Asian language school student and primary care patient responses to a screening tool detecting concerns about risky lifestyle behaviours

Felicity Goodyear-Smith MBChB MGP FRNZCGP and Associate Professor Bruce Arroll MBChB PhD FRNZCGP, Department of General Practice & Primary Health Care, and Samson Tse PhD, Centre for Gambling Studies, School of Population Health, University of Auckland

ABSTRACT

Objective

To assess smoking, problem drinking, other drug use and gambling in Asian students and New Zealand patients using a multi-item lifestyle screening tool.

Methods

The setting was three Asian language schools and urban and rural general practices, 2002–2003. Participants (246 Asian students plus 2543 consecutive adult patients of randomly selected general practitioners and practice nurses) completed the screening tool and evaluation form.

Results

The tool was highly acceptable to all participant groups, with response rates similar for patients from different settings. Significantly more Asian student 'youth' (aged 16–25) than patients expressed the need to reduce their alcohol intake ($p<0.001$), recreational drug use ($p<0.001$) and gambling concerns ($p<0.001$). More Asian students than patients wanted help with the issue of concern, either immediately or at a later date. For gambling, 6.5% wanted assistance (compared with 0.5% 'youth' patients). Some differences were age-related, but comparing Asian student and Auckland patients, both genders had had significantly more drug use and gambling concerns, and male students more concerns about cigarette smoking than their patient counterparts.

Conclusions

A minority of Asian students appear to have significant lifestyle-related concerns. Gambling treatment centres see predominantly males, indicating females are not accessing necessary care.

Implications

Some young Asian students arrive with large disposable incomes; sudden access to licensed gambling premises; increased freedom and little parental supervision. We recommend appropriate orientation on arrival with intersectorial agency co-ordination of healthy lifestyle education. Issues around gambling, smoking, alcohol and recreational drug use should be addressed by students' educational institutions with ongoing support and pastoral care.

Key words

Mass screening, lifestyle

(NZFP 2004; 31:84–89)

Introduction

Screening for lifestyle and mental health risk factors is increasingly advocated as a public health measure aimed at early detection and intervention of problematic behaviours and mood disorders which negatively impinge on health. A number of screening tools are available for specific factors – for example the Alcohol Use Disorders Identification Test (AUDIT);[1] the Drug Abuse Screening Test (DAST),[2] the South Oaks Gambling Screen instrument (SOGS) for the identification of problem gambling;[3] the Beck Depression Inventory;[4] the Partner Violence Screen;[5] and the Conflict Tactic Scale (measuring use of reasoning, verbal aggression and physical violence in resolving conflict).[6] However these tools are generally too lengthy for routine use in clinical settings.[7,8]

Furthermore, questioning about sensitive lifestyle behaviours is embarrassing or objectionable to some people. For example, there are a number of studies examining women's acceptability of domestic violence questioning which show huge variability in the percentage of women who object – ranging from 15 to 57%.[5,9–19] Similarly, most studies indicate that the majority of primary health care workers are not in

favour of screening for partner abuse.[12,20–23]

To address these issues in the primary care setting, a short two-sided A4 screening tool for lifestyle and mental health risk factors (smoking, alcohol use, other drug use, problem gambling, depression, anxiety, stress, abuse, anger, physical inactivity, and eating problems) has been developed that adults can either self-administer or have administered by their practitioner.

The tool was designed by the lead author in collaboration with a team including general practitioners, university researchers, a psychologist and a community-based brief intervention educator of primary health care providers. A literature search of screening tools for the areas of interest was conducted. Where possible, existing short screening tools (for example, the two-question depression screen[24,25] and the question assessing sedentary behaviour[26]) or key questions from longer tools (for example, the AUDIT[27]) were incorporated into the screening tool. The gambling question *'Do you sometimes feel unhappy or worried after a session of gambling?'* is derived from the 'Eight' screen.[28]

It was anticipated that screening for a number of potentially sensitive issues generically would reduce the likelihood of people feeling 'singled out' and offended, yet allow collection of important information. This brief multi-item screening tool (MIST) contains a section for respondents to indicate whether they would like help, either immediately or at a later date, with any problem area they have identified.

It was anticipated that screening for a number of potentially sensitive issues generically would reduce the likelihood of people feeling 'singled out' and offended, yet allow collection of important information

While designed primarily for use in primary care, the MIST also has possible uses in other settings. It has been used in language schools for Asian students as well as undergoing evaluation in three general practice settings.

