A Sociodemographic Study Of The Patients Attending

The Victoria University Student Osteopathic Clinic

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Abstract:

There has been much research into inequality in health on the grounds of socio-economic status (SES), as well as into the socio-demographics of people who attend complimentary healthcare practitioners. The purpose of this study is to examine the socio-economic status and demographic profiles of the patients attending the Victoria University Student Osteopathic Medicine Clinic. Data was collected from the files held at the Victoria University Student Clinic, specifically the patients' age, sex, occupation and postcode. Postcodes were given an index of socio-economic status, which was compiled by the Australian Bureau of Statistics according to census data. The study found that more females than males attend the clinic, that patients are generally of a higher level of SES and are frequently students or office workers.

Key words: osteopathy, student clinic, patient socio-economic status, patient demographics.

Introduction:

Socio-economic Status and Health.

Inequality in health is not a recent phenomenon. It has been observed in societies as far back as the ancient Greeks and Chinese,[1] who acknowledged that the poor died younger and were sicker than the rich. Today, there is a general consensus that an inverse relationship exists between mortality, morbidity and many of the socio-economic status (SES) correlates, reflecting the fact that the use of healthcare is not equal within the social order.[1,2]

There has been much research into the effect of SES on health and healthcare utilisation.[1,2,3,4,5,6] There is agreement that people of lower SES, when compared to their more affluent counterparts have:

> Lower physical and mental health statuses

> Higher rates of mortality and morbidity for most causes

> Increased likelihood of behaviour that is detrimental to their own long-term health

> Greater incidence of potentially modifiable risk factors for major diseases i.e. coronary heart disease and hypertension

> Lower life expectancies

These factors are not solely the affliction of the "bottom of the ladder," but are graduated throughout the socio-economic strata.[2]

An important finding of much of the research is that those of lower SES have greater consultation rates with their General Practitioners (GPs) and a greater number of hospital admissions.[2,3] These results may indicate that whilst

being financially disadvantaged the perceived need for medical care is greater amongst the lower SES,[2,3] which is consistent with the abovementioned health factors.

In Australia, the socioeconomically disadvantaged also have a greater number of hospital admissions, medical consultations, but a lesser rate of preventative healthcare activities and utilisation of screening services than their more affluent counterparts.[2] The aforementioned research does not explore in detail the causative relationship between SES and health. It fails to establish if high income has a positive effect on health, or conversely, if health positively affects income. Similarly, it fails to adequately explore whether other factors are involved. Nevertheless, the fact remains that the risk of health impairment is higher amongst the poorer, less educated and those of lower SES.[1]

Socio-economic Status and Area of Residence.

Differences in healthcare usage have been attributed to socio-economic and geographical factors.[4] SES is associated with social, physical, economic and environmental factors, in particular the interrelation of education, employment, occupation and area of residence. These factors impact on the health of a person and the population subgroup to which they correspond.[4] For instance, the most frequent users of complimentary medicine are middle aged and middle class women.[5] SES can be measured by area of residence- which is in every patient's case history, making the data easily accessible.

However, the study of SES by area of residence has its faults. It generalises the wealth of a person, as income and employment status are simply a mean for that area. Overall, it is considered plausible to use such a determinant in view of the evidence demonstrating the effects of psychosocial influences associated with area of residence, and the population sub-groups that predominate in that region.

Studying the area of residence of the patients has the benefit of providing a base for future advertising of a business such as the Victoria University Student Osteopathic Medicine Clinic to be examined in this study. By determining which regional population groups already make use of the clinic, energy and funds can be pushed into maintaining and improving their numbers. Marketing strategies can be implemented to promote the clinic and the values of osteopathy to a potential but not current patient population.

Use of Alternative Medicine.

