- 25 Wright CM. Identification and management of failure to thrive: a community perspective. Arch Dis Child 2000;82:5-9.
- 26 Patel V, Chisholm D, Rabe-Hesketh S, Dias-Saxena F, Andrew G, Mann A. The efficacy and cost-effectiveness of a drug and psychological treatment for common mental disorders in general health care in Goa, India: a randomised controlled trial. *Lancet* 2003;361:33-9.
- 27 Araya R, Rojas G, Fritsch R, Gaete J, Simon G, Peters TJ. Treating depression in primary care among low-income women in Santiago, Chile: a randomised controlled trial. *Lancet* 2003;361:995-1000.
- 28 Bolton P, Bass J, Neugebauer R, Verdeli H, Clougherty K, Wickramaratne P, et al. Group interpersonal psychotherapy for depression in rural Uganda. *JAMA* 2003;289:3117-24.
- 29 Holden JM, Sagovsky R, Cox J. Counselling in a general practice setting: controlled study of health visitor intervention in treatment of postnatal depression. BMJ 1989;298:223-6.
- 30 Wickberg B, Hwang CP. Counselling of postnatal depression: a controlled study on a population based Swedish sample. J Affect Disord 1996;39: 209-16.
- 31 Brugha TS, Wheatley S, Taub NA, Culverwell A, Friedman T, Kirwan P, et al. Pragmatic randomized trial of antenatal intervention to prevent postnatal depression by reducing psychosocial risk factors. *Psychol Med* 2000;30:1273-81.
- 32 Elliott SA, Leverton TJ, Sanjack M, Turner H, Cowmeadow P, Hopkins J, et al. Promoting mental health after childbirth: a controlled trial of primary prevention of postnatal depression. Br J Clin Psychol 2000;39:223-41.
- 33 Ransjo-Arvidson AB, Chintu K, Ng'andu N, Eriksson B, Susu B, Christensson K, et al. Maternal and infant health problems after normal childbirth: a randomised controlled study in Zambia. J Epidemiol Community Health 1998;52:385-91.
- 34 Lanata C. Children' health in developing countries: issues of coping, child neglect and marginalization. In: Leon D, Walt G, eds. Poverty, inequality and health. Oxford: Oxford University Press, 2001:137-58.
- 35 Cooper P, Landman M, Tomlinson M, Molteno C, Swartz L, Murray L. The impact of a mother-infant intervention in an indigent periurban South African context: a pilot study. Br J Psychiatry 2002;180: 76.81

Role of gender in health disparity: the South Asian context

Fariyal F Fikree, Omrana Pasha

South Asia's girls and women do not have the same life advantage as their Western counterparts. A human rights based approach may help to overcome gender related barriers and improve the wellbeing of men, women, and children.

Introduction

Behaviour has an important role in health disparities—for example, young men take greater risks, causing injury and violent death, and men smoke more. In industrialised countries women are born with an advantage; their healthy life expectancy is two years longer and their life expectancy six years longer than those of men. This advantage is prominent in childhood; girls are more likely to survive the first five years of life than boys. However, does this female advantage endure in parts of the world where gender discrimination exists? We present the case of South Asia to illustrate the role that gender has on health.

The role of gender in South Asia

From many perspectives women in South Asia find themselves in subordinate positions to men and are socially, culturally, and economically dependent on them.³ Women are largely excluded from making decisions, have limited access to and control over resources, are restricted in their mobility, and are often under threat of violence from male relatives.⁴ Sons are perceived to have economic, social, or religious utility; daughters are often felt to be an economic liability because of the dowry system.⁵

We believe that individual and societal beliefs about and attitudes towards appropriate gender specific roles, and the choices of individuals and households on the basis of these factors, mean that women are disadvantaged with regard to health and health care. There are some instances in which gender differences hurt men's health—for example, men are more likely to be involved in road crashes or occupational accidents as they are more likely to be outside the home or in a workplace than women. However, most of the evidence shows that gender inequalities have led to a systematic devaluing and neglect of women's health.

