

Nightblindness Can be Controlled

by Dr M A Bari and M A Rashid

"We are guilty of many errors and many faults but our worst crime is abandoning the children of neglecting the fountain of life. Many of the things we need can wait. The child cannot. Right now is the time his bones are being formed, his blood is being made and his senses are being developed. To him we cannot answer 'Tomorrow'. His name is 'Today'."

The above is poem titled 'Tomorrow is too late' by Gabriela Mistral, Nobel Prize Winning Poet from Chile.

Just now more than 100 children from the age group 0-6 years (most vulnerable group) will go blind only due to vitamin 'A' deficiency. Thus every year about 40,000 children add to the present blind population of more than 10,00,000. If goes uninterrupted, it will reach 15,00,000 at the end of the year 2000.

About one-fourth of our total population fall in the age group of 0-6 years comprising a total population of 2,75,00,000 (App). At least 4% of these children have been suffering from vitamin 'A' deficiency, out of them 2% will go blind for ever.

At least 72,000 government field workers along with more number of NGO health workers have been working in public health sector. Still, instead of declining, the figure rose from 30,000 to 40,000 during the last two years.

We can get vitamin 'A' both from animal and plant sources. The animal sources are liver, fish liver oils, dairy products etc. and the plant sources are green leafy vegetables, coloured vegetables (carrots, pumpkin) and fruits such as ripe mango, papaya, jack fruit etc. Vitamin 'A' we receive from animal sources can work directly in the body after its ingestion and subsequent absorption. But there is a difference with the plant sources that we get in some form of vitamin 'A' named beta-carotene that needs to be changed in our intestine to be active vitamin 'A'. Vitamin 'A' is stored in the liver and released in the blood on demand from the body.

Role of Vitamin 'A'
Vitamin 'A' is needed in our body for vision, to maintain structural integrity and thereby functional smoothness of all the hollow organs and ducts. Thus it contributes to the smooth functioning of the respiratory tract, gastrointestinal tract, genital urinary tract and skin. So, shortage of vitamin 'A' in the body leads to visual defect gradually leading to blindness, repeated respiratory tract infections, nutritional diarrhoea and repeated infection of genital urinary sys-

tem, toad skin appearance and ulceration of skin leading to constant source of infection which is virtually responsible for high infant mortality rate. It is worth to note that infant mortality rate can be lowered by seven times by eliminating

a) Lack of information about the sources of vitamin 'A' and its important roles.
b) At hand availability of the sources either due to low purchasing capability of natural disasters hindering growth of the sources.

Short-term strategy:

Existing facilities to cope with the situation.	
UNICEF	— International Organization supplying High Potency vitamin 'A' capsule free of cost.
National Institute dealing with the matter.	— IPHN
CIVIL SURGEONS	— District-level administration — 9 Doctors —52 to 100 Field staff.
U Z Level — administration for implementation.	UPAZILLA HC UHFPO
	Union Ward
	Target Group Children (6 Months-6 years)
	Local/Foreign NGOs

vitamin 'A' deficiency. This has been shown in scientific study in Indonesia.

