Antenatal depression is a potentially serious and, unfortunately, an often-overlooked illness experienced by many pregnant women. In fact, at least 12 percent of pregnant women in the United States struggle with depression at some time during pregnancy.

The effects of antenatal depression are not restricted to the mother, but can also harm the unborn child. If left untreated, antenatal depression can lead to low birth weight and preterm delivery, as well as to developmental delays after the baby is born. Fortunately, such outcomes can be avoided because antenatal depression is an easily recognizable and treatable disease.

To spread the message of how important it is to recognize and properly treat antenatal depression, ANGELS is launching a one-year, statewide public awareness campaign. The project is funded by a $250,000 grant from the Maternal and Child Health Bureau, a division of the U.S. Department of Health and Human Services. Curtis Lowery, M.D., is the principal investigator, and Linda Worley, M.D., is the co-principal investigator. Lowery is the medical director of ANGELS and director of the Division of Maternal-Fetal Medicine in the College of Medicine’s Department of Obstetrics and Gynecology at the University of Arkansas for Medical Sciences (UAMS). Worley, a psychiatric consultant for ANGELS, is also the medical director of the UAMS Student Mental Health Service.

The DREAM grant – Depression Relief Education in Antenatal Medicine – is designed to reduce the stigma associated with antenatal depression and to educate providers in an effort to increase the screening, referral and treatment of this mental illness in Arkansas. The campaign will target women ages 18-34 years, from all income categories, who are either pregnant or who have recently delivered a child. Information will be distributed using both radio and printed material. In addition, physicians throughout the state will have the opportunity to participate in CME provider education courses via the ANGELS telemedicine facilities.

ANGELS will administer the project in collaboration with UAMS, which will coordinate the media campaign; Arkansas Department of Human Services-Medicaid, in support of women’s health; Arkansas Department of Health, which will provide training at all state health clinics and assist in educational outreach; and Arkansas Foundation for Medical Care, which will

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Long-Distance Ultrasounds Bring Peace of Mind

Obstetricians and other medical professionals are an integral part of many rural communities in Arkansas, frequently going above and beyond their regular duties to make sure that their patients receive the best possible care. But, sometimes, as in the case of a high-risk pregnancy, a patient may require more than even these dedicated doctors can provide.

Now, medical providers like Karen Jones, M.D., and Audra Swanson, LT, who work within the Harris Hospital network in Newport, don’t worry quite as much as they once did when a patient is facing a complicated pregnancy. Thanks to the ANGELS telemedicine program, Level 2 ultrasounds are easily accessible, as are maternal-fetal medicine specialists who have the genetics training needed to interpret the ultrasounds.

The Newport site began offering real-time telemedicine consultations two years ago and currently schedules patients one day a week. Newport is a relatively small town with a population of about 7,000, located 90 miles north of Little Rock and 100 miles northwest of Memphis, Tenn., but it serves a large rural area to the north and northwest.

“The Newport area is a farm-based community and a very poor area,” said Jones, a private-practice obstetrician. “We have several patients who, if their only choice was to go to Little Rock for a Level 2 ultrasound, or a maternal-fetal medicine consultation, would have to do without. They just do not have the means to get to Little Rock for that kind of testing or care.”

Jones said that abnormal results from the prenatal diagnosis, known as a quad screening, is the most common reason to request a Level 2 ultrasound. “The quad screening is given to every pregnant patient to screen for genetic abnormalities,” she said. “Most of the abnormal results end up being false positives, but we can’t determine that until an ultrasound is given.”

Swanson, an X-ray technician, agreed. “Indicators are usually abnormal lab work,” she said. “But, a woman also qualifies if she has a family history of spina bifida, Down’s syndrome, high blood pressure, diabetes or any type of heart defect. A history of any type of genetic deformity, such as cleft lip, cleft palate or club foot, is also an automatic indicator for a Level 2.”

The images provided by a Level 2 ultrasound give a highly detailed image of the fetus, including in-depth visualization of the brain, heart and spinal column, and allow a maternal-fetal medicine specialist to closely examine the fetus for genetic markers that indicate the presence of these medical conditions.

“As I’m scanning, the doctor in Little Rock sees everything that I see, and we keep in contact the whole time,” Swanson explained. “After the scan is finished, the doctor comes on to review it with the patient.”

A telemedicine session also includes consultation with a genetic counselor, who in this instance is based in Fayetteville, about 220 miles west of Newport. “The genetic counselor explains the patient’s lab work in detail, breaking it down into everyday terms for the mother,” Swanson said.

The information provided by an ANGELS Level 2 ultrasound often alleviates a great deal of concern for the mother and her family. But, if a genetic abnormality or serious physical deformity is confirmed by the ultrasound and a subsequent consultation, they can still expect a subsequent contact with the doctor in Little Rock.

“Many factors associated with antenatal depression are clearly prevalent in Arkansas, especially in rural parts of the state. Women may fail to report feelings of depression because they believe pregnancy and motherhood should always be “happy” experiences. If these women do seek help, treatment may be difficult to obtain if they live in a rural area that is distant from doctors who have experience in treating mental illness. Other factors frequently seen in Arkansas that are known to increase the risk of antenatal depression include smoking, alcohol and drug abuse, unemployment or impoverished living conditions, and lack of social support.

With this grant, ANGELS hopes to communicate that antenatal depression is treatable, especially if it is recognized early. Psychotherapy is often an effective form of treatment, and antidepressant medications can be safely used under the direction of a physician, even if a woman is already pregnant. In fact, many of these medications are far less detrimental than leaving a depressed mother untreated.

By educating physicians and patients and by providing screening tools, treatment support and referral options, ANGELS hopes to change the attitudes of physicians and patients toward depression treatment.

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Focus On . . .