Summary points

The life advantage for girls and women that characterises the health statistics of industrialised countries is blurred in South Asia

Gender discrimination at each stage of the female life cycle contributes to health disparity, sex selective abortions, neglect of girl children, reproductive mortality, and poor access to health care for girls and women

The violation of fundamental human rights, and especially reproductive rights of women, plays an important part in perpetuating gender inequity

Policy makers, programme managers, health professionals, and human rights workers in South Asia need to be aware of and responsive to the detrimental health effects that gender plays throughout the life cycle

Established gender norms and values contribute to the loss of the "female advantage" in South Asia. In contrast to industrialised countries, healthy life expectancy is equal or shorter in women than in men in nearly all these countries. The probability of surviving the first five years of life for girls is equal to or smaller than that for boys (table). The single exception is Sri Lanka, which has indicators that reflect both improved overall health status of the population and a paucity of evidence of female disadvantage. India, Bangladesh, and Pakistan constitute almost 97% of the population in South Asia, and our comments will focus on these countries.

International Program Division, Population Council, 1 Dag Hammarskjold Plaza, New York 10017, USA Fariyal F Fikree program associate

Women's and Children's Center, Rollins School of Public Health, Emory University, 1518 Clifton Road, Atlanta, GA 30322, USA

Omrana Pasha manager, research projects

Correspondence to: F F Fikree ffikree@ popcouncil.org

BMJ 2004;328:823-6

Lite	expectancy	indicators	tor South	Asian	countries

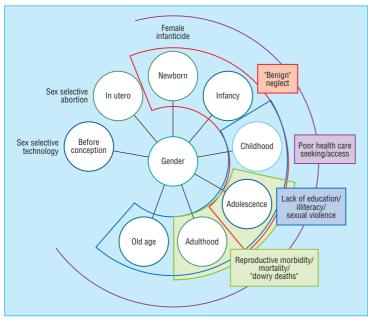
Country	Total population _ (000)	Life expectancy			Probability of dying under age 5 years (per 1000)		Healthy life expectancy at birth		
		Total	Male	Female	Male	Female	Total	Male	Female
Bangladesh	143 809	62.6	62.6	62.6	71	73	54.3	55.3	53.3
Bhutan	2 190	61.3	60.2	62.4	93	92	52.9	52.9	52.9
India	1 049 549	61.0	60.1	62.0	87	95	53.5	53.3	53.6
Maldives	309	66.1	66.5	65.6	38	43	57.8	59.0	56.6
Nepal	24 609	60.1	59.9	60.2	81	87	51.8	52.5	51.1
Pakistan	149 911	61.4	61.1	61.6	105	115	53.3	54.2	52.3
Sri Lanka	18 910	70.3	67.2	74.3	20	16	61.6	59.2	64.0

Life cycle of gender discrimination

Gender related differences in health status have led to an unbalanced sex ratio for the past 100 years, which is declining further.⁶ An estimated 60-100 million girls are "missing" worldwide,^{7 8} and the imbalanced sex ratios of South Asian countries contribute a large proportion of this number.^{9 10} In some parts of the Indian subcontinent the sex ratio has fallen as low as 770 women per 1000 men.¹¹ Gender discrimination at each stage of the female life cycle contributes to this imbalance. Sex selective abortions, neglect of girl children, reproductive mortality, and poor access to health care for girls and women have all been cited as reasons for this difference (figure).

Sex selection

Since the advent of sex selection techniques before conception as well as in utero diagnosis and selective abortion of female fetuses, prenatal selection of male embryos has become common. One of the most disturbing aspects of this practice is that educated women who have frequent exposure to the media are the ones most likely to seek a sex selective abortion. The most extreme form of sex selection, female infanticide, has focused international media attention on certain communities in India. 13 Ha Reports from both the scientific literature and the local press show that this problem is likely to occur in various settings. 15 16



Life cycle of gender discrimination and health

Neglect of girls

Less notorious but more far reaching than infanticide is the so called benign neglect that girls are subject to at all ages in South Asia. This has led to gender based health disparities among the population aged under 5 years that are larger than anywhere else in the world. A girl between her first and fifth birthday in India or Pakistan has a 30-50% higher chance of dying than a boy. In this neglect may take the form of poor nutrition, Lack of preventive care (specifically immunisation), and delays in seeking health care for disease.