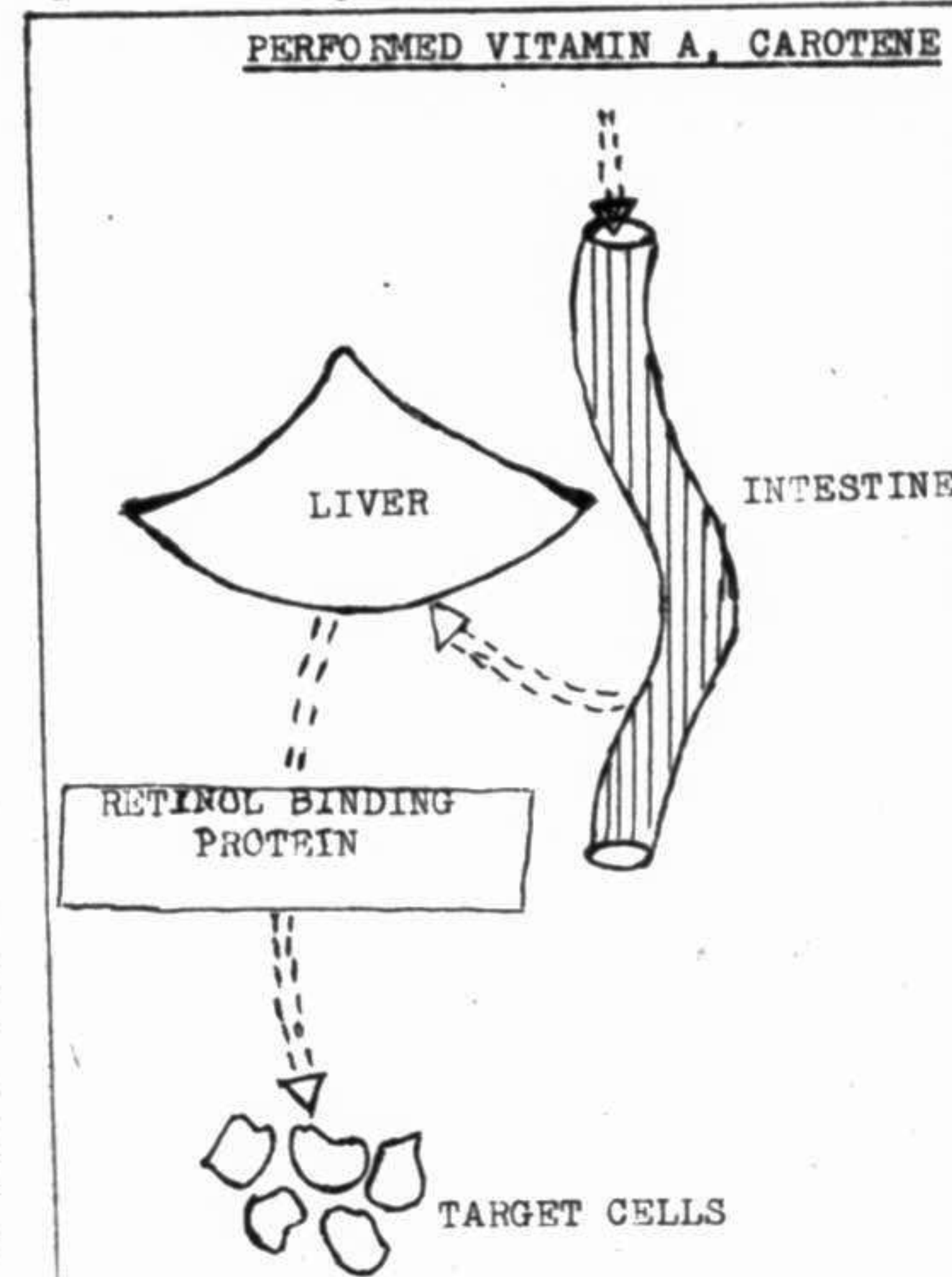
Out of all these problems, eye problems draw our attention instantly as the public is more concerned about it rather than others.

Causes of high incidence of nightblindness in Bangladesh:

c) High rate of incidence like diarrhoea, measles which cause depletion of vitamin 'A'.

d) Lack of information of the target people about the readily available source (high potency vitamin 'A' capsule).

e) Faulty distribution and monitoring of vitamin 'A' capsule.



To intervene and solve the problem, there should be short and long term strategies. Except the last cause, long-term strategy should be taken for proper functional health education up to the grassroots level with the participation of school/madrasha teachers, imams of the mosques and students. As most of our mothers are illiterate, audio-visual method may be applied as far as possible. This has been experienced at Mirzagonj Upazila of Patuakhali district and found highly effective. This is the first upazila from where night-blindness has completely been eradicated by a small NGO (ICHO) with the full cooperation of concerned government machinery. This has also contributed to lower the infant mortality rate from 138 to 67 during the last five years in the same upazila. Probably, this is the lowest in the country.

Existing facilities have two-faced works to combat the particular problem.

1. Motivation and health education.

2. Distribution of high potency vitamin 'A' capsules. Dosing comprises the formulae of triple 6. From 6 months up to 6 years after every 6 months every child should get one capsule.

We have reasons to believe that the number of personnel and the chain of delivery is unique. But still the situation is becoming frustrating. Probably, there is one single reason. The distribution from the Civil Surgeon to the target group is not properly done and monitored. Which in fact means a lack of social commitment and dedication on the last part of chain, specially the government health workers who themselves are not motivated enough and not aware of the consequences of their negligence in their duties.

What can be done

a) No change is required in the existing structure. But change is required to make it functional.

b) The civil surgeons should be responsible and accountable for their respective areas.

c) The health workers must not leave the house of the client without becoming sure that the capsule is properly put into the mouth of the child.

d) One medical officer may be assigned only for this particular job, if civil surgeon/TH & FPO fell necessary.

e) Proven faulty service by any health workers should be severely dealt with.

