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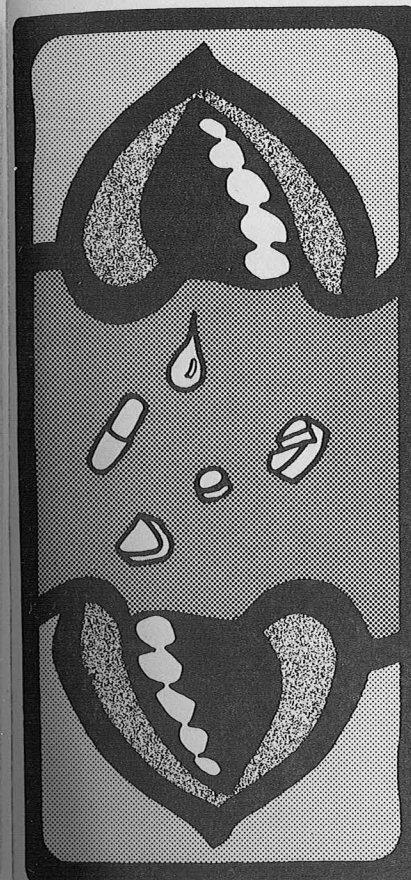
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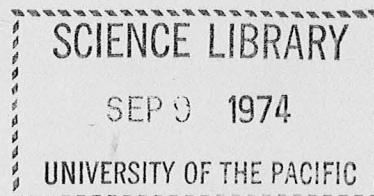
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PACIFIC INFORMAT- ION SERVICE ON STREET- DRUGS



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: editors

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To finish off Volume III, it seems appropriate to let our readers have access to a paper read by Dr. Brown at the Fifth International Institute on the Prevention and Treatment of Drug Dependence [Copenhagen, Denmark; July 8-12, 1974]. The paper was written for Section 8: "Impact of Drug Education on the Community." -----

STREET DRUG COMPOSITION IN THE UNITED STATES AND IN EUROPE -- SIMILARITIES AND DIFFERENCES

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and

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The pioneering publications on the actual composition of illicit drugs (street-drugs) by Marshman and Gibbins in 1969(1) and 1970(2) soon stimulated others to publish the results of their findings(3-7). These early reports indicated that an amazing amount of deception was taking place in the illicit markets of Canada, United States, and Europe(1-10).

During the past four years, researchers in The Netherlands(7,12-16), Germany(11), and the United States(8,17) have contributed much to this special area of knowledge. These analytical reports have increased the public's awareness about the uncertain composition of street-drugs and have verified the trend of massive deception originally documented by Marshman and Gibbins(1-2). In addition, the transmission of data reporting the alleged contents and the actual chemistry of illicit drugs to treatment centers allowed the physician to make a more accurate assumption as to the real identity of ingested materials and aided him in prescribing treatment for adverse street-drug reactions(18).

While the actual chemistry of thousands of illicit drugs has been published(1-17, 19-20), these data will not be reported here in detail. However, we will compare the composition and availability of the more popular illicit drugs available in the street markets of The Netherlands, Germany, and the United States.

Lysergic Acid Diethylamide (LSD). -- During the past five years many hundreds of alleged LSD samples have been analysed in Canada(1-2), The Netherlands(16), Germany(11), and the United States(17). Each group had one conclusion in common -- alleged LSD sampled did, in fact, usually contain some LSD (Amsterdam: 67% of all alleged LSD formulations; Munich: 87%; United States: 84%). The amount of LSD in each formulation tended to vary rather widely--Amsterdam: 3-490 mcg per dose(12); Munich: just detectable amounts up to 244 mcg. per dose(11); United States: just detectable amounts up to nearly 500 mcg. per dose(17). Any amount over 120 mcg should be regarded as excessive. The appearance of the illicit LSD samples were similar in each country, e.g.: orange tablet triturates (Orange Sunshine, Sunny Explos), spots on paper (Blotter Acid), gelatin

and plastic flakes of various colors (Windowpane Acid), very small tablets (Micro-Dots), and clear and colored capsules. Since the quality of the LSD formulations were comparable and the dosage forms very similar, it is possible that the international LSD street markets are supplied from a common source(s). LSD continues to be readily available on the streets of Europe and the United States. The dealers continue to provide the "drugs" that our users request.