Health of adolescents

Early marriage and pregnancy,25 anaemia,26 sexual violence,27 and poor educational opportunities all contribute to ill health among female adolescents in this region. Adolescents,28 especially young women,29 are disproportionately affected by HIV infection worldwide; adolescence is also a time when vulnerabilities to injury, including motor vehicle crashes and suicide, as well as substance abuse, rise.30 In most parts of the world men bear the greater burden of violence and injuries30; however, suicide among young women may be more common in South Asia than in other parts of the world.31-33 This, combined with the distressing practice of "dowry murder,"34 means that young South Asian women are at a particular risk from violence. The current demographic trend of a rapidly growing young population³⁵ will increase the impact of adolescent health issues. Despite this, little attention has been paid to these conditions in the South Asian context of gender inequity.

The risks of reproduction

By their nature reproductive health hazards are borne by women alone. Poor outcomes for both mother and child are inevitable for a large proportion of the population as long as many South Asian mothers are too young,²⁵ receive minimal antenatal care,^{36 37} and are malnourished^{36 38} or anaemic^{36 39 40} during pregnancy.

Poor vital registration systems in South Asia pose a challenge to measuring maternal mortality at the national level. Maternal deaths—most commonly from haemorrhage, sepsis, and eclampsia—continue to exact a high toll; unsafe abortions also contribute to deaths from haemorrhage and sepsis. Material Home deliveries by unskilled attendants, a paucity of knowledge of intrapartum danger signs, and poor transport mechanisms to and lack of appropriate care at health facilities all contribute to this burden. Momen cite economic circumstances and spousal or familial opposition to delivery in hospital as the most common reasons for delivery at home. Decisions about

seeking care in such emergencies are made largely by the husband or the elder members of his family.³⁶

Health care for women

Women are less likely to seek appropriate and early care for disease. Yet the frequency with which such care is required-burden of disease, maternal mortality, and morbidity aside-and the quality of care provided to women has not been well documented in South Asia. In the authors' experience, diseases that generally have an equal prevalence in men and women are found to have affected women disproportionately in this region. 45-47 It remains unclear why South Asian women are more often affected by diseases such as rheumatic heart disease and hepatitis C virus infection, but it is clearly a cause for grave concern.

As more women survive into old age, the role of gender differences among older adults will become more important. South Asian women experience greater ill health and a loss of activities of daily living as they age.⁴⁸ They are also more vulnerable because they are likely to be illiterate, unemployed, widowed, and dependent on others.⁴⁹ The combination of perceived ill health and lack of support mechanisms contributes to a poor quality of life, and public policy to address the concerns of this group of women will be needed as increasing numbers survive to old age.

Dealing with health and gender

Most gender based health differences in South Asia can be traced back to the same underlying factors: decreasing fecundity and consequently a preference for sons, spread of the practice of dowry across most groups in the region, and the marginalisation of women in agriculture. We believe that all of these factors are tied to the perceived lack of economic utility of women. Current societal circumstances make the cost of having a daughter so high that families may be unwilling to invest scarce resources for their benefit. Similarly, the scarcity of resources causes society to undervalue women, who, as a rule, are not making a visible economic contribution. Attempts to address gender disparities must take into account these underlying issues. However, education and improved economic circumstances alone are likely to be insufficient to change practices that have become culturally, socially, and in some cases legally, enshrined. Programmes and policies aimed at reducing differences at the level of education and employment between men and women must enshrine gender equity as a core value. In this respect Sri Lanka might be considered a role model for the rest of South Asia-minimal gender differences in education and employment levels in Sri Lanka lead to a life expectancy and healthy life expectancy equivalent to those of industrialised countries.

In this sociocultural context, the violation of fundamental human rights, and especially reproductive rights of women, plays an important part in perpetuating gender inequity. It is therefore imperative that a rights based approach be taken across all developmental activities in South Asian countries.

Conclusion

The life advantage for girls and women that is seen in health statistics in industrialised countries is blurred in South Asia where gender-based on social, cultural, and, in some cases, legal constructs and practicesoverrides the biological advantage of being born female. Policy makers, programme managers, health professionals, and human rights workers in the developing world and especially in South Asia need to be aware of and responsive to the detrimental health effects that gender plays throughout the life cycle.