While the poorer have higher rates of GP consultations and hospital admissions,[2,3] it appears that a very different population frequents alternative medicine practitioners and that the trend is growing.[5]

There is a paucity of large, comprehensive studies into the socio-demographics of Australian osteopathic patients. However, there is some research into alternative medicine use in Australia. MacLennan et al[6], in a South Australian study of alternative medicine, found that 48.5% of the population used some form of alternative therapy, with 15% having seen a

Chiropractor. Patients were most commonly peri-menopausal women that were better educated and more likely to be employed than non-users. These findings are similar to the comprehensive seven-year study in the USA by Eisenberg et al[5] who found the greatest number of people attending alternative therapists fell into the age group of 35-49 years of age and that women, at 48.9% of the population, use alternative medicine more than men at 37.8%.[5] Chiropractic and massage accounted for nearly half of all visits to alternative medicine practitioners.[5]

Previous research has found two main trends: that those of lower SES have poorer health statuses and higher GP consultations; while those at the higher end of the socio-economic spectrum are more likely to consult alternative medicine practitioners. The purpose of this study is to examine the patient records to determine who seeks treatment at the Victoria University Student Osteopathic Clinic, which provides a complimentary medicine service at a reduced price. Analysis of patient records in this way is useful to establish which subgroups of the greater population are under-represented at the clinic. The benefit of this is that action can be taken to:

1. Promote the service that the clinic provides to the under-represented population.

2. Implement other strategies such as external clinical work for students in areas where the underrepresented population predominate.

These measures would enhance the education and experience of students in treating patients with the coexisting health issues that prevail in that subgroup i.e. treating patients of lower socio-economic status with potentially lower

mental health status and higher risk factors for major disease state. The advantage of this would be to increase the implementation of holistic preventative healthcare.

Utilisation of Teaching Clinics.

Despite lengthy literature searches, the author was unable to find any published research regarding the utilization of osteopathic teaching clinics, however research into chiropractic teaching clinics in the USA was found.

The practice of osteopathy in the USA differs significantly from it's Australian counterpart. USA osteopaths practice more like GPs than their Australian colleagues. For this reason it is of little value to compare the use of osteopathy in the USA and Australia. A more useful comparison would be between osteopathy in Australia and Chiropractic in the USA. There are a number of reasons for this. Like osteopathy in Australia, Chiropractic in the USA is a manual therapy used to treat musculoskeletal disorders and the cost of treatment is not subsidised by the government. It is not widely taught in medical schools, nor practiced in hospitals, and is thus considered an alternative therapy.[5] Considering these similarities, the results of studies into USA Chiropractic would be expected to be comparable to those into osteopathy in Australia and will be discussed as such in this study.

The research from six American chiropractic teaching clinics demonstrate that the clinics attract patients of a lower than expected income.[7] Teaching clinics offer treatment at a reduced cost compared to osteopaths or Chiropractors in

private practice, which may explain the increase in the number of patients of lower SESs.

All but one of the six clinics examined by Nyiendo et al[7] had a greater proportion of women than men attending, with the percentage of women raging from 51% to 58% of patients. These results for sex were similar to those into alternative medicine in general,[5] as were the results for age, as the mean patient age at the chiropractic teaching clinics ranged between 34 and 43 years of age.[7] In another study, Nyiendo and Olsen[8] found that 10.8% of patients at a Chiropractic teaching clinic were less than 18 years of age and were equally represented by male and female children. This differed from other research that found a lower proportion of child patients. For example, Will[9] found that 1% of patients were less than 15 years old and 2% were aged 15-19 years.

Consequently, similar results were expected of this study into an osteopathic teaching clinic for adults, and children were expected to form a small proportion of the patients attending the Victoria University teaching clinic.

The study by Nyiendo et al[7] postulated that the differences in wealth of the patients attending the six chiropractic teaching clinics varied in accordance to the differing characteristics of the neighbourhoods in which the clinics are located. This differs to the hypothesis of the present study. Considering the Victoria University's Student Osteopathic Clinic's central location in the central business district of Melbourne, its proximity to major public transport and the

minimal residential areas within the city, it is hypothesised that the osteopathic teaching clinic's patient base will have a much wider catchment area than those of the USA chiropractic teaching clinics and consequently a wider range of SES.