Terri Imus

It takes a special type of person to manage the ANGELS Call Center, where calls are constantly fielded from both physicians and patients who request advice from the maternal-fetal medicine specialists at the University of Arkansas for Medical Sciences (UAMS). Terri Imus, R.N., who has served as the center’s manager since its inception, demonstrates professionalism and empathy as she ensures that the Call Center continues to provide aid to those in need. Imus began working for UAMS in 1990 as a critical care nurse in Labor and Delivery and moved to the Call Center when it opened in July 2004.

“When ANGELS was still in its beginning stages, Tina Benton, R.N., the program director, asked if I was interested in working for the program,” Imus said. “I was one of the first R.N.s hired, of what Dr. Lowery calls the ‘cream of the crop.’ Having worked with him in the past, I considered this a compliment.”

Curtis Lowery, M.D., a professor in the Department of Obstetrics and Gynecology and director of the Division of Maternal-Fetal Medicine, initiated ANGELS. “He is an exceptional person and physician,” Imus said. “He recognizes other people’s hard work. Everyone in the ANGELS program feels honored to work with him.”

The ANGELS Call Center began with three nurses working a regular nine-to-five day. During its first month, 150 calls were received from across the state, and the number of calls doubled during the second month. The center now requires four full-time nurses and six part-time nurses that man the phones 24 hours a day, seven days a week. “This May, over 2,500 calls from patients, physicians, clinics and transports were received,” Imus said.

Because Imus herself has been a patient, she can empathize with their situation. “I’m excited about the growth of the Call Center and believe it will make a difference in the health of low birth weight babies and pre-term babies, as well as women’s health issues,” she said.

Federal Funds Allow Telemedicine Expansion

A much-needed expansion of the ANGELS telemedicine program in northeast and northwest Arkansas will soon take place, thanks to recently obtained federal appropriations.

ANGELS officials were notified in June that $347,723 from a congressional special interest projects fund has been designated for the telemedicine improvements. Rep. Marion Berry (1st Congressional District) and Rep. John Boozman (3rd Congressional District) successfully led congressional efforts to obtain the grant for the ANGELS program after being approached by the Department of Governmental Affairs at the University of Arkansas for Medical Sciences (UAMS). The expansion project is part of a campuswide initiative set by the Chancellor’s Office for Fiscal Year 2004-2005 to expand the entire UAMS telemedicine program.

With these resources, the Area Health Education Centers (AHECs) in Springdale and Jonesboro, as well as medical centers in Clarksville, Helena and Mountain Home, will gain new teleconferencing and ultrasound equipment. Each of the five sites will receive Tandberg MXP interactive video equipment and portable Sonosite Titan diagnostic medical equipment. In addition, each of the two AHEC sites will receive a secondary Tandberg 880 interactive video system for concurrent utilization and a Picture Archiving Communication and Storage (PACS) system.

ANGELS plans to purchase the equipment by the end of this year, and installation is expected to be complete by March 2006. The clinics should be able to see their first telemedicine patients in August 2006, once the sonographers and other staff have completed the required training.

There is no doubt that these latest improvements to the ANGELS telemedicine network will greatly benefit the people of Arkansas. The state is contending with a serious shortage of health professionals, which results in a strained health care system and an unmet demand for prenatal services. As ANGELS (Continued on Page 4)
ANGELS Gains Neonatologist

The ANGELS program would like to welcome Bryan Burke Jr., M.D., to its staff. Burke, an associate professor in the UAMS Department of Pediatrics, will dedicate half of his time to the ANGELS program and will spend the other half as director of the UAMS newborn nursery. His responsibilities with ANGELS include developing nursery guidelines and facilitating telemedicine and education efforts in neonatology.

“I am really impressed with what the UAMS Department of Obstetrics and Gynecology has done with regard to CME for Arkansas’ obstetricians, pediatricians and family practitioners,” Burke said. “I think that we can serve as a national model for CME. I came here after spending 17 years in Michigan, which has nothing like it. I suspect few states do.”

Burke earned his medical degree from the UAMS College of Medicine and served his pediatrics residency at UAMS and Arkansas Children’s Hospital. He is a fellow of the American Academy of Pediatrics and a member of the Alpha Omega Alpha Honor Medical Society, the Arkansas Medical Society and the American Academy of Pediatrics. He has published numerous articles in *Pediatrics, Pediatric Notes* and *Archives of Internal Medicine*.

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amniocentesis, the mother and her physician can better prepare for a potentially difficult birth and arrange in advance for appropriate medical care. Since a Level 2 ultrasound is usually performed within the first 24 weeks of pregnancy, it also gives the mother the option to safely and legally terminate a pregnancy, if the defects are deemed too severe.

“When I have a patient who is in a difficult or medically worrisome situation, it’s really comforting to have immediate access to the expertise that’s available at UAMS,” Jones said. “I feel that we’re really providing an improved level of care when we’re able to do those consultations, and our patients are very reassured, knowing we have access to it.”

ANGELS Evidence-Based Guidelines Planned for July 2005-June 2006

**Obstetrical Guidelines**
- Adolescent Pregnancy
- Advanced Maternal Age
- Anxiety Disorders in Pregnancy
- Chronic Pain in Pregnancy
- Domestic Violence in Pregnancy
- Management of Ectopic Pregnancy
- Nicotine Dependence in Pregnancy
- Post-Term Pregnancy
- Recurrent Pregnancy Loss
- Sickle Cell Disease

**Neonatal Guidelines**
- Anemia
- Apnea of Prematurity
- Breastfeeding Management
- Follow-up of the Preterm Infant
- Gastroesophageal Reflux
- Meconium Aspiration
- Management of Neonatal Pain
- Polycythemia
- Pulmonary Hypertension
- Trisomy 21 and Other Trisomies

(Funds continued from Page 3)