

Primitive Jarawas or primitive scientific ethics?

The communication by Singh *et al.*¹ on single nucleotide polymorphisms among the Jarawas of the Andaman islands appears to be a purely academic endeavour. The evident outcome of the study is the discovery of polymorphism in two genes. The authors have not elaborated on the significance of this discovery for the Jarawa populations investigated. It is also difficult to comprehend how any population genetics-based epidemiological study could be undertaken without information on the parent-offspring relationships (transmission disequilibrium) in the samples.

The paper¹ is replete with factual errors, suspect claims and blatant racial ignorance about an indigenous tribe of India. Singh *et al.*¹ inform that Jarawas inhabit inaccessible regions of the Middle and South Andamans. This is factually incorrect. The Andaman Trunk Road (ATR) passes through the heart of the Jarawa territory². Singh *et al.*¹ have claimed that it was impossible to communicate with the Jarawas and consequently they could not obtain a 'explicit informed consent' for undertaking their study. The truth regarding this statement is suspect. We have been investigating the forest ecosystems of these islands since 1993 and have had the opportunity of observing the indigenous tribes of these islands at close quarters. Any person who has travelled by bus on the ATR will vouch that the Jarawas do manage to communicate in 'broken Hindi'¹. The forest guards who frequently interact with the Jarawas also communicate with these tribes in Hindi. It may be noted^{3,4} that the dialects spoken by the various tribes of the Andamans have been documented since 1875.

It appears to us that the authors have made no attempts to physically contact the Jarawas. As indicated in their paper¹, they have obtained the blood samples from the existing collections of the Kadamtala Public Health Centre. The Ethics Committee of the Regional Medical Research Centre, Port Blair has probably been misled while granting approval for this study. It appears that this study¹ has been published without any kind of consent (informed or otherwise) and is seriously guilty of violating the human rights and right to the dignity of the Jarawas.

We also have reservations on the repeated use of the term 'primitive' by the authors¹, to qualify the Jarawas. This is

indicative of racial contempt/ignorance regarding indigenous people who do not have access to 'modern' technology and life-style.

Current Science has been regularly publishing articles lamenting on the quality of Indian journals^{5,6}. We are disappointed that a journal which is perhaps qualitatively the best scientific periodical published from India could allow a paper with factual errors and suspect statements get past its referees. Although we do not have reservations on the scientific quality of the paper¹, we must maintain that it fails seriously on ethical grounds and violates human rights of the people whose blood samples were used. We hope that *Current Science* takes some corrective measures to prevent papers of this kind from being published in future.

1. Singh, S., Sengupta, S., Murhekar, K. M., Sehgal, S. C. and Majumder, P. P., *Curr. Sci.*, 2004, **86**, 326–328.
2. Sekhsaria, P., *Troubled Islands. Writings on the Indigenous Peoples and Environment of the Andaman & Nicobar Islands*, Kalpavriksh, LEAD-India, 2003.
3. Roepstorff, F. A. D., *Vocabulary of Dialects Spoken in Andaman & Nicobar Islands* (first published in 1875), Asian Educational Series, 1987.
4. Anon., *Andaman and Nicobar Islands*, Provincial Series, Imperial Gazetteer of India (first published in 1909), Asian Educational Series, 1994.
5. Gupta, Y. K., *Curr. Sci.*, 2004, **86**, 241.
6. Pichappan, P., *Curr. Sci.*, 2003, **85**, 423–425.

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Response

Kothamasi and Babu have chosen to exhibit their 'concern' for the Jarawas by criticizing our study with an aggressive tenor. A fitting reply to them ought to be

equally aggressive; but we have chosen to merely state some facts, leaving it to the reader to make his/her own judgments.

1. Our paper clearly states that the 'primary objective of this study was to examine the nature and extent of polymorphisms in two known autosomal genes that play important roles in determining susceptibilities to infectious diseases, especially malaria, which has been detected in this tribe' (Jarawa). It was not an epidemiological study in the classical sense. We do not see why the identification of parent-offspring relationships ('transmission disequilibrium', *sic*) was essential to our study.

2. The Jarawas inhabit the reserve forest areas of Middle and South Andaman. We agree that the ATR passes through the Jarawa territory. However, hardly any Jarawa came on the ATR till the mid-1990s, and they were hostile then. In 1996, the Andaman and Nicobar Administration constituted a team to make contact with the Jarawas, on which the Regional Medical Research Centre (RMRC), Port Blair, was also represented. Around this time, a Jarawa boy got injured and was brought to the hospital for treatment where he stayed for a few months. The Tribal Welfare Department returned the boy, after successful treatment, to the forest. After this incident, the Jarawas are seen in increasing frequency on ATR, although this does not mean that they have become accessible. Their normal habitat is still deep inside the reserve forest areas, which are inaccessible to outsiders.