In light of the research into the differences in health, healthcare utilization, alternative therapy utilization, the use of student teaching clinics in the USA and SES, the purpose of this study is to determine whether this is true in an Australian context by examining who, in a socio-demographical sense, attends the Victoria University Student Clinic.

Aims:

The aims of this investigation are:

1. To examine the demographic profiles of the patients having attended the Victoria University Student Osteopathic Clinic.

2. To examine the socio-economic status (SES) of the patients having attended the Victoria University Student Osteopathic Clinic.

Method:

Variables

The variables to be examined in this qualitative study are:

1. Age

2. Sex

3. Area of residence by postcode

4. SES by postal area

5. Occupation

Procedure:

Data was collected from the patient files held at the Victoria University

Student Osteopathic Clinic. Only files with the "patient identifiers" section of

the history fully completed and those residing in Victoria were included.

Patient names were omitted for privacy and confidentiality.

The data obtained was grouped into postcode areas and compared to the

postal areas used for analysis in the 1996 Australian census to determine

socio-economic status via the socio-economic index of disadvantage. The

index used is an index of disadvantage compiled from facts such as education

level, employment, age, family make-up i.e. single parent with dependant

offspring, renting/home owners, number of cars at dwellings, and fluency in

English.[10] This results in an index number allocated to each postal area. The

higher the index number, the higher the SES and vice versa.

Statistical Analysis:

Descriptive statistics were used to examine the extent to which the

abovementioned socio-demographical and locational factors differ amongst

the patient population.

Summary of Significance:

Through this investigation it was hoped that a valuable profile of the patients

attending the Victoria University Student Osteopathic Clinic would be

established. From this information educational and marketing strategies could be developed to target areas that are under-represented in the clinic's current patient base to improve the experience and learning outcomes of osteopathic students.

Results:

Files are held at the Victoria University Student Osteopathic Clinic for three years before being archived and it is these non-archived files that were examined. A total of 2330 files were analysed. A further 186 files were excluded for the following reasons: 153 files had insufficiently completed patient identifiers, 84 of these were male and 69 female. An additional 33 patients did not reside in Victoria: 15 male and 8 female were from interstate and seven were from other countries including Italy, Canada, the Philippines, New Zealand, the United Kingdom, and the Netherlands. Three patients stated no fixed address due to travel.

Age: The subjects ranged in age from 1 to 91 years old. The mean age was 35.76, with a mode of 23 and standard deviation of 14.07. Only 1.07% of the population was aged 18 or under; while 7.5% were at the potential retirement age of 60 or above (see appendix 2, figure 1).

Sex: 57.51% of the 2330 patients were female and 42.49% were male (see appendix 2, figure 2).

The distribution of SES amongst the greater population fits a bell curve. The socio-economic strata was broken into five quantiles with the lowest 20% of the population forming the first quantile and the top 20% forming the fifth quantile. When applied to the greater population, 95% of index scores range between 800 and 1200.[10] Table 1 (appendix 1) indicates the index range for each quantile.

The patient population covered all quantiles of socio-economic status – from low to high. The mean socio-economic status was 1029.52 in the fourth quantile, and the mode was 1059.05, also in the forth quantile (see appendix 2, figure 3). The standard deviation for socio-economic status was 78.25. The least represented quantile was the first, at 4.03%, while the forth was the most represented, at 41.63% of the total patient population (see appendix 2, figure 4).

Twenty-seven, or 1.16% of the postcodes collected from the patients did not correspond to the postal areas used by the Australian Bureau of Statistics (ABS) in census analysis and hence do not have a corresponding index of socio-economic status. This is due to the postal areas used by the ABS being "a best fit" to postcodes, and reflects that some of the postcodes stated by patients related to postal boxes, not areas of residence, and are therefore not included in census collection.