Mescaline. -- This compound from the peyote cactus has a long history of use in the New World and is reputed to be a mild psychedelic. Colorful hallucinations and altered human consciousness result with dosages of approximately 350 mg (21). Drug experimenters generally consider this state to be pleasant and without danger -- hence they prefer "mescaline" to LSD when both are offered for sale. However, natural mescaline is unavailable to the dealer-manufacturer and its synthesis is relatively costly and difficult considering the amount that an individual needs for a single "trip." Consequently, street-drug laboratories improvise to meet the real demand for this compound. The nature of such improvisations in Europe and America have been documented in a number of publications(11, 16-17). The conclusions were similar -- the purchase of genuine mescaline was the rare exception. Most frequently "mescaline" samples in the United States (17) contained phencyclidine (PCP) in addition to LSD -- this mixture has not been reported by either the German or Amsterdam workers(11, 16). It is reputed that PCP, a veterinary tranquilizer-anesthetic, is added to the LSD in order "to smooth out the trip." A number of other compounds such as cocaine, aspirin, STP (4-methyl-2,5-dimethoxyamphetamine) have been found to be the active constituents of some of the other "mescaline" improvisations(17).

Psilocybin. -- The sensational reports in the popular press about the "magic mushrooms" of Mexico have created a street demand for both psilocybin and psilocybin-containing mushrooms. These mushrooms are of the famed Psilocybe species and of the less well known Conocybe and Stropharia species found in the American states of California, Oregon, and Washington. In The Netherlands(16), 25 samples of alleged psilocybin-containing formulations were analysed -- 18 contained LSD, one relied on amphetamine for activity, and 6 samples could not be identified as possessing an active ingredient. This story was similar to that documented for Munich(11) where LSD, lactose, starch, and dextrose were some of the compounds sold for psilocybin. In the United States, the analyses of 284 alleged psilocybin samples gave the following results(17): 62% contained only LSD as the active ingredient, and 11.3% contained a mixture of LSD and phencyclidine. Ten samples of mushrooms actually did contain some psilocybin, but 3 alleged psilocybin-containing mushrooms relied on the addition of LSD for activity. Other compounds alleged to be psilocybin were identified as phencyclidine alone, ergot alkaloids, and N,N-dimethyltryptamine (DMT) plus amphetamine(17). The purchase of real psilocybin or authentic psilocybin-containing mushrooms is generally not possible either in Europe or in the United States.

Cannabis Derivatives. -- Dried plant marihuana is the most common form of cannabis seen in the United States(17). In Europe, hashish, a resinous preparation from Cannabis sativa L., is the most frequently encountered form -- the Amsterdam group has investigated hundreds of samples of hashish but only a few samples of marihuana(16). Matke of Germany has reported only on the analyses of hashish(11).

While tetrahydrocannabinol (THC) is offered frequently in the United

States street-drug market(17), such invitations to purchase the quintessence of *C. sativa* are very rare in Europe. This compound in a pure form is virtually unattainable in the street-drug markets of both the United States(17) and Europe(11,16). The most frequently identified substitute for THC in the United States was the tranquilizer-anesthetic phencyclidine (PCP). The Amsterdam group identified PCP only three times and that in a single week during September of 1972 (16). Mattke(11) has not had any samples of alleged THC and has not identified any PCP-containing street-drugs.

Amphetamine. -- Amphetamines appear to be readily available in both the American and European street-drug markets. The Amsterdam group(16) analysed 283 alleged amphetamine containing samples: approximately 68% contained amphetamine, 54% of these contained amphetamine (usually in tablet form) while 46% contained methamphetamine (usually as a powdered material). In the United States, amphetamine is most frequently seen in the form of small, flat, compressed tablets with a crossed score on one surface and weighing about 50 mg(22). Quantitative analysis of a number of these "white crosses" or "mini-bennies" from various areas in California and the state of Washington showed an amphetamine content of 0-8 mg per tablet. The analysis of approximately 300 of these samples indicated that about 68% contained some amphetamine(17). The quality of these once reliable "white crosses" is steadily decreasing -- a recent report from Palo Alto, California indicates that only 49.3% of these dosage forms contained some amphetamine(19).

