

OPINION/OPINIE

A new face of TB

There seems to be no end to the predictions of gloom surrounding diseases such as AIDS. Recent data released by the Department of National Health and Population Development indicate that every day 400 individuals become infected with AIDS. If this infection rate continues to rise it translates into an annual mortality of 200 000 in 8 years from now. It also follows from these figures that by the year 2005, 27% or 1 in every 4 South Africans will be HIV-positive. The strain on future health budgets must be of great concern to politicians. Model calculations concerning AIDS mortality, altered population growth and tax income are not yet taken very seriously because official statistics put the number of South Africans who have died from AIDS over the last 10 years at only 424, although the actual number may be twice as high. The long time span between infection and precipitation of major symptoms (5 - 8 years) clearly slows our reflexes. The real impact of AIDS will only be felt in years to come. Publicity and education programmes now under way seem to be effective only in groups which are not at high risk. Education does not seem to significantly influence partner selection and sexual practices in the vulnerable target population (drug addicts, the homeless and the unemployed living in the urban slums) until morbidity has risen to much higher levels. The hopelessness of the situation is further aggravated by another infectious disease often found associated with AIDS.

Health experts in the USA are deeply worried about a new wave of tuberculosis. The weakened immune system of AIDS patients sets a particularly fertile ground for the multiplication of *Mycobacterium tuberculosis*, the pathogen that causes TB. In healthy individuals with an intact immune system the pathogen may also be present, but is dormant and causes no symptoms. While treatment of TB has been very effective in the past, leading to the virtual elimination of the disease in the late 1960s, conventional antibiotics have now become less effective. The prolonged residence time of the active *Mycobacterium* in AIDS patients and the fact that most patients discontinue treatment after a few weeks rather than continuing for the required 12 - 18 months, has led to the emergence of drug-resistant strains. In a recent article in *Nature*, Barbara J. Culliton warns that TB poses a new and formidable challenge. Unlike AIDS, which can only be transmitted by sexual contact or by surgical contamination, the TB pathogen is transmitted by air and poses a much wider risk. Unless new antibiotics are found, TB could quickly reach epidemic proportions. Growing treatment failures in New York and Los Angeles support this speculation. The development

of drugs against TB is expensive as cultivation of the bacterium requires costly containment facilities.

Although traditionally South Africa has not had any significant share in the development of new drugs because of the large sums of money required over long periods of time, the country undoubtedly has the intellectual and other resources to do research on the basic molecular biology of TB. Experts agree that more information on the bacterial genes, their control and in particular an understanding of cell wall synthesis, would help in the development of effective drugs. At present the race against the slow-growing TB bacillus is also hampered by inadequate diagnostic procedures, which take 2 - 8 weeks to complete. New DNA amplification techniques can detect the TB bacillus within 48 hours, while high-pressure liquid chromatography is capable of identifying constituents of the bacterial wall in just 4 hours. But none of the new techniques have yet been released for general use.

The distressing experience with drug-resistant TB infections in America is likely to hit South Africa soon. In 1990, 80 400 or 211 per 100 000 TB infections were notified in South Africa. T. F. B. Collins from the South African National Tuberculosis Association points out that the annual increase is not simply related to population growth or the result of overzealous case-finding. The financial crisis now experienced at all provincial hospitals and the influx of the poor to the cities set the scene for a challenge which could rapidly outpace AIDS. Seasoned microbiologists will argue that drug-resistant strains evolving here will differ from those in the USA, and that resistance is not likely to span the whole spectrum of available drugs. Thus some antibiotics (usually the more expensive ones) may still work, leaving sufficient time for new antibiotics to be found. This does not significantly diminish the chances of a TB epidemic in the target communities, where the disease will spread rapidly because of the high incidence of AIDS, crowding and inadequate treatment time.

Against this background it is not difficult to suspect that the very acute danger looming on our horizon may be TB and not AIDS. Drug resistance of the evolving TB strains is likely to precipitate increased morbidity and mortality and test our health services on an unprecedented scale.