We have already proved many times that our collective efforts can tackle the crisis irrespective of its nature and gravity. For example, small pox and malaria have been eradicated and cholera has been controlled in the health sector.

Milking Animals for Drugs

by G S Mudur

A decade after biologists manipulated genes to create a "giant" mouse in a laboratory, scientists are now attempting to turn farm animals into living factories for life-saving drugs.

Drawing upon an increasing knowledge about genetic mechanisms in mammals, researchers backed by biotechnology companies, have launched programmes aimed at creating transgenic animals that will synthesize chemicals used in medicine.

And the results over the past year have been encouraging. Research groups in the United States and the United Kingdom have reported the successful production of transgenic goats and sheep that produce pharmaceutically useful proteins in their milk.

These gene transfer studies are part of the quest to create transgenic animals by inserting foreign genes into their existing genomes to invest them with unique traits that are commercially valuable.

One aim of genetic engineers working on livestock mammals has been to enhance the production of various animal products like meat, milk, leather, or wool. The other aim has been to introduce genes into farm animals to make transgenic animals that will synthesize products that are not normally produced by them.

Ten years ago, scientists first demonstrated the potential of gene transfer in mammals by using the growth hormone gene to create a transgenic mouse that grew to nearly twice the size of normal rates. Experiments have since then been carried out on larger farm mammals like goat, sheep, and cattle. Although gene transfer has shown to be possible, scientists say they don't get positive results everytime.

Studies aimed at turning animals into biosynthesizers of various proteins have, however, shown success over the past few years. In 1990, scientists reported the production of a protein called human alpha-1-antitrypsin in transgenic mice.

Now reports from Tufts University in the US and a group in Scotland in the UK have boosted prospects of producing large quantities of medically-useful products in the milk of transgenic livestock.

The Tufts group has produced the world's first transgenic goats that yield a chemical called human tissue plasminogen activator in their milk. The tissue plasminogen activator is a chemical that can dissolve deadly blood clots and is given to heart attack

patients. A dose of the drug from the conventional route costs up to 2000 dollars, says Dr. Mushtaq A. Memon, Pakistan-born team member in the Tufts group. The cost might be brought down to between 50 and 200 dollars through the transgenic

the dairy goat as a production animal. A transgenic mammary gland production system would have the potential advantages of not requiring an intensive capital expenditure in setting up a manufacturing facility, and a providing a highly cost

lems. Reporting their work in the same issue of Biotechnology, the Edinburgh scientists said an analysis of expression of human alpha-1-antitrypsin in milk of three of the four female transgenic sheep has shown that all express the



With the diverse uses of milk, animals are better taken care of.

animals, he said at a recent international conference on goats held in New Delhi. Dr. Memon said the con-

efficient system due to high expression levels and low expendable production costs, the ten-member team said in

chemical at levels greater than one gram per litre. In one case, the initial levels exceeded 60 grams per litre, but stabilised at 35 grams per litre as lactation progressed.

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centrations of the tissue plasminogen activator in the milk of transgenic goats suggest that economical viability is within reach.

Reporting their work in the journal Biotechnology, the Tufts University group said the aim of the programme was to produce a commercial prototype for the large-scale manufacture of high market-volume proteins in the transgenic mammary gland system using

its report in the journal.

Working on sheep, the Scottish research group at Edinburgh have create four transgenic female sheep that yield milk containing high levels of the protein human alpha-1-antitrypsin. This protein is usually present in plasma, but a congenital disorder can lead to a deficiency in its concentration in the body. The sufferers are at risk of developing life-threatening lung prob-

The scientists said this production route is "appealing" because of high production capabilities of the mammary gland, the relatively low operating costs, and the "potentially unlimited expansion of producer animals through established and emerging methods of animal husbandry."

(Mr. G S Mudur is a PTI Science Correspondent based in New Delhi)

— PTI Science Service

Impaired Hearing Causes Social Isolations?

by Dieter Dollken

At the "International Congress of Hearing Aid Engineers" recently staged in Hamburg, specialists from 25 countries confirmed what doctors have long suspected: disabling impairments of hearing are more common than most people think. Partial deafness is not just a medical problem; it also has social implications, because anything that interferes with communication can lead to isolation.

The congress delegates included not only experts from industrialized countries but also observers from Latin America and the Arab world.

