Ageing and HIV disease- a client's perspective

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Acknowledgements
The authors would like to express their sincere thanks to Dr Bradley Forssman for assistance with statistical analysis and to Marry Moussa and Geoffrey Turnham for support with questionnaire distribution. Additionally, the authors would like to thank the individuals who participated in this study.

KEY WORDS

ageing, HIV and AIDS, HAART, support services

ABSTRACT

Objective
To ascertain the perspective of HIV positive clients' on issues regarding ageing and to establish strategies to improve health outcomes for this population.

Method
A descriptive qualitative study; data was collected by means of a questionnaire.

Setting
Primary care out patient clinic in a major metropolitan teaching hospital and tertiary referral centre.

Subjects
72 HIV positive men with a mean age of 45 years (range 38 to 63). Women were excluded from the study due to low numbers over study period.

Main outcome
Clients identified issues which may be used to develop strategies for clinical care and health promotion activities.

Results
53% of respondents thought HIV would progress faster with ageing. 61% were concerned aged care facilities may not be friendly toward people who were homosexual (p=0.03). 92% thought ageing would impact on physical abilities with 28% thinking they will need future support for this. 79% were taking highly active antiretroviral medications (HAART). Younger respondents were concerned about the long term effect of HAART (p=0.002).

Conclusion
Issues, including social isolation and aspects of clinical care, identified by participants in this study may be used to develop strategies, such as monitoring for risk markers of cardiac disease during routine assessment, may provide improved care for this population with a focus on enhanced health outcomes whilst ageing with HIV and AIDS.

INTRODUCTION

Historically little attention has been given to issues concerning ageing and HIV and AIDS in Australia.

By the end of 2005, there were an estimated 15,310 people living with HIV and AIDS in Australia. Survival following an AIDS diagnosis increased from 17 months for cases diagnosed prior to 1996 to 45 months for cases diagnosed in 2001 (NCHECR 2006).

Over time the epidemiology of HIV and AIDS has changed in the western world with the emergence of an ageing population who are HIV positive due to recent advances in the treatment of HIV. The use of highly active antiretroviral therapy (HAART) which reduces HIV viral load and allows immune recovery has significantly altered the course of HIV and AIDS to a chronic manageable condition for most people (Auerbach 2003; PLWHA NSW 2005).

The long-term effectiveness of antiretroviral treatment in preventing progression of HIV illness is unknown. There may be future challenges regarding the consequences of long-term therapy for HIV disease, potential toxic side effects and the natural ageing process. The complexities of managing individuals with HIV and AIDS are well documented with emerging complications such as coronary heart disease; metabolic changes resulting in high serum cholesterol, triglycerides, and sugar levels; and possible diabetes mellitus which may be treatment related (NCHECR 2005; Pitts et al 2005).

Individuals who are HIV positive may have concerns regarding how HIV manifests itself with chronic diseases, often seen in ageing populations. In this study we refer to ageing as the chronological process in years and considered older age to be individuals over fifty six years of age. Older age is a strong predictor of HIV disease progression (Kalayjian et al 2003). Studies have shown that there are defining progressive alterations to the immune system associated with increased mortality in the very elderly (Vasto et al 2006). Understanding the differentiation between age related diseases, HIV related diseases and treatment side effects is poorly understood. This population may have age related health problems, which are not due to HIV infection. An HIV specialist may not be familiar with ageing issues but a general practitioner or geriatrician may not have HIV knowledge and so there is the potential for sub optimal care (Montoya and Whitsett 2003).

Goodkin et al (2003), state that older people living with HIV and AIDS (PLWHA) have rarely been investigated with respect to their psychosocial characteristics. They state that older HIV infected individuals have fewer systems of community support compared to individuals who have positive relationships with parents, siblings, spouses and children; may lack siblings or parents to care for them; may have experienced multiple AIDS losses; and live with a variety of co-morbidities that often accompany older age, such as chronic obstructive pulmonary disease and diabetes compared to younger PLWHAs.

Pitts et al (2005) notes that older PLWHA are significantly less likely to rate their health and well-being as good or excellent; have additional health conditions such as diabetes, hypertension and cardiovascular disease; are less likely to be in contact with services; and have poorer financial circumstances and personal support (Cherner et al 2004).

