NIH Funds Addiction Research at ISU

Pocatello -- A duo of faculty members at the Idaho State University College of Pharmacy, Drs. Sudip Das and Nandita Das, have received a National Institutes of Health (NIH) grant for approximately $122,000 over the next two years to conduct research on the drug buprenorphine.

Previously approved by the FDA as a painkiller, buprenorphine has potential value in the treatment of drug addiction since it has limited side effects and allows successful “weaning off” so the patient can eventually be cured and free of treatment.

The major drawback of buprenorphine with respect to addiction therapy is its availability only in an injectable dosage form.

“A person is not going to feel committed to a rehab program if it involves visiting a clinic daily, or even twice weekly for injections,” said Sudip Das, the principal investigator on the project. “The regimen has to be simple and must allow the patient some degree of privacy in order to achieve the necessary compliance to the medication.”

The delivery system designed by the researchers is a tiny tablet that adheres under the tongue and remains gently attached for a brief period of time to prevent swallowing. One of the comments in the NIH critique of the research proposal is “… it is highly innovative.”

“The oral route is easy and preferred by most patients,” Das continued, “and the uniqueness about sublingual (under the tongue) delivery is that it allows rapid entry into the bloodstream while avoiding immediate passage through the liver. When swallowed orally, the liver quickly destroys certain drugs such as buprenorphine.”

The research will involve studying the bioavailability and therapeutic value of buprenorphine from this sublingually administered delivery system. In addition to being simple to use, this innovative delivery system will offer a major challenge to drug diverters who seek a “quick high” by injecting drugs rather than taking them orally. The polymer used to design the delivery system is very safe and approved for human use, but it cannot be readily dissolved in water and is expected to be painful to inject.

“In view of society’s growing concern with drug abuse and the difficulty to counteract drug-related social problems, it is critical that we improve the bioavailability, therapeutic value and compliance of drugs already proven to be safe and effective in the treatment of drug addiction. The Dases have found a way to successfully achieve this by utilizing specialized drug delivery systems,” said Dr. Joseph Steiner, ISU pharmacy dean.

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