Government representatives spoke in favour of creating a social framework in which "no stigma is attached to hearing problems". Children with impaired hearing, for instance, should go to the same schools as their peers. To make this practical, however, better technical aids are needed.

According to experienced hearing aid engineers in Germany, it takes the average person seven to eight years to fully accept that he has a hearing handicap. Thanks to greater persuasion by doctors and progress on the technological front, many people today are ready to accept a hearing aid earlier than in the past.

In Germany, around 15 million people have hearing problems — due to age, constant exposure to noise or other causes — but only ten per cent of them wear hearing aids. Ear specialists point out that impaired hearing not only interferes with communica-

tion in normal family and social life; it also affects the sufferer's receptiveness to media information. Television pictures can become meaningless, for example, when the sound is turned off. So, in an age of communication, people with a hearing handicap find themselves out in the cold.

Professor Dr Klaus Seifert, president of the professional association of ear, nose and throat specialists, points to other social consequences of impaired hearing: "Following a conversation with inadequate audibility calls for greater concentration.

Anyone with a hearing handicap taking part in a discussion against a noisy background needs to be permanently on the alert; he is as keyed up as a competition athlete waiting for the starting gun. Where the pressure to perform is so intense, however, failure is pre-programmed.

And failure here means switching off, withdrawing, becoming isolated, which inevitably means the sufferer ceases to lead a full life and — in many cases — becomes a social outcast. In nearly all cases, the hard-of-hearing not only hear less; they also hear incorrectly.

People who are reluctant to wear a conventional hearing aid because it would make their handicap visible can choose, instead, a genuinely invisible device which is inserted deep within the auditory canal. Many new hearing aids are even programmable or can be fine-tuned by a remote control device carried, for example, in an overcoat pocket.

— IN Press

AROUND the world some 90 million women and girls are victims of painful and dangerous circumcision — now referred to by human rights workers as female genital mutilation (FGM).

Most female circumcision occurs in 20 African countries, but it is also carried out in Asia, areas of the Middle East, Europe, America and Australia.

In the worst kind of mutilation, the girl is gagged and held by older women to prevent outcry or struggle. Her clitoris and inner and outer labia are cut off, usually with scissors, and the wound scraped with broken glass or a razor blade.

Village midwives, operating under insanitary conditions and without anaesthetics, pierce the raw wound with horsehair — or it might be sewn with a carpet needle and thread. A small hole is left for urination and menstruation.

In some areas the girl is tied for 40 days to prevent movement, and the wound takes two months to heal. Complications are many and complex. They include severe pain, shock, infection, incontinence, sterility, urine retention, sexual and natal problems, and danger of HIV infection from unsterilized instruments. Death is always a possibility.

The mutilations are done for religious and social reasons including chastity, bride price, male pleasure and because "God began it."

But the mutilations began in Africa about 25 BC, before Islam, with which they are often associated, and they are not commanded by the Koran. They are not done at all in Saudi Arabia, the cradle of Islam. Women who are mutilated include Muslims, Christians both Catholic and Protestant, and Ethiopian Jews.

In parts of Somalia, a young wife is beaten with a whip by her husband before intercourse and her vulva is cut open with a dagger. The blood-stained dagger is then displayed to the wedding guests as a proof of virility.