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Antenatal screening for HIV infection

Much has been written about HIV and screening, and the topic remains the centre of debate at the University of Cape Town Medical School. As full-time academic perinatologists, we feel that aspects of this debate that apply to the routine screening of pregnant women have not enjoyed full consideration by the profession.

The rhetoric surrounding the broader issue of screening is rooted in ethical concern about the patient's right to confidentiality as well as the potential social stigmatisation which may follow the diagnosis of HIV infection. Countering this argument, there have been demands from health care workers and professionals for the screening of patients in order to diminish the risks of

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HIV infection in those providing care.

These issues have been compounded by the shrinking health care budget and debate concerning the efficacy of screening programmes in the face of an allegedly low prevalence of the disease. The inability of current treatment to cure or even prolong life has also detracted from arguments in favour of screening, since it is reasoned that the patient is unlikely to benefit from the diagnosis of HIV infection. Given these circumstances the weight of argument rests, albeit slightly, in favour of respecting the dignity of the individual and his/her right to privacy.

Obstetric practice presents a different set of circumstances. These patients are young and, by definition, reproductively active. Although efforts are made with regard to education about the nature and risks of AIDS, many patients are only peripherally aware of the condition and some are sexually promiscuous. In the absence of a widespread epidemic of clinical AIDS in the community, even those exposed to health education defend their lifestyles by denial. Even the advent of pregnancy in HIV-positive women may lead to unremarkable confinements, and further pregnancies may follow before the condition is diagnosed. The likely consequence of this pattern of events is an accumulation of human suffering which may be partially preventable through early diagnosis.

Young mothers, newly diagnosed as HIV-positive, need to face the possibility that they may have transmitted a lethal virus to their offspring. Secondly, they have to consider their own vulnerability to disease and ultimate untimely death. This realisation must give rise to concern about the care of their children. Apart from issues of mortality, the social responsibilities of the patients with regard to their sexual partners as well as the issue of future sexuality and reproductive potential must be addressed. Failure to confront these issues will result in the continued exponential heterosexual spread of HIV in our community. Ignorance about HIV status could allow an ill-informed community to spawn a generation of homeless and sometimes sick children. The long-term cost in human misery will be incalculable.

These are not issues that can be settled in committee rooms. Nothing can sharpen the perceptions of clinicians as effectively as sitting across the table from one of these unfortunate patients and explaining the meaning of HIV infection. Those who have done this will understand that the moral imperative is quite clearly to make the diagnosis and assist the patient with the psychosocial and behavioural adaptations necessary to deal with the illness.

The arguments advanced about the cost-effectiveness of screening a population with a low prevalence must also be considered. The logical inconsistency of this argument lies in the realisation that when it comes to the HIV virus, you either prevent inoculation or face the consequences of infection. Waiting until the prevalence has risen before introducing screening programmes does not solve the problem.

It would also be foolish to assume that money now saved on wide-scale screening would not otherwise be spent by the State on a generation of HIV orphans for whom we will all soon be responsible.

We therefore submit that the time for specious argument has long gone, certainly as far as obstetric practice is concerned. Failure to make the diagnosis antenatally, failure to offer termination of pregnancy, failure to offer appropriate contraceptive advice and failure to counsel our patients about a diagnosable condition which will result in illness and untimely death are no longer acceptable. It is unacceptable morally, it is unacceptable medically, and it is unacceptable economically.