Cocaine. -- This compound has had a long history of non-medical use both in the Americas(23-24) and in Europe(24-25). During the past 18 months this drug has become more widely available on the illicit markets of the United States(17,19). A recent newspaper story(26) reported that the "cocaine racket is booming in Britain."

The Amsterdam group reported the analytical results of 25 alleged cocaine samples collected from the street markets of The Netherlands(16). Fifteen contained various amounts of only cocaine, one was procaine, three were noscapine, and the remaining 6 samples contained a variety of non-cocaine compounds. Mattke(11) has had no alleged cocaine samples submitted to the Munich street-drug analysis program. The published analytical results of 361 alleged cocaine-containing samples from the American illicit markets showed that 55% contained cocaine as the only drug (4-100% pure), 23% were mixtures of cocaine plus some synthetic local anesthetic such as procaine and the remaining 22% were frequently identified as a local anesthetic such as procaine, lidocaine, or benzocaine(17). A summary of the analytical results of 675 alleged cocaine-containing samples obtained from the illicit markets of the United States(19) during 1973 indicated that 73.2% contained some cocaine as the only drug, 18.7% were identified as cocaine plus a local anesthetic, 5.9% had none of the alleged drug and most frequently relied upon some synthetic local anesthetic for activity, and 2.2% contained no detectable drug. These reports would suggest strongly that the availability and use of cocaine is on the increase in the United States and Europe.

The Exotic Hallucinogens. -- The rarer hallucinogens such as MDA (3,4-methylenedioxymethylamphetamine), STP (DOM or 4-methyl-2,5-dimethoxyphenylisopropylamine), DMT (N,N-dimethyltryptamine), and DET (N,N-diethyltryptamine) continue to be seen only infrequently in the American street-drug market(17,19) and are seldom encountered in the illicit markets of Europe(11,16).

Table I. -- Composition of Some Street-Heroin Samples Collected in Amsterdam, The Netherlands

Sample Received	Percentage	
	Heroin HCl	Caffeine
9/10/73	100	0
12/18/73	+ ^a	+ ^a
12/24/73	+	+
12/24/73	+	+
12/24/73	+	+
12/24/73	+	+
1/6/74	+	+
1/6/74	+	+
1/9/74	+	+
1/9/74	+	+
1/9/74	+	+
2/6/74	10	35
2/8/74	19	63
2/8/74	40	50
2/13/74	+	+
2/22/74	40	60
2/22/74	9	0
2/27/74	33	50
2/27/74	58	0
2/28/74	60	37
3/14/74	100	0
3/14/74	50	50
3/19/74	100	0
3/29/74	40	60
4/25/74	60	40
5/2/74	95	0

^a The compound was detected but was not quantitated.

Heroin (Diamorphine). -- Alleged heroin samples are infrequently submitted to street-drug analysis programs in the United States(17,19), thus it is necessary to rely on other sources of information for the composition and the actual heroin content of the material used by the addicts in this country. The Amsterdam group, working with treatment centers, sees many heroin samples of the type used by addicts in The Netherlands. They regularly analyse the submitted material and monitor the quality of the illicit heroin market. The results of the Amsterdam group for their first three years of operation have been published (7,12,16) and were similar to the findings of investigators in Germany(11) and in the United States(17). However, since December of 1973 the composition of the street-heroin has changed dramatically. Illicit heroin has become a mixture of heroin+caffeine or heroin+caffeine+strychnine. Such material was either pink-brown or grey-white in color, and sold usually as a powder but sometimes in a granular form (color was not an indication of composition). The quantitation of a typical strychnine-containing sample (grey-white) was: 57% heroin, 40% caffeine, and 3% strychnine. Another grey-white sample contained: 50% heroin and 50% caffeine. Quantitative analyses of samples since December, 1973 indicate an average heroin content of approximately 40% (range: 10-60%), caffeine content of approximately 50% (range: 35-63%), and the strychnine-containing samples had an average of 2% strychnine (range: 0.5 - 4.8%). The Amsterdam police have made seizures of the same types of street heroin, and their qualitative and quantitative analyses have yielded almost identical results(27). There is some evidence that this type of heroin is prepared for smoking and not intended for injection(27). The composition of some typical street-heroin samples collected in Amsterdam are indicated in Table I.