Dr Hadi Zain, a surgeon in Khartoum, operated on a 15-

Millions of Women at Risk from Barbaric Ritual

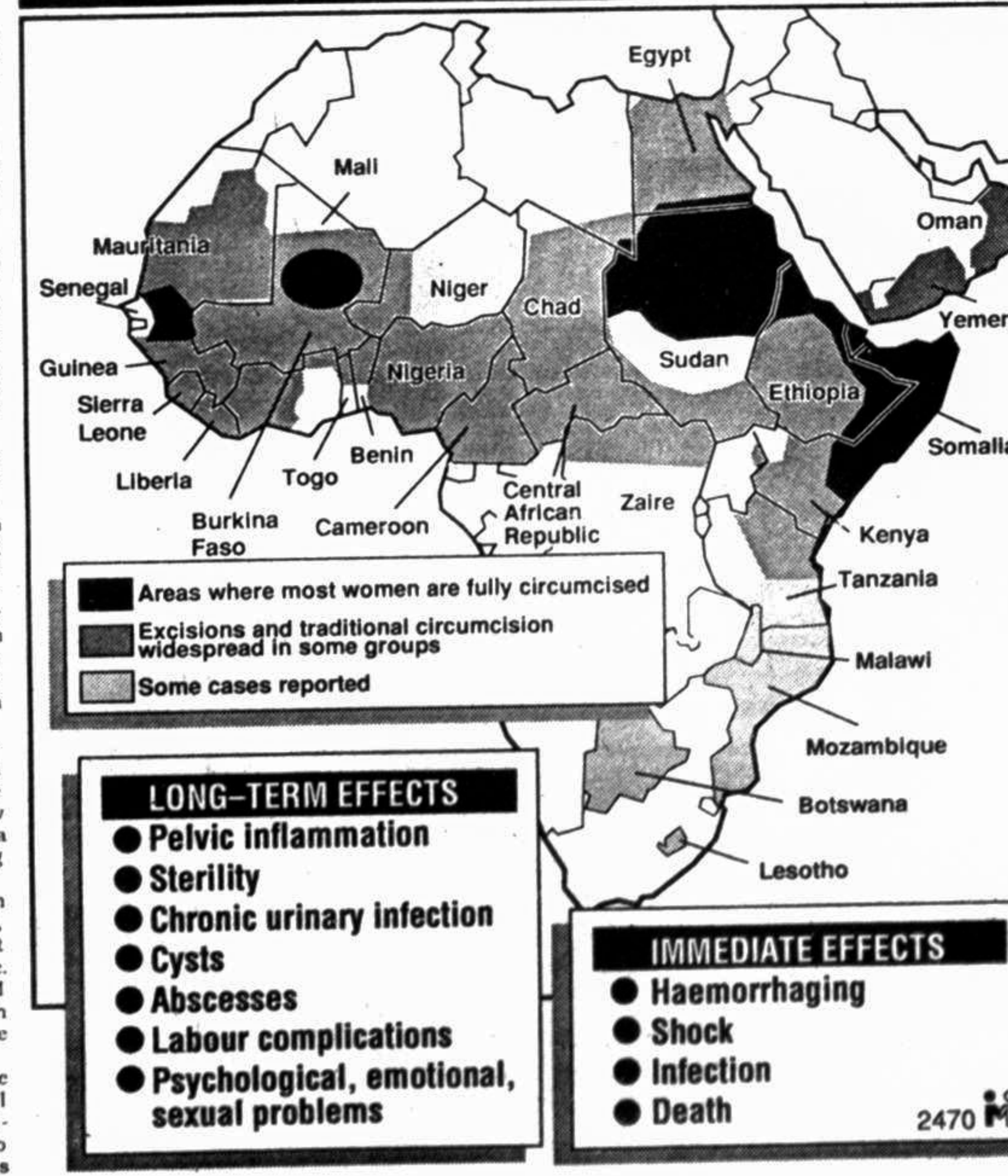
by Marcus Harrison

under the National Health Service until 1985.

However, Efua Dorkenoo, Director of the Foundation for

Women's Health, says that the British ban has not made much difference. The operations are still carried out in private

Africa: female circumcision



clinics for "cosmetic reasons" for upwards of \$250.

Ethnic groups in Britain pool their resources and bring a midwife from Africa to circumcise their children in their own homes. British children are often sent to grandmothers abroad to be mutilated during school holidays. Some 3,000 British children were mutilated in 1989, and 10,000 others are at risk.

The problem is more complex in Britain than in Africa because of potential racial tensions. If the ethnic groups doing the mutilations are identified by race, the hatred focussed on them can easily turn to racism, exploited by agitators.

It is also unhelpful to view the practices in terms of child abuse, since there are cultural and community pressures, and the mothers involved believe that the mutilations are for the child's own good.

Unicef believes that the practices should be eliminated through the education of parents and opinion leaders and not through legislation and punishment.

The Convention on the Rights of the Child prohibits any action that can prejudice a child's health, but many of the countries which are signatories to the convention have not enforced it, and Britain has not ratified it.

There are unanswered questions about the underlying reasons for FGM — the underlying mythology, its exact origin in time and place and why it has persisted for so many centuries over such a wide area of the globe, and affected so many women.

It may be that the underlying reason, half-forgotten now, is the taming and imprisonment of the female sexual principle, as in the Arabian folk tale of the genie in a bottle: the genie is let out by its master to do useful work but it is still a potent and potentially uncontrollable force.

The artistic parallels include the disappearance of pubic hair in sculpture and Renaissance painting.

— Gemini
Marcus Harrison is an Australian novelist and photo-journalist, and a member of Anti-Slavery International.