Occupation: The most frequent occupation stated was "student" at 28.50% including the 7.25% of the total patient population who stated that they were

osteopathic students. Twenty-five percent of patients work in desk and/or computer jobs. The retired comprised 4.38% of patients and 1.72% stated "home duties" as their occupation. The unemployed made up 1.55% of the patient population.

Discussion

From this analysis it can be determined that the most typical patient is a 23 year old female in the most advantaged 60-80% of the population and likely to be a student or office worker. However the "average" patient seen at the clinic is female, aged 35 also from the 4th quantile of socio-economic status. Much of this concurs with the research of Nyiendo et al[7] who found that females comprised of 51-58% of the patient population, and that the mean age was 34-43 years old, amongst six American Chiropractic teaching clinics investigated.

The average socio-economic status, at an index of 1029.52, was above the average for the state of Victoria (1014)[10] and in the fourth quantile, or the upper-middle portion of the state in terms of advantage. There were considerably fewer patients from the lowest 20% of the social order, only 4% of patients. Possible explanations include financial or educational reasons. Patients from this section of society may rely more on GPs for all healthcare, particularly those who bulk bill, or perhaps the cause of the low number of disadvantaged patients reflects a lack of knowledge of osteopathy and its benefits.

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Nyeindo et al[7] found lower than expected levels of income for the occupations of the patients and postulated that they were generally young professionals who would likely be higher earners in the future. This study found a high number of students and higher than average results for SES. However, there are major differences in the methodology for determining SES between the two studies, with the current study having more complex criteria than simply income and the two studies are therefore not directly comparable.

Considering the high number of students found in this study, and according to the factors involved in the definition of SES, it is possible to have a high socioeconomic rating due to area of residence, family makeup, level of education and fluency in English – meeting the criteria for higher SES - while potentially earning relatively little. For example, a student living at home in a nuclear family with a part time job would be considered in a higher socioeconomic bracket if there were high levels of education in their area of residence, homes were owned by the residents and English spoken fluently. Similarly, if a student is living out of home, but sponsored to reside in a more affluent area than they would otherwise be unable to afford, they will also rank higher than their level of employment and income would indicate alone. Additionally, the circumstances that lead people into higher levels of education, or not, form the trends that tend to keep people within the socio-economic bracket to which they were born.

The high number of students is likely to be a result of the clinics location within a university campus of predominantly osteopathic students- a

population that is most probably biased towards osteopathy and alternative medicine in general.

Tertiary students are, however, the type of person likely to visit student clinics as found by Nyiendo et al[7] - highly educated, but not yet high earners. They are also potentially likely to continue to be the most common users of complimentary medicine as, with time and an increased earning capacity, they will have the knowledge of complimentary medicines such as osteopathy; and the money to attend such professionals who charge higher fees than their undergraduate counterparts.

The high number of office workers –predominantly desk and/or computer bound - is probably a reflection of the clinic's central location within the Central Business District of Melbourne.

At 1.07% of patients aged 18 or under, the Victoria at University Osteopathic Clinic had a much lower percentage of young people compared to Nyiendo and Olsen's study,[8] which found 10.89% less than 18 years old at a chiropractic teaching clinic, and less than Will[9] with 1% less than 15 and 2% aged 15-19 years. Possible explanations for this are the difficulty of bringing children into the city location of the clinic, a lack of patient understanding as to the ability of osteopaths to treat children, or an unwillingness of parents to subject their child to the relative inexperience of student hands despite, perhaps, themselves being treated.

A limitation of this study is that files had to be excluded on the grounds of being poorly completed in terms of the patient identifiers section. It is unfortunate that the whole patient population could not be analysed. This error is easily avoided and the need for accurate note taking needs to be addressed within the university.

