent, lysergic acid diethylamide (LSD) was utilized in a series of experiments by the Army Chemical Corps during the period from 1955 through 1967. Volunteer subjects for these experiments were solicited from the Army at large. As far as can be determined from the existing records, nearly all of the studies were carried out under strict medical supervision and written consent was obtained from the volunteers prior to the administration of LSD or any other agents although the specific agent(s) may not have been identified by name.

Several years after the termination of the LSD experiments in 1967, one of the test subjects contacted the Army with the information that he had been advised by his private physician that the recent onset of temporal lobe epilepsy in this subject might have been caused by his exposure to LSD some years before. Other subjects who received LSD in the same group as this individual were invited to enter Walter Reed Army Medical Center for a thorough medical and neuropsychiatric evaluation. In the meantime, growing public and congressional interest in chemical warfare testing was stimulated by the disclosure of the cases of Dr. Olson and Harold Blauer, among others. Although neither case was related to the chemical warfare experiments conducted by the Army from 1955 to 1967, there was enough concern to mandate the attempt to evaluate other individuals who had received LSD. Following a second brief evaluation project (Project 28) involving individuals who had previously requested examination, a pilot study (Project 50/50) was designed and completed in 1977. The results of this study were used to guide the design of a full-scale follow-up project. The full-scale project attempted to contact every individual for whom present addresses could be obtained and invite them to enter one of three Army medical centers for evaluation. The three centers involved were Walter Reed Army Medical Center in Washington, D.C., Dwight David Eisenhower Army Medical Center in Augusta, Georgia, and Letterman Army Medical Center in San Francisco, California. Subjects entered the hospital closest to their home residence and underwent a week-long series of studies including complete medical and neurological examinations, screening laboratory studies, electroencephalography, psychiatric interview, ophthalmology and ENT consultations, and a Halstead-Reitan Neuropsychological Test Battery. The data was collected by the central project office and entered into programmed forms for computer analysis.

Following completion of the data analysis, the pertinent findings were entered into a comprehensive report. For reasons discussed at length in that report it had become obvious in the early stages of the project that a control group with which to compare the LSD exposed subjects could not be obtained. For that reason it was necessary to adopt the much less satisfactory strategy of comparing the examined subjects with males in the general United States population in the same age range. On that basis, the medical illnesses found appeared to be similar with respect to frequency and type to that found in the comparable general population.

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Likewise, the incidence of psychiatric illness was identical to that of the general population. As a group, the LSD exposed subjects appeared to be unusually well-educated, maritally stable, and economically successful. Specific concerns about the induction of seizure disorders by LSD exposure were determined to be unfounded. There was no consistent evidence of any chromosomal damage in those patients for whom chromosome studies were obtained, and except for a possible increase in the incidence of congenital heart disease in children born after paternal LSD exposure (which in any case did not exceed the national incidence of congenital heart disease) there was no suggestion of LSD-related damage in offspring of LSD subjects. Neuropsychological testing showed abnormalities in about one-third of the subjects but most of these abnormalities were borderline and 73% had probable etiologic explanations other than LSD exposure. Only 16% of the patients reported psychological symptoms occurring within a reasonable proximity to LSD exposure (defined as within two years) and most of these symptoms were benign and self-limited. Only 7% of the subjects interviewed felt that they had suffered any socioeconomic disability from their LSD exposure.

In summary, then, the majority of subjects evaluated did not appear to have sustained any significant damage from their participation in the LSD experiments; and in those cases where there were abnormalities either by history or on examination, LSD could not generally be identified conclusively as the causative agent because of the many confounding variables which could not be controlled. Chief among these were length of time having elapsed between LSD exposure and onset of symptoms, length of time having elapsed between LSD exposure and time of examination (up to 20 years), exposure to multiple other chemicals in addition to LSD, intervening adverse life circumstances, and individual motivations for seeking examination. It must be expected that similar problems would beset any study attempting to answer similar questions about exposure to chemical agents some twenty years before so that future follow-up studies of this nature are probably inadvisable from a scientific viewpoint. Nevertheless, because some subjects seem to have legitimate complaints that might reasonably be considered to have arisen from LSD exposure, such persons should continue to be afforded the opportunity to present their complaints for consideration on a case by case basis.

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Data Compilation

In order to attempt to standardize, so far as possible, the data reported from each of the four LSD-related projects and present a cumulative report, worksheets were prepared and filled out using information from the clinical narrative summaries from each project, supplemented where possible by additional medical records. The information from these worksheets was then entered into a data base and tabulations prepared using an IBM 360 Mod 40. In addition, cross-tabulations of selected items were furnished by Division of Biostatistics, WRAIR.

FINDINGS

Subjects Evaluated

The computer roster turned over to the final LSD Follow-up Study Office in 1978 contained the names of 741 individuals who were thought to have received LSD between 1955 and 1967. Of these 741 names, the Army was tasked with the follow-up of 686, the remaining 55 subjects being US Air Force personnel who were followed separately. At the conclusion of the final phase of the LSD Follow-up Study, 220 subjects had been examined directly, and an additional 100 had returned completed medical history questionnaires, for a total of 320 subjects or 47 per cent of the original 686 individuals identified as LSD recipients. Of the remaining 366 potential subjects, 24 were known to have died prior to the follow-up, and 193 were unlocatable. One hundred and forty-nine were locatable (based upon the return of registered letter receipts) but declined to respond to the letters of contact or to the request to fill out a medical questionnaire

or both. (See Table 1.) Of the 220 subjects examined directly, 171 were examined at WRAMC, 22 at LAMC, and 27 at DDEAMC. Project 33 (1974-75) accounted for 19 subjects; and Project 28 (1975-76) for 23. Sixty-eight subjects were seen in Project 50/50 (1977), and there were 110 who participated in the final follow-up (1978-79). (See Tables 2 and 3.)

Demographic Data

The 320 subjects participating in follow-up evaluation ranged in age from 30 to 72 years, with an average age of 45 years and a median age of 44 years. All the subjects were male. Two hundred sixty-one (81%) were married--234 (73%) to their first wives. Fourteen subjects (4%) were separated and 12 (4%) divorced. Thirty-seven (12%) were still on active duty and 117 (37%) were retired military personnel. One hundred fifty-eight left the service prior to retirement. The military/civilian status of the remaining eight could not be determined from project records. At the time of the chemical warfare agent experiments, 110 (35%) were officers and 203 (64%) were enlisted men. The rank of the remaining seven subjects could not be determined. (See Table 4.)

Reported levels of formal education ranged from 7 years to 24 years. Ten subjects (0.3%) reported less than 12 years of schooling. Sixty-eight subjects (21%) received 12 years of education (high school diploma or equivalent). One hundred twenty-five subjects (40%) completed at least one year of college and 56 of these (14%) graduated with college degrees.