The aims of this paper are firstly, to present data focused on Asian students' concerns about their smoking, alcohol and recreational drug use, and gambling behaviour and compare these with responses from primary care patients; and secondly, to report the acceptability of the tool measured by the evaluation in the above settings. Full details of the tool development and the primary care evaluation are the subject of a separate publication.[29]

Method

The tool was used by Asian students attending Auckland English language schools. The schools were recruited by Asian Services, Problem Gambling Foundation of New Zealand (PGF) who offered a free workshop on problem gambling to these institutions. This course, entitled *'Live well; study well'* briefly addressed a number of lifestyle issues but predominantly focused on gambling. At the completion of the workshop students were invited to participate in the study. Those who consented completed the MIST and feedback evaluation forms. Chinese and Korean translations of the forms were available. The students were given the names and contact details of appropriate agencies such as the Problem Gambling Foundation of New Zealand and Lifeline telephone counselling in Chinese, should the screening tool raise issues that they would like addressed.

The tool had also been assessed by primary health care providers in three settings: 20 randomly selected general practitioners (GPs) in Auckland city; 20 randomly selected practice nurses (PNs) in urban and rural centres in Otago in the South Island; and 11 out of 13 rural GPs in the Hawkes Bay region. Randomisation of practitioners was achieved using a computer-generated random number table. Fifty consecutive adult patients were recruited per practitioner. All consecutive patients aged 16 years and over attending the practice (including those attending as caregiver of another patient) were invited to complete the MIST and the evaluation sheet. Exclusion criteria were the inability to understand English or mental impairment that precluded meaningful participation.

The MIST was either self-administered by patients in the waiting room, or administered by a PN prior to the patient's consultation. All patients also completed the feedback form which asked whether they objected to any of the questions contained in the MIST.

Key Points

- Screening for lifestyle and mental health risk factors is increasingly advocated as a public health measure aimed at early detection and intervention of problematic behaviours and mood disorders which negatively impinge on health.
- A short two-sided A4 screening tool for lifestyle and mental health risk factors has been developed that adults can either self-administer or have administered by their practitioner.
- Asian students had highly significant increased positive responses to feeling the need to cut down on their drinking, recreational drug use and gambling compared to the patients in that age range.
- The screening tool was well accepted by both Asian student and patient populations, with less than 1% objecting to any of the questions apart from recreational drug use.

Multi-centre ethics approval was obtained from the Auckland, Hawkes Bay and Otago ethics committees.

Data analysis, using descriptive statistics and non-parametric binomial (chi-squared tests) was conducted using the SPSS-10.0 statistical package. Data included demographic information; positive responses to each screening question; number of respondents requesting assistance concerning risk factors; objections to questions, and estimation of respondent and practitioner satisfaction with the resource.

Results

Three language schools accepted the free workshops and one school requested to be contacted at a later date. The response rate of attending students from the three schools who consented to participate was 94.3% (246/261). A total of 2543 consecutive patients, 20 urban doctors, 20 practice nurses and 11 rural doctors participated in the initial primary care study. Three general practitioners and two nurses declined participation, giving a 91% practitioner participation rate.

Table 1. Percentage ethnicity of GP patient sample

	Auckland	Otago	Hawkes Bay	Total
NZ European	68	92.8	62.8	**76.7**
Maori	7.2	3	32.8	**10.9**
Pacific People	14.6	0.8	0.8	**6.3**
Asian	4	0.9	0.1	**2**
Other	6.2	2.5	3.5	**4.1**

The respondents were 58% male in the Asian student setting and about 66% female in all three GP locations. The ethnicity of the Asian students was 87.2% Chinese, 9.3% Korean and 3.5% 'other Asian'. The ethnicity of the patients varied considerably in the three different settings (see Table 1).

