

Dreher Recounts Jamaican Study On Cannabis Use in Pregnancy

In the 1980s Melanie Dreher and colleagues at UMass Amherst began a longitudinal study to assess the well-being of infants and children whose mothers used cannabis during pregnancy. The researchers lived in rural Jamaican communities among the women they were studying. Thirty cannabis-using pregnant women were matched for age and socio-economic status with 30 non-users. Dreher *et al* compared the course of their pregnancies and their neo-natal outcomes, using various standard scales.

No differences were detected three days after birth. At 30 days the exposed babies did better than the non-exposed on all the scales and significantly better on two of the scales (having to do with autonomic stability and reflexes).

Follow-up studies were conducted when the kids were four and five (just before entering school and after). The moms were defined as light users (1-10 spliffs per week), moderate (11-20), and heavy (21-70). Consumption of ganja tea was also taken into account.

The children were measured at age four using three sets of criteria: the McCarthy scale, which measures verbal ability, perceptivity, quantitative skills, memory and motor; a "behavioral style" scale measuring temperament, based on a 72-item questionnaire filled out by the child's primary caregiver; and a "quality of housing" index to indicate socioeconomic status.

"No differences at all..."

When they controlled for the household ratings, Dreher recounted in Santa Barbara, her team "found absolutely no differences" between the children whose mothers were non-users and the children from the three groups of users. "No differences at all."

When testing the children at age five, Dreher measured school attendance and introduced an additional measure, the "home scale," accounting for stimulation in the physical and language environment, and other inputs affecting development. "Low income Jamaican children do not have a lot of toys," Dreher noted, "but it is not unusual for a two-and-a-half year old to be washing out her father's handkerchiefs to learn some adult skills."

As with the age-four studies, no differences were found among the exposed and non-exposed groups. But analysis of the home scale revealed that "stimulation with toys, games, reading material" was

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significantly related to measures on the McCarthy scale — verbal, perceptual, memory, and general cognition — and to mood. There was also a relationship between basic school attendance and McCarthy-scale measurements.

"We can't conclude that there is necessarily no impact from prenatal ganja use but we can conclude that the child who attends basic school regularly, is provided with a variety of stimulating experiences at home, who is encouraged to show mature behavior, has a profoundly better chance of performing at a higher level on the skills measured by the McCarthy scale whether or not his or her mother used ganja during pregnancy," said Dreher.

"Hello, hello! If you go to school you're going to do better on these criteria. It doesn't sound like a very interesting finding but given what everybody else



Melanie Dreher, Dean of the College of Nursing at the University of Iowa.

was finding, we thought it was pretty darned interesting."

After recounting her methodology and conclusions, Dreher said: "This study was published in 1991 — 15 years ago. What is the impact of this study? Absolutely none!"

A recent article by Huizink and Mulder reviewing all the literature on cannabis use in pregnancy reports only two longitudinal cohorts — Peter Fried's Ottawa Prenatal Prospective study and Richardson and Day's Maternal Health Practices and Child development study. They reported increased tremors and startles (Fried); altered sleep patterns (R&D); signs of stress (Lester); impulsive and hyperactive behavior at six years old, more delinquent behavior, more impulsive behavior... The review article didn't even mention that Dreher's Jamaican findings differed from those cited!

[Peter Fried has been the darling of the National Institute on Drug Abuse, well funded for decades after discovering that children whose mothers had smoked marijuana showed impaired "executive function."]

In 2003 Fried was asked by Ethan Russo, MD, to contribute a review article to a book on Women and Marijuana. Fried's reference to the Jamaican study in the Russo book did not identify it as a longitudinal study, even though he had been a consultant to the project.

When Dreher sought funding to re-examine her cohort at ages nine and 10, "NIDA said they were not interested in funding this study anymore, but if I made Peter Fried a co-principal investigator, they would consider funding it... So, the research has languished. Which is a shame." She's looking for alternative funding. Last summer Dreher returned

to Jamaica and located 40 of her original subjects. They are now adults and many are parents. "They are doing quite well," she generalized.

Dreher criticized the media response to research, which tends to focus on alleged negative aspects of use. "Peter Fried himself has said 'very little impact up to three years old. Beyond that age, no impact on IQ. No relationship of marijuana use to miscarriage, to Apgar status, to neonatal complications, physical abnormalities, no impact on cognitive outcomes' until, he says, age four. His tremor and startles findings did not hold up," said Dreher, "neither did [his findings of differences in] head circumference, motor development and language expression.

"None of those data are really in the literature for people to see. This results in a lot of misunderstanding on the part

of the public."