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If the mean moves, the tail will follow

Rose and Day¹ showed close correlations between the population prevalence of hypertension, obesity, excess alcohol intake and high sodium intake and their respective population means. There was a close relationship ($r = 0,84$), for example, between hypertension (systolic blood pressure ≥ 140 mmHg) and mean blood pressure in the 52 centres participating in the Intersalt study. Rose and Day concluded that 'the distributions of health-related characteristics move up and down as a whole (and that) the frequency of "cases" can be understood only in the context of a population's characteristics' and that 'the population thus carries a collective responsibility for its own health and well-being, including that of its deviants'.¹

Often the 'normal' population disapproves of and attempts to disown its 'deviant tail'.¹ If the Rose and Day hypothesis is true, this implies in public health terms that diseased individuals are not a distinct sub-population, but an inevitable consequence of the life-

styles and sociodemographic characteristics of the population as a whole. In consequence, improved health cannot be achieved by concentrating on at-risk individuals alone. In the vexed question of road traffic accidents, for example, the fatalities and injuries result not from the recklessness or lack of skill of a minority but from the low average standard of driving ability in the population as a whole. The excessive toll taken by chronic disease reflects not so much the adverse lifestyles of the few, but an overall poor diet, high blood pressure, a high prevalence of smoking and a low exercise level. Measurement error (observer, machine, biological) also militates against following up interventions on individuals. For example, an increase of up to 15% in an individual's blood cholesterol level after dietary advice could also be interpreted as a true decrease.²

If this hypothesis of a relationship between mean level and number of 'deviant' individuals is true, two issues need to be addressed. The first is an urgent need

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for a sampling strategy to determine the population mean for a number of important characteristics and thereafter to find the factors that will shift the mean of these characteristics to a favourable level. Should, for example, cholesterol levels (or salaries for that matter) of rural farmworkers be averaged with those of the urban executive? The second is to design intervention strategies which can be applied to the maximum number of individuals. In China a mortality study was undertaken for the whole country for the years 1975 - 1978.³ Sixty-five counties were then selected because of their variability with regard to the incidence of a number of cancers, and within each county, 50 adults were selected randomly. Each person provided a urine and a blood sample and answers to a dietary, lifestyle and sociodemographic questionnaire. This study simultaneously correlated mortality from 78 causes and the level of about 300 variables. This study provided information on the minimum and maximum values of each of these variables across rural China.³

Costs of health care (or rather disease care) are likely to rise rapidly in South Africa. Only by adopting new approaches to the promotion of health can we ensure that we in turn do not fall into the escalation trap. Instead of continuing to medicalise the problem and

saddle health workers with an open-ended task in the face of ever-increasing financial strategy, we should be finding out more about the population mean for a number of population characteristics and the determinants that would make it shift.

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Psychosocial components of priorities in perinatal care conferences — the first decade

Early 1991 marked the end of the first decade of 'Priorities in Perinatal Care' conferences. The psychosocial content of presentations made over the years is of great interest. Surprisingly, psychosocial aspects of perinatal care are being examined not only by social scientists but by medical professionals themselves.

In 1991 the 10th Priorities in Perinatal Care Conference was held. To mark this occasion a review of the psychosocially orientated papers delivered at these conferences is presented here.

Except in the case of the early meetings, proceedings of conferences are available. The proceedings from 1985 onwards have been reviewed with the aim of assessing to what extent papers presented were primarily concerned with psychosocial or educational aspects of obstetric and paediatric issues.

Judgements as to the primary orientation of papers have been made. Many more papers than have been acknowledged here incorporate psychosocial content. Only those whose prime concern was to address psychosocial or educational issues have been noted. It is

possible that these judgements provide some room for disagreement. What is intended is a description of the trends over the years rather than a definitive count of the papers. For this reason statistical analyses have not been performed on the small data set available.

What percentage of papers reflects a psychosocial orientation?

Table I gives the number of papers dealing with psychosocial issues presented at these conferences. In 1985 only 10% of papers did so. Since then approximately 22 - 30% of papers each year have had a psychosocial emphasis.

Who gives these papers?

Most of the psychosocially or educationally orientated papers are given by obstetricians, paediatricians or midwives and not by social scientists or educationalists (Table I).