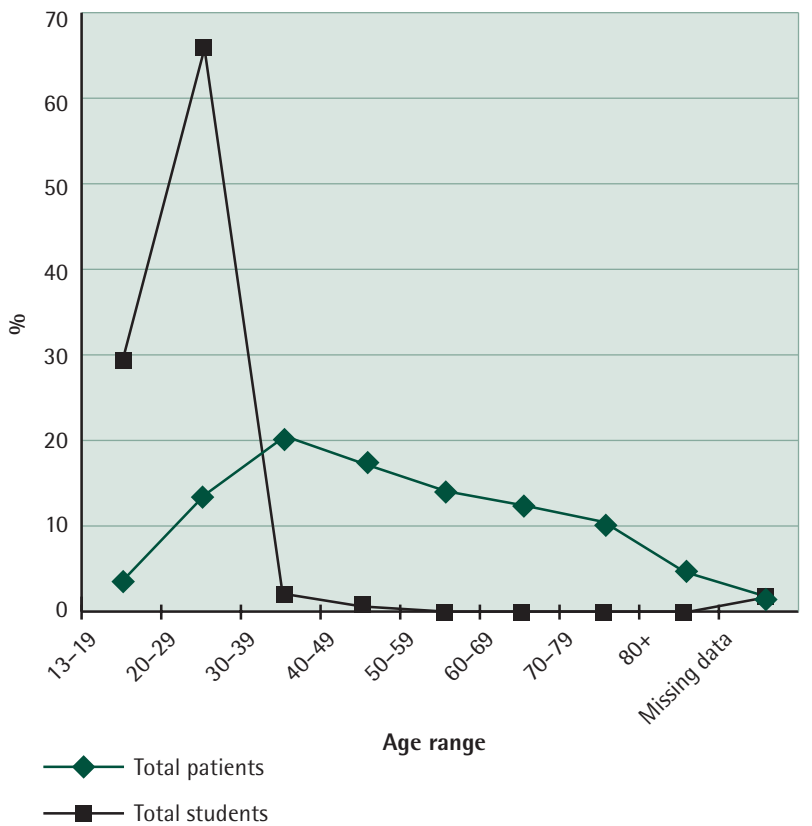
Within the three GP settings, response rates were similar for nearly all items, with few significant differences between settings. Comparing the Asian students and GP patients, there was a significant difference between those who felt the need to cut down or stop cigarette smoking (76/239, 31.8% and 441/2036, 20.2% respectively, ($p<0.001$); to cut down on their alcohol drinking (65/222, 29.3% compare 270/2506, 10.8%, $p<0.001$) and on their recreational drug use (68/238, 26.5% compare 72/2536, 2.8%, $p<0.001$). Significantly more Asian students also admitted to sometimes feeling unhappy or worried after a gambling session (22/241, 9.1% compare 80/2519, 3.2%, $p<0.001$).

The questionnaire was well-accepted by both students and patients, with the highest rate of objection being to the question on recreational drug use for both groups – three students (1.2%) and 22 patients (0.9%). This was to be expected, given that it was the one question asking about an illegal activity. Objections to questions on other issues ranged from 0.4 to 0.8% for both the student and patient populations.

While the Asian students identified significantly more problems relating to their alcohol and other drug use and gambling behaviour, it is recognised that these are two very different populations of people. In particular, the Asian students are a young population with a mean age of 21 years (range 13 to 42 years), whereas the patients ranged from 16 to 96 years, with a mean age of 47 years (see Figure 1).

The vast majority of the Asian students (218/246, 88.6%) were aged between 16 and 25, therefore it was

Figure 1. Age of Asian students and patients



decided to look at subsets of students and patients aged 16 to 25 years (designated 'youth'). The mean age for the youth sub-samples was 20.9 years for Asian students and 20.8 years for patients. Comparing patient youth with older patients (aged over 25 years) the youth identified significantly more problems with smoking (85/295, 28.8% compare 356/1741, 20.4%, p=0.001); drinking alcohol (58/296, 19.6% compare 212/2210, 9.6%, p<0.001) and other drug use (18/294, 6.1%, compare 54/2242, 2.4%, p<0.001). However there was no difference between the youth and older patients regarding gambling concerns (10/296, 3.4%, compare 70/2240, 3.1%, p=0.81).

Comparisons of responses for Asian student and patient youth are presented in Table 2. It can be seen that the Asian students had highly significant increased positive responses to feeling the need to cut down on their drinking, recreational drug use and gambling compared to the patients in that age range. There was no significant difference in the need to cut down on cigarette smoking between the Asian and patient youth.