In the eastern part of the United States (Philadelphia), typical samples of street-heroin packaged for sale weigh 111 mg (range: 65-197 mg) and average only 4.5% heroin (range: 0.4-8.9

Table II. -- A Summary of the Analytical Results Relative to 854 Street-Drugs Obtained From the Illicit Markets of The Netherlands

Alleged Content	Total Number	Actual Chemical Identity																		
		Lysergide	Mescaline	DMT	STP	THC	Amphetamine	Methylamphet.	Methylphenidate	Phentermine	Cocaine	Procaine	Morphine	Codeine	Heroin	Noscapine	Opium	Phencyclidine	Epinephrine	Other Agents
Lysergide	279	189	-	-	-	-	7	-	-	1	-	-	-	-	-	-	-	-	-	82
Mescaline	53	29	1	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20
Psilocybin	25	18	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	6
DMT	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
STP	2	1	-	-	0	-	-	-	-	-	-	-	-	1	-	-	-	-	-	0
THC	6	-	-	-	-	0	-	-	-	-	-	-	-	-	1	-	-	3	-	2
Amphetamine	283	5	-	-	-	-	89	101	1	13	-	-	-	-	2	-	-	-	3	69
Methylphenidate	1	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	1
Phencyclidine	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	0	-	-	0
Cocaine	25	-	-	-	-	-	-	-	-	-	15	1	-	-	3	-	-	-	-	6
Morphine	8	-	-	-	-	-	-	-	-	-	-	-	3	-	1	-	-	-	-	4
Codeine	5	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	0
Heroin	36	-	-	-	-	-	2	2	-	-	-	-	5	19	-	-	-	-	-	8
Opium	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	-	-	3
Unknown	91	2	-	-	-	-	3	7	1	-	2	-	-	-	1	-	1	-	-	74
Totals	854	244	1	1	3	0	102	111	2	14	17	1	8	5	22	6	36	3	3	275

%, plus 2.4% quinine (range: 0.3-4.2%) with the remainder consisting of unspecified diluents(28). The Drug Enforcement Administration of the United States Department of Justice has reported that the usual concentration of street-heroin in the Chicago, Illinois area was 5-10%(29). Investigators have shown that the heroin available in the western United States usually contains similar amounts of heroin (3-10%), but the most common adulterant was procaine rather than the traditional quinine(20).

The Amsterdam Scene. -- A summary of the analytical results on 854 street-drugs is detailed in Table II.

Conclusions. -- The analyses of thousands of street-drugs collected in The Netherlands(7,12-16), Germany(11), and the United States(3-4,8-10,17,20,22) have shown that alleged LSD (lysergic acid diethylamide) samples usually do contain LSD with the amount of LSD per dose varying widely, alleged mescaline-containing samples usually relying on LSD for activity, and psilocybin generally not available and with the ubiquitous LSD being substituted for it. Pure THC (tetrahydrocannabinol) has never been identified in a street sample; most frequently the tranquilizer-anesthetic PCP (phenylcyclidine) is the active ingredient. The use of PCP appears to be restricted to the street-drug markets of the United States(11,16). Alleged amphetamine samples usually contain some amphetamine, but the incidence of deception is increasing in the United States(17,19). Products alleged to be derived from the plant, *Cannabis sativa* L., such as marihuana and hashish, the most frequently encountered cannabis product in the United States(17,19). Cocaine and cocaine-local anesthetic mixtures are much more common in the United States than in Europe(11,16-17,19), but there is some evidence that cocaine is becoming more popular in Europe(26-27). The greatest international differences are found in regard to street-heroin -- United States: 5-10% heroin with small amounts of quinine or procaine; Europe: 40-50% heroin with 50-60% caffeine and sometimes 0.5-5.0% strychnine. The American heroin user would have serious medical problems (overdose) if suddenly he were presented with the more potent European heroin.

The methods for the collection of street-drugs(30-31) and the procedures for their rapid analysis have been developed and published(32-35). The gross misrepresentation taking place in the illicit drug markets has been documented. But -- there are unanswered questions about the usefulness of these programs and the information produced. Have these programs altered the course of drug abuse? Have they been useful in educating the youth and others of our countries about the hazards of street-drug use? Have the published analytical results deterred experimentation by some (or any)? The answers to these questions are not known to us, but we hope the information provided by our programs has deterred some individuals from indiscriminate drug ingestion or injection. Lastly -- to what extent has this information improved medical treatment of street-drug-induced health emergencies?