Contributors: FFF developed the idea, provided intellectual content and overall guidance, and is guarantor; OP wrote the initial draft. The final drafts were jointly written by FFF and OP. Competing interests: None declared.

- World Health Organization. Gender, health and ageing. Geneva: WHO, 2003. www.who.int/gender/documents/en/Gender_Aging.pdf (accessed
- World Health Organization. World health report 2003. Shaping the future. Annex tables, www.who.int/whr/2003/annex/en/ (accessed 25 Feb 2004).
- Narayan D, Patel R, Schafft K, Rademacher A, Koch-Schulte S. Changing gender relations in the household. In: Voices of the poor: can anyone hear us? New York, NY: Oxford University Press, 2000. www.worldbank.org/ poverty/voices/reports/canany/ch5.pdf (accessed 24 Feb 2004).
- Jejeebhoy SJ, Sathar ZA. Women's autonomy in India and Pakistan: the influence of region and religion. *Popul Dev Rev* 2001;27:687-712.

 Arnold F, Choe MK, Roy TK. Son preference, the family-building process
- and child mortality in India. Popul Stud 1998;52:301-15.
- Banthia JK. Sex composition of the population. In: Provisional population totals. Census of India, series 1 of 2001. www.censusindia.net/data/chapter6.pdf (accessed 24 Feb 2004).
- Coale AH. Excess female mortality and the balance of the sexes in the population. *Popul Dev Rev* 1991;17:517-523.

 Sen A. Missing women. *BMJ* 1992;304:587-8.

 Watts C, Zimmerman C. Violence against women: global scope and mag-
- nitude. Lancet 2002;359:1232-7.

 10 Allahbadia GN. The 50 million missing women. J Assist Reprod Genet
- 2002;19:411-6.

 11 Sharma DC. Widespread concern over India's missing girls. *Lancet*
- 12 Retherford RD, Roy TK. Factors effecting sex-selective abortion in India. Natl Fam Health Survey Bull 2003;17. www2.eastwestcenter.org/pop/
- misc/bull-17.pdf (accessed 25 Feb 004). Singh J. *India's unwanted girls*. BBC 2000 July 11. http://news.bbc.co.uk/
- 1/hi/world/south_asia/828856.stm (accessed 28 Feb 2004). Bindra S. Grim motives behind infant killings. Cable News 2003 July 7. www.cnn.com/2003/WORLD/asiapcf/south/07/07/india.infanticide.pt1/index.html (accessed 28 Feb 2004).
- 15 George SM, Dahiya, RS. Female infanticide in Tamil Nadu, India—from recognition back to denial? Reprod Health Matters 1997;5:124-8.
- 16 Oberman M. Mothers who kill: cross-cultural patterns in and perspectives on contemporary maternal filicide. Int J Law Psychiatry 2003;26:493-514.
- 17 Filmer D, King EM, Pritchett L. Gender disparity in South Asia: comparisons Workpapers/WPS1800series/wps1867/wps1867.pdf (accessed 27 Feb 2004). (World Bank policy research working paper No 1867.)
- 18 Pande RP. Selective gender differences in childhood nutrition and immunization in rural India: the role of siblings. *Demography* 2003;40:395-418.
- 19 Shaikh S, Mahalanabis D, Chatterjee S, Kurpad AV, Khaled MA. Lean body mass in preschool aged urban children in India: gender difference. Eur J Clin Nutr 2003:57:389-93.
- 20 Choudhury KK, Hanifi MA, Rasheed S, Bhuiya A. Gender inequality and severe malnutrition among children in a remote rural area of Bangladesh. J Health Popul Nutr 2000;18:123-30.
- 21 Pande RP, Yazbeck AS. What's in a country average? Wealth, gender, and regional inequalities in immunization in India. Soc Sci Med 2003;57:
- 22 Abbasi KA, Mirani PH, Parsram A, Sarwar A. Causes, clinical features and outcome of 150 newborns with birth asphyxia at Larkana hospital. Pak Paediatr J 1998;21:121-5.
 23 Pandey A, Sengupta PG, Mondal SK, Gupta DN, Manna B, Ghosh S, et al.
- Gender differences in healthcare-seeking during common illnesses in a rural community of West Bengal, India. *J Health Popul Nutr* 2002;20:306-11.
- 24 Hasan IJ, Khanum A. Health care utilization during terminal child illness in squatter settlements of Karachi. J Pak Med Assoc 2000;50:405-9.
- 25 World Health Organization, South East Asia Regional Office. Reproductive health (adolescent childbearing). In: Women of South-East Asia: a health profile. New Delhi: WHO/SEARO, 2000. http://w3.whosea.org/women/chap3_1f.htm (accessed 1 Mar 2004).
- chaps_II.htm (accessed 1 Mar 2004).
 26 Tiwari BK. Country report on India. Paper presented at the regional consultation on nutritional status of adolescent girls and women of reproductive age, 26-28 November 1997. New Delhi: World Health Organization, South East Asia Regional Office, 1998.
- 27 World Health Organization, South East Asia Regional Office. Prevalence of violence against women (adolescent childbearing). In: Women of South-East Asia: a health profile. New Delhi:WHO/SEARO 2000. http:// w3.whosea.org/women/chapf_If.htm (accessed 1 Mar 2004). Unicef, UNAIDS, World Health Organization. Young people and HIV/AIDS:opportunities in crisis. New York: Unicef, UNAIDS, WHO, 2002. World Health Organization. Gender and HIV/AIDS. www.who.int/gender/ documents/cny/Conferenceschere pff (accessed 1 Mar 2004).
- documents/en/Gender_factsheet.pdf (accessed 1 Mar 2004).