Difficulty was met in the analysis of occupation. It was particularly difficult to group the vast array of occupations that were held by the patients. This problem could be avoided in the future by conducting a survey and asking patients to tick which category they best fit, such as "professional;" "home duties;" "trained blue collar;" or "student" etc.

Further research into the specific income levels of patients and the reasons for coming to the clinic, both in regards to presenting complaint and psychosocial reasons would augment this study, as would research into why there are so few children and so few people of lower SES attending the clinic. Such research would be instrumental in improving the education of future osteopaths at Victoria University.

Acknowledgments:

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Appendix 1: Tables

Table 1: Index Ranges for Quantiles

Quantile	Index range
1 (Low)	≤880
2	881-960
3	961-1040
4	1041-1120
5 (High)	≥1120

Appendix 2: Figures

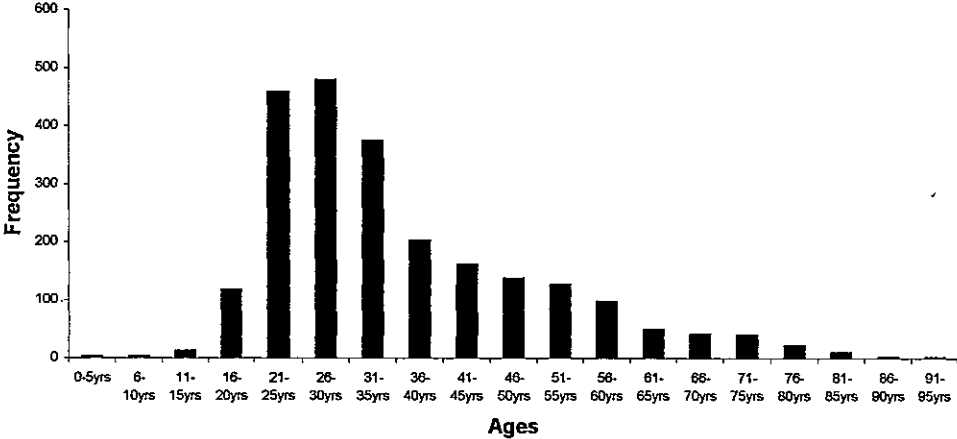## Figure 1: <u>Frequency of Ages</u>
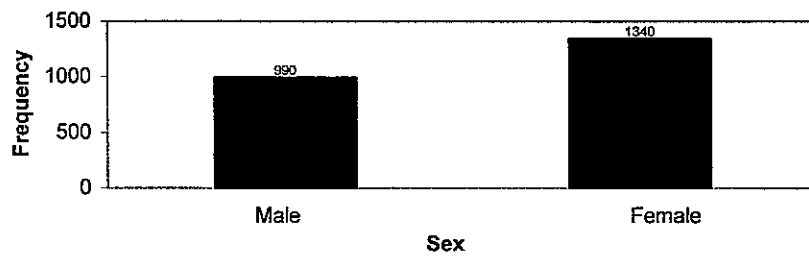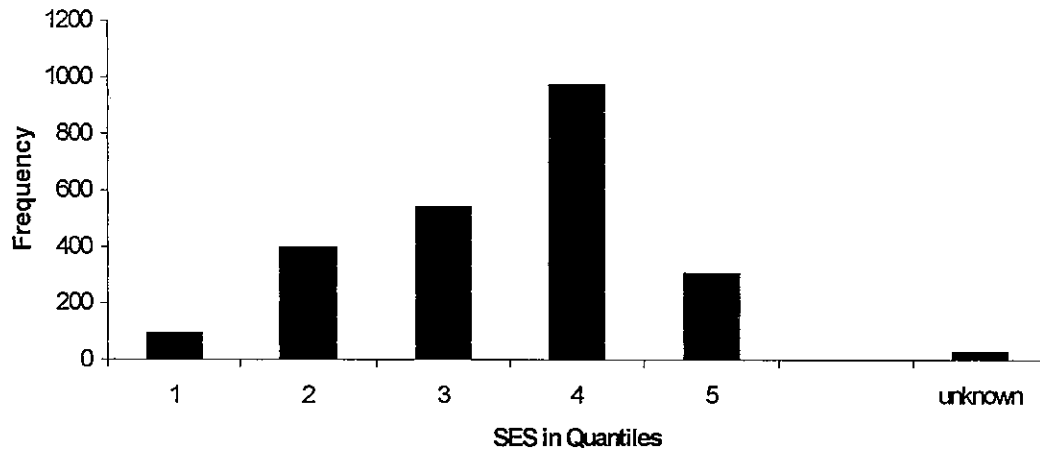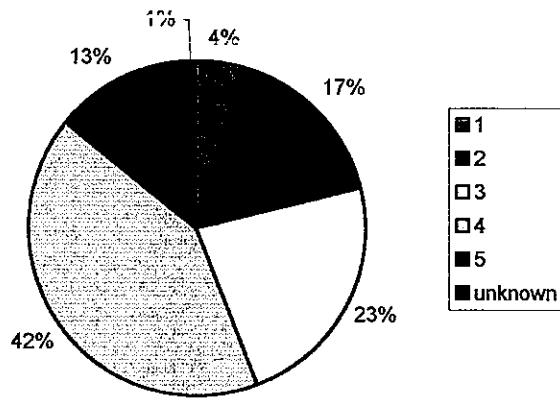
Figure 2: <u>Sex</u>