Since the methods and procedures for this type of program have been developed on an international basis by concerned scientists in Canada(1-2), the United States(31,34-35), Germany(11), and The Netherlands(30,32-33), it should be the responsibility of the individual governments to decide if these programs are useful and/or necessary for the education of the citizenry regarding some of the real hazards involved in the indiscriminate use of drugs.

-- June 12, 1974/Amsterdam, The Netherlands

References:

- (1) Marshman, J. A. and Gibbins, R. J., Addictions, 16:22 (1969).
- (2) Marshman, J. A. and Gibbins, R. J., Ont. Med. Rev., 37:429 (1970).
- (3) Cheek, F. E., Newell, S., and Joffe, M., Science, 168:1276 (1970).
- (4) Krippner, S., ibid., 168:654 (1970).
- (5) Brown, J. K. and Malone, M. H., Pacific Inf. Serv. Street-Drugs, 1:2 (1971).
- (6) Schnoll, S. H. and Vogel, W. H., New Engl. J. Med., 284:791 (1971).
- (7) Filedt Kok, J. C., Fromberg, E., Geerlings, P. J., van der Helm, H. J., Kamp, P. E., van der Slooten, E. P. J., and Willems, M. A. M., Lancet, 1:1065 (1971).
- (8) Brown, J. K. and Malone, M. H., J. Am. Pharm. Assoc., NS13: 670 (1973).
- (9) Brown, J. K. and Malone, M. H., Proc. Western Pharmacol. Soc., 16: 134 (1973).
- (10) Pawlak, V. J., Pacific Inf. Serv. Street-Drugs, 2:44 (1973).
- (11) Matke, D. J., Proc. Internat. Symp. Alcohol Drug Res., "Street-Drug Analysis and Its Social and Clinical Implications" Oct. 15-18, 1973, Addiction Research Foundation, Toronto, Canada, in press.
- (12) Filedt Kok, J. C., Kamp, P. E., and van Welsum, R. A., Pacific Inf. Serv. Street-Drugs, 2:35 (1973).
- (13) van der Helm, H. J., Biochemical and Pharmacological Aspects of Dependence and Reports on Marihuana Research, De Erven Bohn N.V., Haarlem, The Netherlands (1972) p. 119.
- (14) Eskes, D., Pacific Inf. Serv. Street-Drugs, 2:41 (1973).
- (15) Eskes, D., Verway, A. M. A., and Witte, A. H., Bull. Narcot., 25: 41 (1973).
- (16) Filedt Kok, J. C., Proc. Internat. Symp. Alcohol Drug Res., "Street-Drug Analysis and Its Social and Clinical Implications" Oct. 15-18, 1973, Addiction Research Foundation, Toronto, Canada, in press.
- (17) Brown, J. K. and Malone, M. H., ibid., in press.
- (18) Wolfson, E. A. and Louria, D. B., Postgrad. Med., 51:163 (1972).
- (19) Ratcliffe, B. E., PharmChem Newsletter, 3(3):1 (1974).
- (20) Johnson, D. W. and Gunn, J. W., J. Forens. Sci., 17:629 (1972).
- (21) Shulgin, A. T., Lloydia, 36:46 (1973).
- (22) Byrne, J. A., Brown, J. K., Chaubal, M. G., Frye, H. G., and Malone, M. H., Proc. Western Pharmacol. Soc., 17:210 (1974).
- (23) Martin, R. T., Econ. Bot., 24:422 (1970).
- (24) Moser, B. and Tayler, D., The Cocaine Eaters, Taplinger Publ. Co., Inc., New York, N.Y. (1967).
- (25) Lewin, L., Phantastica: Narcotic and Stimulating Drugs, E. P. Dutton & Co., Inc., New York, N.Y. (1964) p. 75.
- (26) Gladstone Smith, P., The Sunday Telegram (London), May 26, 1974, p. 4.
- (27) Eskes, D., personal communication, Forensic Science Laboratory, Municipal Police, Elandsgracht 117, Amsterdam, The Netherlands (1974).
- (28) Weisman, M., Lerner, N., Vogel, W., Schnoll, S. H., and Banford, T., New Engl. J. Med., 289:698 (1973).
- (29) Anon., Microgram, 3:173 (1970).
- (30) Zwart, K., Pacific Inf. Serv. Street-Drugs, 2:33 (1973).
- (31) Brown, J. K., ibid., 1:19 (1972).
- (32) Filedt Kok, J. C. and Kamp, P. L., Pharm. Weekblad., 108:1 (1973).
- (33) van Welsum, R. A., J. Chromatog., 78:237 (1973).
- (34) Brown, J. K., Shapazian, L., and Griffin, G. D., ibid., 64:129 (1972).