Dreher asked: Why the reluctance to acknowledge this study in the peer-reviewed literature? She answered first as an anthropologist: "There is a terrible arrogance and ethnocentrism in the science that refuses to accept the experience or the science of other cultures." She cited Ethan Russo's "irrefutable" review of cannabis use by women in other cultures. "Contemporary evidence from the UK, Denmark, Jamaica, Israel, the Netherlands, even Canada tends to be disregarded unless it's funded by NIDA with Peter Fried as the principal investigator."

Dreher recommended a 1989 *Lancet* article called "The Bias Against the Null Hypothesis" in which the authors reviewed all the abstracts about the maternal use of cocaine submitted to the Society of Pediatric Research in the 1980s. Only 11% of negative abstracts (attributing no harm to cocaine) were accepted for publication, whereas 57% of the positive abstracts were accepted. The authors determined that the rejected negative papers were superior methodologically to the accepted positive papers.

Dreher now sees it as "a miracle" that *Pediatrics* published her work on neonatal outcomes, however belatedly, in 1994. (Her paper on five-year outcomes came out in the *West Indian Medical Journal* before *Pediatrics* ran the neonatal outcomes.) She suspects that a review of "all the fugitive literature that's out there that didn't get published" would convey "a very different picture of prenatal cannabis exposure."

Honest research is also impeded, Dreher said, by "the politics of building a research career. Most research is done by academics and academia is a very conservative environment where tenure often is more important than truth." (Dreher is the Dean of the College of Nursing at the University of Iowa.)

The end result of biased science, Dreher observed, is a misinformed public. Recently, she "googled to see what was out there for the general public regarding pregnancy and marijuana." Typical of the disinformation was an article entitled "Exposure to marijuana in womb may harm brain" that began "Over the past decade several studies have linked behavior problems and lower IQ scores in children to prenatal use of marijuana..." A reference to Dreher said she had "written extensively on the benefits of smoking marijuana while smoking pregnant!"

Dreher concluded: "Marijuana use by pregnant women is a big red herring that prevents us from looking at the impoverished conditions in which women throughout the world have to bear and raise children. These women are looking for the cheapest, most available substance to alleviate their morning sickness and to give them a better sleep at night in order to get the energy to do the work they have to do every day in order to support those children.

"A red herring is something that distracts us from what's really important. Instead of restricting our search for relatively narrow outcomes, such as executive function, we need to be looking at school performance, peer relations, leadership skills in children, prenatal and family relations, healthy lifestyles. Are they participating in sports? Are they using tobacco and alcohol and other substances?"

"NIDA and the NIH still prefer to fund randomized clinical trials that have to do with symptom management in specific

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diseases. We need research on how marijuana affects the quality of life.

"It's not an evolutionary accident that the two activities needed to sustain life and perpetuate life, eating and sex, are pleasurable as well as functional, and that marijuana enhances both of these activities."

B.C. Study Shows...

Cannabis Relieves Morning Sickness



Philippe Lucas

Medical researchers wishing to test the safety and efficacy of drugs need people willing to participate in their clinical trials. Cannabis dispensaries serve people with a wide range of conditions, many of whom are ready, willing and able to take part in studies.

In February 2003, a doctoral candidate at the University of Victoria, Rachel Westfall, and Philippe Lucas, director of the Vancouver Island Compassion Society (VICS), developed a dispensary-based survey protocol to determine the effectiveness of cannabis in relieving "Morning Sickness," the nausea and vomiting experienced by many pregnant women. (A very severe form called "hyperemesis gravidarum" is experienced by 1-2% of pregnant women.) The ensuing study became Westfall's doctoral thesis and has been published in a peer-reviewed journal, *Complementary Therapies in Clinical Practice*. Lucas (one of three co-authors) described the study in Santa Barbara.

Staff from VICS and the British Columbia Compassion Club Society distributed surveys to 142 women and got completed responses from 79 who had been pregnant. All were current users; all but four used by smoking; 59 reported suffering from nausea and/or vomiting while pregnant; 51 used cannabis while pregnant and 40 of them used it specifically to treat nausea and vomiting. 93% described cannabis as effective or very effective in relieving nausea; 75% reported it relieved vomiting; 95% reported appetite stimulation. Overall, 92% of those who used it during pregnancy found cannabis "effective" or "very effective" against morning sickness.

Lucas concluded, "I believe that medical cannabis dispensaries are just starting to prove their worth as research centers and that the move from simple distribution to scientific contribution will significantly add to the legitimacy of these indispensable organizations in the eyes of both the public and our respective federal governments."