Amish Inbreeding Causes Genetic Mutation and Mental Retardation

Amish community have a mutated gene that causes developmental delay among individuals, say researchers

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Amish inbreeding has caused a gene mutation (Reuters)

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The Amish in the US have a genetic mutation that causes mental retardation, researchers have found.
Scientists at the Bellvitge Institute for Biomedical Research (Idibell) and the University of Barcelona have said that inbreeding has led the strict religious community to develop a gene that

holds back mental development.
The Amish embrace a simple and traditional lifestyle and do not adopt modern amenities or technologies. They live in relative seclusion from main centres of population.
Research by the Ohio State University in 2012 found that the Amish population in the US was booming, with a new community founded every 25 days.
The most recent census shows that there are 251,000 Amish in the US and Canada living in 456 settlements.
Researchers said they were doubling in population every 21-22 years mainly because they have large families, with most children remaining within their communities to start their own families.
The latest research has identified the cause of developmental delays found in Amish people.

Amish communities adopt a traditional lifestyle avoiding modern technologies (Reuters)

Researchers conducted genetic studies of 15 individuals of the Old Order Amish Community in Ohio and found a mutation in the

HERC2 gene. This is the first time this gene has been associated with human disease.
Jose Luis Rosa, from Idibell, said: "In these communities there are high rates of inbreeding, making homozygous recessive diseases more frequent than in the general population. (Homozygous refers to inheriting an identical genetic trait from both parents.)
"We observed that there must be a common genetic cause."
Researchers observed that similar mental retardation symptoms were found in patients with Angelman syndrome - learning disabilities, speech impairment, movement disorders and characteristic behavioural patterns, such as hyperactivity.
The mutation of the HERC2 gene results in an unstable protein that does not function properly.
Rosa said their research had implications for genetic counselling for people with Angelman syndrome, as individuals diagnosed with the disease could have the same genetic mutation seen in HERC2.
However, he added: "We are very far from being able to apply a human gene therapy for this neurological disorder."