- (35) Brown, J. K., Schingler, R. H., Chaubal, M. G., and Malone, M. H., ibid., 87:211 (1973).

DR. FEELGOOD, I PRESUME?

While arthritis does not kill, it is a painful and frequently disabling disease that afflicts 1 out of 16 Americans in some form. Since the disease is chronic and with no cure, effective treatment today tends to go on as long as the patient lives. Improvement comes slowly even with the best of treatments and each treatment must be individualized since there are many diagnosable varieties of arthritis. The foundation of drug therapy is still that very effective (but very commonplace) pharmaceutical termed as "buffered aspirin."

Americans tend to become very impatient if their family physician does not cure them of any and every disease within 3 weeks. They drop the family physician (who knows their medical history best) and then go shopping for more sympathetic doctors. After the second or third doctor has not produced the miracle cure, they succumb to the claims of arthritis quackery. This is presently a big business with Americans quite willing to pay over \$403,000,000 per year for quack arthritis treatments (copper bracelets, included). Such advertised treatments "succeed" just enough to launch word-of-mouth fads -- the percent "success" is exactly that found in totally untreated patients. Arthritis is a very unpredictable disease -- waxing and waning day by day and occasionally going into remission for periods of weeks, months, and years only to return. Untreated arthritis worsens with time and eventually results in disability.

An alternative to quackery has been provided for arthritis sufferers in California and in neighboring states -- Dr. Feelgood. Dr. Feelgood (real name withheld) practices in Mexico and prescribes drugs "not available in the States" and promises only to make you "feel good." Patients from above Sacramento make the long trek to Mexicali, wait patiently for hours (patients are processed at a rate of about 100 per day), and then sent away with a 4-6 month supply of unlabeled "wonder" drugs. The period for the "diagnosis" is minimal. No precautions about the drugs are detailed. Patients are told that they represent "new advances in therapy" kept out of the United States because of "foolish" drug laws. The patients return home and feel great in a matter of days -- they proceed to tell other arthritis sufferers about the virtues of Dr. Feelgood. They continue to take their drugs day after day -- until health problems set in. The health problems appear to be unrelated to the therapy of Dr. Feelgood, and Dr. Feelgood can't be consulted because he is far away in Mexicali. They now seek out the long neglected family physician expecting him to straighten out the hypertension, the edema, the persistent infection, the endocrine disorders, the mental problems, etc. Frequently they do not mention Dr. Feelgood and his medicines at all -- the family physician then also prescribes drugs, drugs that inter-react with those of Dr. Feelgood and produce a true medical emergency. Eventually the unlabeled Mexicali drugs are found and sent to analytical labs for identification. Dr. Feelgood refuses to give such data,

Table III. -- Analytical Results of the Mexicali Arthritis Drugs

Description	Average Weight or Range, mg	Active Ingredients
Round, white, scored tablet	283	Cortisone
Round, white, domed tablet	110	Triamcinolone
Round, white, scored tablet	180-185	Corticosteroid
Round, tan, scored tablet	170	Diazepam
Round, green, scored tablet	171	Diazepam
Round, peach, scored tablet ^a	170-177	Diazepam
Round, white, scored tablet	170	Diazepam
Yellow #1 capsule with white powder	308-319	Indomethacin
Coated, domed, orange tablet	191	Vitamin complex plus Cyproheptadine

^a Sometimes impressed on the reverse with the initials "MJ."

even when requested by other physicians. A summary of our analyses are shown in Table III. All of Dr. Feelgood's drugs are available in the United States. His therapy is possible here, but no ethical physician would endorse it because it represents "feel good" therapy rather than acceptable antiarthritis therapy. Everyone appears to get three different types of drugs: (i) a corticoid-like agent, (ii) diazepam (a different color for everyone), and (iii) indomethacin.