The Asian students were much more likely to identify an item as an issue with which they would like help, either immediately or at a later date (see Table 3). Regarding alcohol use, 9.3% wanted help either immediately or at a later date, compared with 2.4% of patients (p<0.001). Eight per cent of students wanted either immediate or later assistance with their recreational drug use, compared with 0.3% of patients (p<0.001) and 6.5% of students wanted help with their gambling, an issue with which none of the patient youth indicated they needed assistance (p<0.001).

Given that the Asian students resided in Auckland, Asian student youth (N=210; 126 males and 84 females) were compared with Auckland patients youth (N=120; 47 males and 73 females), with responses broken down by gender. In this comparison (see Table 4) the male Asian student youth had significantly more worries about their cigarette smoking, recreational drug use and gambling than their patient counterparts, and the female students also were significantly more concerned about their gambling and their recreational drug use than the young female patients.

Table 2. Positive responses to screening questions

	Asian students N (%)	GP patients N (%)	p value
Feel the need to cut down on smoking?	71/210 (332.9)	85/295 (28.8)	0.23
Feel the need to cut down on drinking?	60/195 (30.8)	58/296 (19.6)	0.005
Feel the need to cut down on other drug use?	65/209 (30.1)	18/294 (6.1)	<0.001
Unhappy or worried after gambling session?	22/211 (10.2)	10/296 (3.3)	0.001

Table 3. Youth (aged 16 to 25) wanting help for specific problems

	Yes but not today		Yes, today		Yes today or later
	Asian student n (%)	GP patient n (%)	Asian student n (%)	GP patient n (%)	p value
Smoking	18/216 (8.3)	28/295 (9.5)	7/216 (3.2)	15/295 (5.1)	0.32
Alcohol	10/214 (4.7)	6/296 (2.0)	10/214 (4.7)	1/296 (0.3)	<0.001
Other drugs	9/210 (4.3)	1/294 (0.3)	8/210 (3.8)	0/294 (0)	<0.001
Gambling	10/216 (4.6)	0/294 (0)	4/216 (1.9)	0/294 (0)	<0.001

% responding 'No' to help = 100% minus (% wanting help not today + % wanting help today)

Discussion

The screening tool was well accepted by both Asian student and patient populations, with less than 1% objecting to any of the questions apart from recreational drug use.

In the patient population, there was no difference in response to the question on problems with gambling between youth and older adults but the youth admitted to significantly more problems with smoking, alcohol and other drugs.

The Asian students as a group admitted to significantly more problems than the patients, but some of this was explained by age. When the youth sub-group (age 16–25) of Auckland patients was compared with Asian students in this same age range, the students of both genders had a significantly greater problem with other drug use and gambling, and male students also identified more concerns about their cigarette smoking than their patient counterparts.

Asian people including students attending Auckland treatment centres for problem gambling are predominantly male.[30] That many female Asian students may have a problem with gambling is a situation not previously detected.

Some important caveats should be noted. The screening tool incorporates validated questions from

Table 4. Asian student and Auckland patient youth responses by gender

	Male			Female		
	Asian students N (%)	Auckland patients N (%)	*P* value	Asian students N (%)	Auckland patients N (%)	*P* value
Feel the need to cut down smoking?	47/122 (38.5)	5/47 (10.6)	**0.0003**	24/89 (27.0)	11/73 (15.0)	**0.08**
Feel the need to cut down drinking?	35/122 (27.8)	12/47 (25.5)	**0.8**	22/84 (26.2)	12/73 (16.4)	**0.2**
Feel the need to cut down other drug use?	39/124 (31)	4/47 (8.5)	**0.0015**	25/80 (29.8)	1/73 (1.4)	**<0.001**
Unhappy after gambling?	14/123 (11.5)	1/47 (2. 1)	**0.045**	8/83 (9.6)	1/73 (1.4)	**0.023**

other tools but the composite MIST tool has not yet been validated and its sensitivity and specificity has not been determined. Validation of the tool is currently under development.

The students and patients are two very different populations. The screening took place in different contexts. For the students, screening followed a workshop on gambling which may have raised their awareness of this issue, but would not be expected to affect the others. However, even if the student and patient populations are considered too heterogeneous to allow comparison, the stand-alone Asian student data is cause for alarm. In fact the present results are consistent with the findings from the literature review on Asian mental health[31] and the report by the Asian Public Health project team in Auckland.[32] A significant minority of the Asian students identified concerns about their smoking, drinking, drug-taking and gambling behaviours, and many indicated that they would like help with these problems. Asian students may be more honest, motivated to maintain their health and wellbeing in a new culture or over-report concerns about these issues. Qualitative interviews are needed to explore these aspects.