3. Indeed, we did not attempt to make any physical contact with the Jarawas [see (5) below]. In any case, we do not believe that it is possible to obtain 'informed' consent for a genetic study from the Jarawas by communicating with some of them in 'broken Hindi'.

4. Kothamasi and Babu have made the irresponsible statement that 'The Ethics Committee of the Regional Medical Research Centre, Port Blair, has probably been misled while granting approval for this study'. The background for initiating genetic studies among the tribes of these islands is provided in detail in our paper. Five studies, including ours, were approved by the Ethical Committee of RMRC in its meeting held on 22 July 2003.

5. Remnants of stored blood samples that were collected from the Jarawas during the outbreak of a fever of unknown aetiology for purposes of diagnosis and their treatment, and that had already been stripped of all identifiers of the blood donors ('anonymized'), were used in our study. Informed consent was not and could not have been taken [we do not understand what Kothamasi and Babu mean when they write 'consent (informed or otherwise)', emphasis ours] on anonymized samples. This strategy is consistent with national and international ethical protocols, and we are, therefore, not 'guilty

of violating the human rights and right to dignity of the Jarawas'.

6. Kothamasi and Babu have charged us with 'racial contempt/ignorance' for using the word 'primitive'. The meaning of the word 'primitive' in most standard English dictionaries (including the OED) is 'of or pertaining to the beginning or origin, or to early times'. There are anthropological reasons to believe that the Jarawas may indeed represent an original group of modern humans who migrated out of Africa in the early times, which is why we have used the word 'primitive'.

7. Kothamasi and Babu's remarks about *Current Science* needs to be addressed by the Editor of the journal.

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NEWS

Ranbaxy Science Foundation keeps up the dialogue on thorny animal experimentation issue*

Though volumes have been written on this thorny issue of the use of animals for scientific experiments, there remains a kind of status quo, with very little new ground having been tread or new effective solutions sought. There are three major players to this yet unsolved problem that is costing the country dear, when the conversion into economic value are pondered on, in this very competitive area of pharmaceuticals and biomedical research and development. The triad comprises scientists and pharma researchers at the receiving end of the poor handling of the whole issue, the regulatory body called the Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA), inflexible in its approach; and the animal welfare activists, who take care to distinguish themselves from animal rights activists.

When the invitation to attend Ranbaxy Science Foundation's (RSF) 13th Round Table Conference on 'Ethics in Animal Experimentation' arrived, there was this question in my mind as to what difference one more in a line of conferences would make to settling this seemingly simple but yet unsolvable problem for this country.

The conference began with the welcome address by Nitya Anand, Chairman of RSF, New Delhi. He spoke of one of the main objectives of RSF that of promoting excellence in pharmaceutical and medical sciences research in the country. He noted that 'medical and pharmaceutical research requires some experimental

use of animals, even of humans, especially for drug control regulatory approvals. There is thus an imperative need for animal experimentation without which this research cannot progress.' This echoes the voice, common to other scientific researchers who need animal experimentation all over India.

Although alternatives to decrease dependence on use of animals for experiments have been underway, there is a continuing need for use of animals. So, if the need exists then what is the solution? Monitoring and regulation of the use of animals for experimentation is one way out. This needs to be coupled by a concrete effort by researchers to reduce their use to the bare minimum. The animal welfare activists are concerned about ensuring that the animals, big or small, are housed and bred in humane conditions with minimal pain and suffering and without emotional trauma. Although it is agreed in principle that this is important, the conditions all over India are still far from 'ideal'. As Nitya Anand pointed out 'though most of the bigger animal houses in the country have been observing the expected ethical norms of animal experimentation, it is a fact that in many institutions the experimental animals were not kept under proper conditions and the ethical norms for experimentation were not observed.'

This boils down to the role of CPCSEA to regulate the housing of and experimentation on animals. Largely everyone affected firmly believe, that the rules

framed are restrictive, bureaucratic and both hamper and delay experimentation. The lackadaisical attitude to this issue is causing great concern to India's position as Nitya Anand stated 'we have big stakes. We are nearing the January, 2005 deadline when the WTO Product Patent regime will become operative in India, and Indian Pharma companies will have to compete with multinational corporations for NDDR to establish a global position. The purpose of this roundtable is to get together the scientists actively involved in research that requires animal experimentation and the representatives of CPCSEA and others involved in regulating animal experimentation so that they can objectively discuss all the issues and arrive at a consensus how best to regulate this experimentation without hindering or hampering research'.

K. Narayana Kurup, a former Justice, gave a balanced overview of use of animals for experiments. He said that while experiments using animals have made unquestionable benefits, he cited several instances where animal models were unsuccessful and drugs developed failed to match up to expectations. Yet, when it came to the question of whether we can do away with vivisection, the answer, said Kurup is an emphatic no. With all its limitations, pharmaceuticals needed to ensure that drugs were safe and the government regulations demanded this, and until alternatives were found vivisection would stay as 'not likely to be condemned outright for occasional aberrations'. How-