Diazepam (Valium) is a muscle relaxant minor-tranquilizer that can cause serious drug dependence. It makes anyone and everyone "feel good" but it has no true value in treating arthritis. It can seriously inter-react with a number of other drugs (including alcohol). It is one of the most widely abused prescription drugs in the United States -- creating massive populations of so-called "white-collar addicts." A diazepam dependent person unable to get his drug goes into a delirium tremens-like state similar to that seen with the alcohol addict.

Corticoids are used to treat arthritis in the United States, but because of their cumulative toxicity they are used only as transient or emergency treatment for "flare-ups" rather than as chronic maintenance therapy. Corticoids are not specific antirheumatic agents and do not remove the cause of the inflammation. They are all euphoricants and people like to take them. While the prednisone analogs (e.g. triamcinolone) have much less sodium-retention capacity than the naturally occurring corticoids (e.g. cortisone), all corticoids must not be given to individuals with hypertension or sodium retention edema. All corticoids alter the endocrine balances of the body and seriously interfere with the body's capacity to resist infection and to heal itself. All (especially the prednisone analogs) have the capacity to depress sexual function and alter menstrual cycles. Significant atrophy of

the adrenal glands can result with as little as two weeks of therapy. Surgical procedures are contraindicated for anyone taking corticoids regularly. All immunization procedures (e.g. smallpox vaccination) must be avoided. Anyone with a history of tuberculosis or diabetes or psychosis must not take corticoids. Chronic therapy with triamcinolone causes skeletal muscle weakness and if therapy is continued, muscle wasting results. Corticoids can trigger the activation of latent or healed peptic or duodenal ulcers. In children, growth can be halted; in older individuals the skeleton can be depleted of calcium resulting in easily broken bones. People on corticoids feel good, the face usually rounds out ("moon-face" syndrome), and body weight increases. The corticoids are valuable drugs, but should be given only under close medical supervision and for relatively short periods of time.

Of all the Mexicali therapy, only indomethacin represents a relatively specific anti-inflammatory drug. This agent is widely used in the United States at the present time. It is not a euphoriant or "feel-good" drug, and is not an analgesic itself. Because it acts to reduce the inflammation of arthritis, pain is naturally reduced and the person feels "relief" rather than "good." Indomethacin does not need the corticoids or diazepam for its effectiveness -- it works well alone. However, like many potent and specific drugs, indomethacin can cause side effects in susceptible patients -- the most common effects being: nausea, headache, vertigo, heartburn, diarrhea, and mental depression. The drug is contraindicated in children (fatal hepatitis has been reported). While cases of peptic/duodenal ulceration, ocular changes, and instances of leukopenia and other blood disorders have been reported, the potential for toxicity in adults is clearly less than with the corticoids and clearly more than with buffered aspirin preparations. While indomethacin can be given for long periods of therapy, it should be obvious that it, too, should be given under close medical supervision. Indomethacin does represent desirable antiarthritis therapy, but one does not have to go to Mexicali for it. It does not make you feel good, it brings rather specific relief. It is not a dramatic drug, but then it is a rather safe drug.

PharmChem Laboratories in California apparently are also analysing Dr. Feelgood's prescriptions, but have not reported their results in detail. The PharmChem Newsletter indicates that the Mexican Rheumatism Society does not endorse Dr. Feelgood(36).

-- J. A. Byrne and M. H. Malone

July 22, 1974

Reference:

- (36) Ostrenga, J. A., PharmChem Newsletter, 3(1):1 (1974). Note: a subscription can be obtained by writing PharmChem Laboratories, 1848 Bay Road, Palo Alto CA 94303. Telephone: (415) 322-9942

Note: Anyone with arthritis should read: Arthritis -- The Basic Facts available from: The Arthritis Foundation National Headquarters, 1212 Avenue of the Americas, New York NY 10036. In California, write: The Arthritis Foundation, 1507 21st St. (Room 205), Sacramento CA 95814.