It should also be noted that the Asian student population is not a homogeneous group, and only a minority indicated lifestyle problems. As a whole, *'the majority of students study hard, make a genuine attempt to integrate with the host community, love the people they meet and enjoy their life experiences in New Zealand.'*[33] They make a considerable financial and social contribution to New Zealand. In the year to July 2002, the economic impact of international students on New Zealand was estimated to be approximately $1.7 billion.[34] Asian students also provide an opportunity for developing cross-cultural skills between students and the wider host community.

Implications

Nearly 10% of Asian students identified wanting help with gambling problems (4.7% immediately and 4.7% at a later date). A large per cent also wanted help with their alcohol use (8.1%) and with their recreational drug use (6.5%).

Even if the student and patient populations are considered too heterogeneous to allow comparison, the stand-alone Asian student data is cause for alarm

These high numbers raise concerns. Many young Asian students are sent by their parents to study in New Zealand. They are potentially a vulnerable population. They may have large disposable incomes; they have sudden access to licenced gambling premises; increased freedom with less or no parental supervision, and they may be relatively isolated and lonely.

We recommend that these students receive appropriate orientation on arrival in New Zealand with inter-sectorial co-ordination of immigration, educational and health agencies providing information on healthy lifestyle choices. Issues around gambling, smoking, alcohol and other drug use should also continue to be addressed with good support and pastoral care provided by the educational institutions attended by these students.

Acknowledgements

We would like to thank all patients and Asian student participants; the development team of MIST: especially Dr Raina Elley, Ms Barbara Docherty and Dr Sean Sullivan; the general practitioners, practice nurses and clinic staff, and English language school staff who assisted in the study; Ms Susanne Brighouse, Auckland; Ms Wendy Findlay, Southlink, and Assoc Prof Ron Janes, Institute of Rural Health, who co-ordinated Auckland, Otago and Hawkes Bay settings; Asian Services, Problem Gambling Foundation, who co-ordinated Asian student setting and those performing data entry for various settings.