Figure 3: Socioeconomic Status

Figure 4: <u>Socioeconomic Status by Percentage</u>

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Appendix 3: Tables of Statistics

Table 2: Percentage and frequency of patients in each SES quantile.

SES Quantile	Frequency	Percentage (%)
1 (lowest)	94	4.03
2	395	16.95
3	538	23.09
4	970	41.63
5 (highest)	306	13.13
unknown	27	1.16
TOTAL	2330	100

Table 3: Percentage and frequency of ages amongst the patient population

Age	Frequency	Percentage
0-5yrs	3	0.128755
6-10yrs	3	0.128755
11-15yrs	12	0.515021
16-20yrs	118	5.064378
21-25yrs	458	19.65665
26-30yrs	478	20.51502
31-35yrs	374	16.0515
36-40yrs	202	8.669528
41-45yrs	161	6.909871
46-50yrs	137	5.879828
51-55yrs	126	5.407725
56-60yrs	97	4.16309
61-65yrs	49	2.103004
66-70yrs	41	1.759657
71-75yrs	39	1.67382
76-80yrs	21	0.901288
81-85yrs	9	0.386266
86-90yrs	1	0.042918
91-95yrs	1	0.042918
Total	**2330**	
16-18yrs	7	0.300429
19-20yrs	111	4.763948
0-18	25	1.072961
>60	161	6.909871

Table 4: percentage and frequency of patients according to sex.

Sex	Category	Frequency	Percentage
Male	1	990	42.48927
Female	2	1340	57.51073
	Total	**2300**	**100**

Table 5: Mean, mode and standard deviation for the variables of SEIFA (SES), age and sex.

	SEIFA*	Age	Sex (2=female, 1=male)
Mean	1029.524	35.76	n/a
Mode	1059.05	23	2
Stdevp	78.24548	14.07	n/a

*SEIFA: Socio-economic index for areas

Table 6: percentage and frequency of patients according to occupation.