- 30 Barker G. What about boys? A literature review on the health and development of adolescent boys. Geneva: WHO, 2000. www.who.int/child-adolescenthealth/New_Publications/ADH/WHO_FCH_CAH_00.7.pdf (accessed
- Khan MM. Suicide on the Indian subcontinent. Crisis 2002;23:104-7. 32 Brockington L. Suicide in women. Int Clin Psychopharmacol 2001;16(suppl
- 33 Ronsmans C. Khlat M. Adolescence and risk of violent death during pregnancy in Matlab, Bangladesh. Lancet 1999;354:1448.
- 34 Kumar V. Burnt wives—a study of suicides. Burns 2003;29:31-5. 35 United Nations Population Fund. State of the world's population. Making one
- billion count: investing in adolescents' health and rights. New York. UNFPA,
- 36 Fikree FF, Bhutta ZA, Marsh DR, Mahmood N, Ali N, Pasha O. State of the world's newborn: Pakistan. Islamabad: Save the Children/US, Pakistan Field Office, 2002.
- 37 Sugathan KS, Mishra V, Retherford RD. Promoting institutional deliveries in rural India: the role of antenatal-care services. National Family Health Survey Subject Reports 2001;2. www2.eastwestcenter.org/pop/misc/subj-20.pdf (accessed 1 Mar 2004).
- 38 International Institute for Population Sciences, Opinion Research Corporation (ORC MACRO). National family health survey (NFHS-2), 1998-99, India. Mumbai: IIPS, 2000.
- 39 Bentley ME, Griffiths PL. The burden of anemia among women in India. Eur J Clin Nutr 2003;57:52-60.

- 40 Ahmed F. Anaemia in Bangladesh: a review of prevalence and aetiology. Public Health Nut 2000;3:385-93.
- 41 Mari Bhat PN. Maternal mortality in India: an update. In: XXIV International Union for the Scientific Study of Population General Conference, 18-24 August 2001. Salvador, Brazil. Scientific Programme, 2001. www.iussp.org/Brazil2001/s10/S16_01_Bhat.pdf (accessed 1 Mar 2004).
- 42 Bhatia JC. Levels and causes of maternal mortality in southern India. Stud Fam Plann 1993:24:310-8.
- 43 Barua A, Kurz K. Reproductive health-seeking by married adolescent
- girls in Maharashtra, India. *Reprod Health Matters* 2001;9:53-62. Bloom SS, Wypij D, Das Gupta M. Dimensions of women's autonomy and the influence on maternal health care utilization in a north Indian city. Demography 2001;38:67-78.
- 45 Khan AJ, Luby SP, Fikree F, Karim A, Obaid S, Dellawala S, et al. Unsafe injections and the transmission of hepatitis B and C in a periurban com-
- munity in Pakistan. *Bull WHO* 2000;78:956-63.