References

1. Wennberg P, Escobar F, Espi F, Canteras M, et al. The alcohol use disorders identification test (AUDIT): A psychometric evaluation. Reports from the Department of Psychology, U. Stockholm. No. 1996; 811:1–14.
2. Dawe S, Loxton N, Hides L, Kavanagh D, et al. Review of diagnostic screening instruments for alcohol and other drug use and other psychiatric disorders, 2nd edition. Commonwealth of Australia; August 2002.
3. Lesieur HR, Blume SB. The South Oaks Gambling Screen (SOGS): A new instrument for the identification of pathological gamblers. Am J Psychiatry 1987; 144:1184–1188.
4. Salkind MR. Beck depression inventory in general practice. J R Coll Gen Pract 1969; 18:267–71.
5. Feldhaus K, Koziol-McLain J, Amsbury H, I N, et al. Accuracy of three brief screening questions for detecting partner violence in the emergency department. JAMA 1997; 227:1347–1361.
6. Straus MA. Measuring intrafamily conflict and violence: The Conflict Tactics (CT) Scales. J Marr Fam 1979; 41:75–88.
7. Smith HE, Herbert CP. Preventive practice among primary care physicians in British Columbia: relation to recommendations of the Canadian Task Force on the Periodic Health Examination. CMAJ 1993; 149:1795–800.
8. Shepherd R-M. Clinical obstacles in administrating the South Oaks Gambling Screen in a methadone and alcohol clinic. J Gambl Stud 1996; 12:21–32.
9. Bradley F, Smith M, Long J, O'Dowd T. Reported frequency of domestic violence: cross sectional survey of women attending general practice. BMJ 2002; 324:1–6.
10. Brown JB, Lent B, Brett PJ, Sas G, et al. Development of the Woman Abuse Screening Tool for use in family practice. Fam Med 1996; 28:422–8.
11. Caralis PV, Musialowski R. Women's experiences with domestic violence and their attitudes and expectations regarding medical care of abuse victims. South Med J 1997; 90:1075–80.
12. Friedman LS, Samet JH, Roberts MS, Hudlin M, et al. Inquiry about victimization experiences. A survey of patient preferences and physician practices. Arch Int Med 1992; 152:1186–90.
13. Gielen AC, O'Campo PJ, Campbell JC, Schollenberger J, et al. Women's opinions about domestic violence screening and mandatory reporting. Am J Prev Med 2000; 19:279–85.
14. Glass N, Dearwater S, Campbell J. Intimate partner violence screening and intervention: data from eleven Pennsylvania and California community hospital emergency departments. J Emerg Med 2001; 27:141–149.
15. Hetrick S. Seeking help from the general practitioner: experiences of women who have been abused [Master's thesis]. Auckland: University of Auckland; 1996.
16. Mazza D, Lawrence JM, Roberts GL, Knowlden SM. What can we do about domestic violence? Med J Aust 2000; 173:532–5.
17. McNutt L-A, Carlson BE, Rose IM, Robinson D. Partner violence intervention in the busy primary care environment. Am J Prev Med 2002; 22:84–91.
18. Richardson J, Coid J, Petruckevitch A, Chung W, et al. Identifying domestic violence: cross sectional study in primary care. BMJ 2002; 324:1–6.
19. Stenson K, Saarinen H, Heimer G, Sidenvall B. Women's attitudes to being asked about exposure to violence. Midwifery 2001; 17:2–10.
20. Ellis JM. Barriers to effective screening for domestic violence by registered nurses in the emergency department. Crit Care Nurs Q 1999; 22:27–41.
21. Richardson J, Feder G, Eldridge S, Chung WS, et al. Women who experience domestic violence and women survivors of childhood sexual abuse: a survey of health professionals' attitudes and clinical practice. Br J Gen Pract 2001; 51:468–70.
22. Rodriguez MA, Bauer HM, McLoughlin E, Grumbach K. Screening and intervention for intimate partner abuse: practices and attitudes of primary care physicians. JAMA 1999; 282:468–74.
23. Sugg NK, Inui T. Primary care physicians' response to domestic violence. Opening Pandora's box. JAMA 1992; 267:3157–60.
24. Whooley MA, Avins AL, Miranda J, Browner WS. Case-finding instruments for depression. Two questions are as good as many. Journal of General Internal Medicine. 1997; 12:439–45.
25. Arroll B, Khin N, Kerse N. Depression screening in primary care: Two verbally asked questions are simple and valid. BMJ 2003; 327:1144–1146.
26. Elley C, Kerse N, Arroll B, Robinson E. Effectiveness of counselling patients on physical activity in general practice: cluster randomised controlled trial. BMJ 2003; 326:793–796.
27. Babor T, de la Fuente J, Saunders J. AUDIT – The Alcohol Use Disorders Identification Test: Guidelines for use in primary health care. In. WHO/PSA/92.4 ed: World Health Organization; 1992.
28. Sullivan S. The 'eight' gambling screen [PhD]. Auckland: University of Auckland; 1999.
29. Goodyear-Smith F, Arroll B, Sullivan S, Elley C, et al. Lifestyle screening: development of an effective and acceptable general practice tool. Under peer review 2004.
30. Paton-Simpson G, Gruys M, Hannifin J. Problem gambling counselling in New Zealand 2002 National statistics: The Problem Gambling Committee; 2002.
31. Ho E, Au S, Bedford C, Cooper J. Mental health issues for Asians in New Zealand: A literature review. Wellington: Mental Health Commission; 2002.
32. Asian Public Health Project Team. Asian public health project report. Auckland; February 2003.
33. Ward C. The impact of international students on domestic students and host institutions: A literature review. A report prepared for the export education policy project, strategic information and resourcing division. Wellington: Ministry of Education; 2001.
34. Asia 2000 Foundation. The export education industry: Challenges for New Zealand: An Asia 2000 Occasional paper. Auckland: Asia 2000; April, 2003.

'There has recently been a lot of foolish talk about something called "the new medicine". To the extent that it implies a distinction from some form of old medicine, the phrase has no meaning at all. Medicine has crossed no watershed; there has been no triumphant breakthrough, no quantum jump in science or technology or social application.

Yet there is, within medicine itself, a sense that things are different. It is difficult to define, for it is not the consequence of change, but rather the fact of change itself.'

– Crichton M. In the foreword to Five patients. The hospital explained. London: Jonathan Cape Ltd; 1971.