Chimpanzee birth similar to humans: study

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Common chimpanzee in the Leipzig Zoo. Image credit: Thomas Lersch, via Wikipedia.

(PhysOrg.com) -- Published in *Biology Letters*, researchers led by Satoshi Hirata from the Great Ape Research Institute of Hayashibara Biochemical Laboratories in Japan reveal their findings on chimpanzee births. The researchers were able to observe the live births of three chimpanzees because they had developed a close relationship with the animals.

Hirata and his team had essentially been living with these chimpanzees, even sleeping in the chimpanzee's enclosures at night in order to be able to witness and capture the births on video. Before this research, no one had witnessed a live chimpanzee birth, as by nature chimpanzees get nervous at birth and seek isolation. During the births, they observed that, like humans, the babies are born facing away from the mother, or

backwards.

While they were witnessing the births, the researchers did not realize what they were about to discover would be something contributing to evolutionary theory. It was not until they had a discussion with a researcher in human childbirth that they discovered what their findings meant.

Back in the 1980s, researchers suggested that a change in birthing position through human revolution was what led to the use of assistance with birth and midwifery. The idea behind this was that because the babies were born backwards, it made it difficult for a mother to pick up and nurture the baby as birth completed.

Witnessing these chimpanzee births, and that fact that they are positioned the same as humans, show that this theory is not the case. Chimpanzees do not require another chimpanzee to assist with the birth, and as observed, they are more comfortable isolating themselves for birth.

Wenda Trevathan, a biological anthropologist from New Mexico State University was the first to suggest this evolution to midwifery. While she never believed it was a necessity, she still believes it was an evolutionary change to something easier. She raises the question now that if the birthing of both humans and chimpanzees is similar, why is it that the chimpanzees have not moved toward having assistance with birth while humans have.

More information: Mechanism of birth in chimpanzees: humans are not unique among primates, *Biol. Lett.* Published online before print April 20, 2011, doi: 10.1098/rsbl.2011.0214

Abstract

Researchers have argued that the process of human birth is unique among primates and mammals in that the infant emerges with its face oriented in the opposite direction from its mother (occiput anterior) and head rotation occurs in the birth canal. However, this notion of human uniqueness has not been substantiated, because there are few comparative studies of birth in non-human primates. This paper reports the mechanism of birth in chimpanzees (Pan troglodytes) based on the first clear, close-up video recordings of three chimpanzee births in captivity. In all three cases, the foetus emerged with an occiput anterior orientation, and the head and body rotated after the head had emerged. Therefore, these characteristics are not uniquely human. Furthermore, in two of the three cases, the chimpanzee newborns landed on the ground without being guided from the birth canal by the mother. The fact that the human newborn emerges with an occiput anterior orientation has thus far been taken as evidence for the necessity of midwifery in modern humans, but this view also needs revision. Our observations raise the need to reconsider the evolutionary scenario of human birth.