TABLE I.
Psychosocial contributions and presenters

Year	Presentations			Presented by:	
	Total No.	Psychosoc No.	%	Obs/Paed/M-W No.	Soc sci No.
1985	32	3	10	1	2
1986	43	10	24	7	3
1987	36	8	22	5	3
1988	44	13	30	10	3
1989	50	13	26	10	3
1990	42	10	24	9	1
1991	64	19	30	13	6

Obs = obstetricians; Paed = paediatricians; M-W = midwives; Soc sci = social scientists; psychosoc = psychosocial.

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Do papers relate to obstetrics, paediatrics or education?

In almost every year, the number of obstetric papers concerned with psychosocial issues was at least double that of those dealing with paediatrics or education (Table II). 1991 seems to be an exception in that there was a sudden increase in the number of papers on educational issues. Whether this trend will continue as a reflection of current needs in South Africa or whether this was an exceptional year remains to be seen.

TABLE II.
Orientation of psychosocial papers

Year	Primary focus			
	Obstetrics	Paediatrics	Education	Other
1985	3			
1986	9	1		
1987	4	2	2	
1988	9	2	2	
1989	6	3	3	1
1990	4	3	3	
1991	8	4	7	

Content of psychosocially orientated papers

Papers have covered a broad spectrum of issues. The major topics to be addressed within a psychosocial framework have included teenage or unmarried mothers (8 papers); contraceptive or sexual behaviour (3); behaviour during pregnancy, e.g. the unbooked mother (5); birth procedures, including support at birth and afterwards (6); stress and its effects on outcome as well as on mothers and professionals (6); obstetric risk assessment (3); infant feeding (8); rural care issues (7); infant follow-up (5); death and abnormality (4); HIV infection (2); and education of mothers or midwives (13).

Priority given to psychosocial papers

While the number of papers with psychosocial content is reasonable, the apparent priority given to them is open to debate. Traditionally, most of these papers are given in the last session of the conference or presented as posters (55 - 100% of papers each year with the exception of 1987 (38%)). Both formats have, at least informally speaking, the least importance.

The early years of this conference reflect some confusion as to just how psychosocial information contributes to obstetrics and gynaecology. In 1985 the three psychosocially oriented papers were interspersed among obstetric and paediatric papers. By the following year, however, most had been relegated to the final session of the conference and called an 'Obstetric Miscellany'. 1987 and 1988 saw this last session with its preponderance of psychosocially orientated papers called 'General Perinatology' or, simply, 'General'. Only in 1989 did the session earn a title appropriate to its content, that of 'Psychosocial Issues'. In 1991 it was awarded the distinguished title of 'Psychosocial Aspects of Perinatal Care' — a conceptual growth indeed.

The growing recognition of the social and educational sciences' contribution to effective obstetric and paediatric care during conferences reflects a worldwide trend. Societies and associations addressing these issues have grown rapidly in recent years and include the International Society of Psychosomatic Obstetrics and Gynaecology (Europe), the Society of Reproductive and Infant Psychology (UK) and the Pre- and Perinatal Psychology Associations of Europe and of North America to name a few. The International Childbirth Education Association (USA) and the National Childbirth Trust (UK) are the leading women's organisations. In South Africa this trend is reflected in the multidisciplinary Professional Association for Childbirth and Parenthood as well as in the consumer organisation of the National Childbirth Education and Parenting Association.

The apparent relegation of psychosocial issues to less priority time in past years of Priorities in Perinatal Care Conferences does not reflect bias on the part of the conference organisers. Rather, the organisation of papers within each conference reflects the current state of regard for the importance of psychosocial contributions to obstetric and paediatric care at any one time. This approach is changing, with the impetus provided by the AIDS pandemic in Africa and elsewhere. The importance of psychosocial aspects of illness will probably be increasingly acknowledged in medical circles.

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Orthotopic liver transplantation at Groote Schuur Hospital

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Abstract

We present data on 10 patients (5 men and 5 women, aged 21 - 56 yrs) with end-stage liver disease or tumour who underwent orthotopic liver transplantation at Groote Schuur Hospital between October 1988 and June 1991.