Occupation	Frequency	Percentage
Unknown	27	1.158798283
Academic	5	0.214592275
accountant/ financial advisors/ analysts	39	1.673819742
Accounts/book keeping/finance/banking	59	2.532188841
Health	84	3.605150215
the arts	53	2.274678112
Administration	59	2.532188841
Advertising/ marketing	15	0.643776824
Trades	47	2.017167382
emergancy services	50	2.145922747
trainee/ apprentice	4	0.17167382
Gardener/arbourist/horticulturist/landscape gardener	17	0.729613734
Architect/draughtsman	24	1.030042918
Assistant	17	0.729613734
Teaching/training	109	4.678111588
carer/health/youth/disability worker	44	1.888412017
Hospitality	71	3.0472103
hairdresser/beauty therapits	20	0.858369099
Business	18	0.772532189
child/ school student	13	0.557939914
child care/ kinder	8	0.343347639
untrained manual	31	1.330472103
Recruitment	8	0.343347639
trained computers/systems/it/software/web	67	2.875536481
Consultant	23	0.987124464
Manager	66	2.832618026
customer service	15	0.643776824
courrier/driver	25	1.072961373
fittness and recreation	20	0.858369099
Farming	5	0.214592275
data entry/ desk job	36	1.545064378
Engineer	47	2.017167382
Fashion	2	0.08583691
Design	18	0.772532189
home duties	40	1.716738197
Science/research	30	1.287553648
insurance/risk/safety ananlysis	10	0.429184549
media/writer/editor	14	0.600858369
law:layer/solicitor/attorney/law clerk/legal officer/secretary/judges associate	26	1.115879828

receptionist/secretarial/pa	41	1.759656652
osteo student	169	7.253218884
osteopath	9	0.386266094
pensioner	25	1.072961373
retail/sales	80	3.433476395
retired/widow/widower	102	4.377682403
Security	9	0.386266094
self employed	19	0.815450644
Student	482	20.68669528
telemarketing/communications/telecom-munications/call centre	15	0.643776824
unemployed	36	1.545064378
Vet	2	0.085836901
volunteer	3	0.128755365
events planning/management	11	0.472103004
Property	11	0.472103004
public servant	7	0.300429185
Other	43	1.845493562
	2330	100
	664	28.49785408
	93	3.991416309
	590	25.32189

References:

1. Deaton A. Policy implications of the gradient of health and wealth. *Health Affairs;* Chevy Chase; Mar/Apr 2002; 21(2): 13-24.

2. Turrell G & Mathers C. Socio-economic status and health in Australia. *Medical Journal of Australia.* 2000 May 1; 172 (9):434-8 .

3. Van Der Meer JBW & Mackenbach PJ. Low education-high GP consultation rates: the effects of psychological factors. *Journal of Psychosomatic Research.* 1998, 44(5): 587-597.

4. Field K & Briggs D. Socio-economic and locational determinants of accessibility and utilisation of primary healthcare. *Health and Social Care in the Community.* 2001, 9(5) 294-308.

5. Eisenberg DM, Davis RB, Ettner SL, Appel S, Wilkey S, Van Rompay M & Kessler RC. Trends in alternative medicine use in the United States. 1990-1997. *Journal of the American Medical Association.* Nov 11,1998. 280(18): 1569-75.

6. MacLennan AH, Wilson DH & Taylor AW. Prevalence and cost of alternative medicine in Australia. *Lancet.* 1996, March 2, 347(9001):569-73

7. Nyiendo J, Phillips R, Meeker WC, Konsler G, Jansen R & Menon M. A comparison of patients and patient characteristics at six chiropractic college

teaching clinics. *Journal Of Manipulative And Physiological Therapeutics.* April 1989, 12(2): 79-85.

8. Nyiendo J & Olsen E. Visit characteristics of 217 children attending a chiropractic college teaching clinic. *Journal of Manipulative and Physiological Therapeutics.* 1988, April 11(2): 78-84

9. Will TE. A comparative study of the socio-economic status of chiropractic patients at the NWCC clinics and the population of Minnesota. *Journal of the American Chiropractic Association.* 1977;11:S21-S24.

10. McLennan, W. 1996 census of population and housing: socioeconomic indexes for areas- Information paper. *Australian Bureau of Statistics,*1998: catalogue No 2039.0