 46 Rizvi SFH, Khan MA, Kundi A, Marsh DR, Samad A, Pasha O. Current
- status of rheumatic heart diseases in rural Pakistan. *Heart* 2004;90:394-9. Agarwal AK, Yunus M, Ahmad J, Khan A. Rheumatic heart disease in India. *J R Soc Health* 1995;115:303-4, 309. Kabir ZN, Tishelman C, Aguero-Torres H, Chowdhury AM, Winblad B,
- Hojer B. Gender and rural-urban differences in reported health status by older people in Bangladesh. *Arch Gerontol Geriatr* 2003;37:77-91.
- 49 Prakash IJ. Women and ageing. Indian J Med Res 1997;106:396-408. (Accepted 11 March 2004)

Importance of health research in South Asia

Ritu Sadana, Carol D'Souza, Adnan A Hyder, A Mushtaque R Chowdhury

South Asian countries face similar health problems and would benefit from collaboration in health research

Health Research Systems Analysis Initiative, Research Cooperation Evidence and Information for Policy Cluster, World Health Organization, CH-1211 Geneva 27, Switzerland Carol D'Souza International

Health Faculty. Bloomberg School of Public Health, Johns Hopkins University, Baltimore, MD 21205, USAAdnan A Hyder assistant professor, health systems

programme

Policy and

Department,

Ritu Sadana

policy analyst

scientist

Heilbrunn Department of Family Health, Columbia University, 60 Haven Avenue. New York. NY 10032, USA A Mushtaque R Chowdhury visiting professor

Correspondence to: sadanar@who.int

BMJ 2004;328:826-30

Research is essential to guide improvements in health systems and develop new initiatives. South Asia has a quarter of the world's population, weak public sector health care, and a staggering disease burden, and thus research is particularly important. Although investment has increased in infrastructure for health research over the past decade, gaps remain in evidence to guide reduction of important problems such as communicable diseases, maternal and perinatal conditions, childhood diseases, and nutritional deficiencies.² Furthermore, even when technical knowledge is available, political commitment, managerial competencies, and incentives for changing behaviour within health systems are often lacking.3-

One region, eight countries, complex challenges

Despite diversity in their geographical, linguistic, and political structures, Afghanistan, Bangladesh, Bhutan,

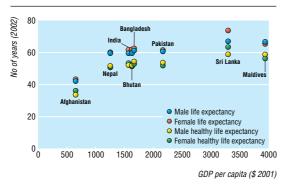


Fig 1 Life expectancy and healthy life expectancy by gross domestic product per capita

India, the Maldives, Nepal, Pakistan, and Sri Lanka face common health challenges. Most bear a triple burden of persisting infectious diseases, increasing chronic conditions, and a growing recognition of injuries and violence. Incomplete demographic transitions, HIV and AIDS, massive unplanned urbanisation, and a host of social determinants of health compound these problems.6 Another common characteristic is that national estimates of health mask large variations within countries (fig 1).7

Health systems across the region also have to confront challenges such as a lack of evidence based policies and limited social accountability. With no or limited national health insurance schemes and the large role of the private sector, individuals face high out of pocket payments on top of other economic and social consequences of ill health (fig 2).10 In many countries, the devolution of financial responsibility for health services has outpaced capacity and decision making authority, contributing to fragmentation of policies and services.11 Striking inequities in the provision of human resources, infrastructure, and effective services abound between regions of countries, socioeconomic classes, and rural and urban areas.8

Health research and health system challenges

A systems perspective¹² is required to understand how research and knowledge from various sources is produced and synthesised, how the demand for relevant knowledge is cultivated, and whether that knowledge is used to strengthen the effectiveness of health systems,

Extra information is available on bmj.com