Standard surgical techniques were used for procuring the donor liver, the recipient hepatectomy and the implantation of the liver. The venovenous bypass method was used in all but 2 patients. Postoperative immunosuppression was usually achieved with cyclosporin, azathioprine and low-dose steroids. Six patients were treated with prophylactic OKT3. Rejection episodes were treated with bolus doses of intravenous steroids.

The indications for liver transplantation included chronic active hepatitis progressing to cirrhosis (5), biliary cirrhosis in association with inflammatory bowel disease (1), sclerosing cholangitis (2), α_1 -antitrypsin deficiency (1), and tumour (1). All patients with chronic liver disease had experienced at least one complication, examples of which included encephalopathy, bacterial peritonitis, ascites, variceal bleeding and septicaemia.

Serious postoperative complications included acute rejection of the transplanted liver, renal and liver failure that responded to intensive care support and medical management. One patient died on the 11th postoperative day with complications of bleeding oesophageal ulcer, shock and fungaemia. The remaining patients are alive and well 1 - 31 months after transplantation.

S Afr Med J 1992; 82: 79-82.

In the last decade, liver transplantation has evolved from being an experimental procedure to being the treatment of choice for many patients with end-stage liver disease. Organ replacement therapy has gained acceptance as the only intervention that can halt the relentless process of chronic liver failure. It may, in fact, offer the patient a chance of complete rehabilitation.^{1,2}

Chronic liver disease accounts for approximately 5% of all admissions to South African hospitals. Patients usually require prolonged hospitalisation. The medical management of complications related to liver failure is expensive and remains largely palliative. The same is true for several surgical procedures. Most patients remain debilitated and unable to work.

In assessing the costs of liver transplantation, we feel it is important to take into account not only the prolonged hospitalisation which these patients would otherwise require, but also the benefits of renewed health, well-being and the ability to function socially and once again contribute to the community. The quality of life for most survivors of liver transplantations appears similar to that of the general population.³

We present data on 10 patients with end-stage liver disease or liver tumour who underwent orthotopic liver transplantation at Groote Schuur Hospital between October 1988 and May 1991.

Patients

Selection of suitable patients and the timing of transplantation are important factors in the initiation of such a programme.^{4,5} All patients referred to the Liver Research Centre were assessed according to standard criteria for inclusion in the transplantation programme.

The indications for orthotopic liver transplantation include chronic advanced liver disease, metabolic liver disease, malignant hepatic tumours and fulminant liver failure. Chronic liver disease may be sub-divided into those types that are predominantly cholestatic (primary biliary cirrhosis, primary sclerosing cholangitis and biliary atresia) and those that predominantly affect liver cells, which include post-necrotic viral cirrhosis, chronic drug-induced liver disease, alcoholic liver disease and auto-immune chronic active hepatitis. Patients with Budd-Chiari syndrome may also benefit from liver transplantation. Liver transplantation for hepatocellular carcinoma remains controversial as there is a high recurrence rate in such cases. However, some tumours such as fibrolamellar tumours and haemangio-endotheliomas behave less aggressively. Cholangiocarcinoma is considered an absolute contraindication. Liver transplantation in cases of fulminant hepatic failure is difficult to coordinate. Although such patients have been considered for transplantation since April 1990, we have been unable to graft any of these patients because of their steady clinical deterioration and death while awaiting suitable donors.

Various inborn metabolism abnormalities are now treatable by liver transplantation. These include instances where the liver is severely damaged (Wilson's disease, α_1 -antitrypsin deficiency) or where the liver is morphologically normal but contains a metabolic defect that damages another system (familial hypercholesterolaemia).

The timing of liver transplantation for chronic liver disease is difficult. Rapidly progressive jaundice, diuretic-resistant ascites, spontaneous encephalopathy,

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