In this research respondents were given a self administered questionnaire relating to HIV issues, physical function, psychological issues and questions about matters unique to men's health and the ageing process such as prostate cancer and erectile dysfunction. The incidence of impotence increases in men over the age of 50. Vascular disease is the most common cause of impotence. Men who also have diabetes are at higher risk (Philpot and Morley 2000).

As the HIV positive population ages, there is a need to establish strategies for future health service requirements which are effective, client focused and cost efficient. This study was developed as a quality improvement activity to ascertain clients' perceptions of or concerns about ageing issues and HIV and knowledge of other men's health issues. It

was anticipated this would lead to the recognition and development of strategies and health promotion activities targeting clients with HIV at risk of other processes related to ageing such as heart disease.

METHOD

Setting and Sample

The study was conducted within the Sydney South West Area Health Service, NSW, Australia. All clients living with HIV and AIDS and attending the outpatient clinic of a major teaching hospital and tertiary referral centre, over a one-month period were considered for the study. Participants were invited to complete a questionnaire at their regular clinic visit during the study period. There was a 95% response rate with seventy two respondents completing the questionnaire. Women were excluded from this study due to low numbers attending clinic over study period. This study was completed as a quality improvement activity and as such Ethics Committee approval was not sought.

Excluded from the study were people under 17 years of age; those with a new diagnosis of HIV; individuals with HIV related dementia; and women, due to low numbers over study period and the consequent gender bias of the questionnaire).

Instrument

Following an extensive literature review, a questionnaire was developed based on themes and outcomes of various studies and anecdotal evidence of clinic staff, to ascertain the knowledge and perceptions of HIV positive individuals on clinical and social issues, which may be impacted by ageing and being HIV positive.

Study design

Clients voluntarily completed a self-administered questionnaire during an outpatient visit.

Statistical methods

De-identified data were entered into SPSS for Windows (version 12.0) and frequencies of variables were tabulated. The χ^2 test (for categorical variables) and the Mann-Whitney test (for continuous variables) were used to look for crude associations between selected variables.

Results

Seventy-two questionnaires were completed with a response rate of 95%. Topics covered by the questionnaire included: demographics; concerns about HIV disease; medication issues; potential future supports; finances; and aged care.

Demographics

Fifty five of the participants identified as homosexual, 12 heterosexual and 5 as 'other'. Thirty nine lived alone, 17 with their partner, 16 with others. Five owned properties, 15 had a mortgage and 52 were renting. Thirty four were employed and 38 unemployed.

Age

The total mean age of respondents was 45 years. The range is seen in table 1. The age ranges seen in table 1 were chosen based on the literature review.

Table 1: Age of respondents

	N	Mean (years)
Young (<44 years)	32	38
Mid aged (45-55 years)	34	49
Old age (>56 years)	6	63
All respondents		45

HIV and Ageing

Forty nine per cent of respondents were concerned about ageing and being HIV positive. Fifty three per cent thought HIV may progress faster with age and that their immune system would not work as well. Sixty five per cent were concerned that as they became older any illness may be the result of HIV and AIDS.

CD4 levels

CD4 (T cells) levels give an indication of immune function. The normal range is 400 $x10^6$/l (low) to 1320 $x10^6$/l (high). The range of the respondent's CD4 counts was 10 $x10^6$/l to 1100 $x10^6$/l with a mean of 380 $x10^6$/l.

HAART

Seventy nine per cent of respondents were on an antiretroviral regimen. Twenty four per cent had a

protease inhibitor (PI) (excluding atazanavir) in their medication regimen, which may increase the risk of raised serum cholesterol and triglyceride levels. Thirteen per cent were taking atazanavir sulphate (Bristol-Myers Squibb) as part of their medication regimen, which is not considered to have as great an effect on lipid levels.

Twenty per cent thought that ageing would affect the effectiveness of HAART. Fifty three per cent were concerned about the long-term effects of the medications. Seventy six per cent considered they would be not able to afford the cost of HAART as they became older and 58% thought this cost could influence their ability to continue taking these medications as they aged.

Younger respondents (<45 years) were more likely to be concerned about the long-term effects of HIV medications (Mann-Whitney test, p=0.02).

Heart disease

Surrogate markers of heart disease were examined: increased blood pressure, raised lipid levels, cigarette smoking and age. Twenty three per cent had high blood pressure >140/90. Fifty eight of the 72 respondents had blood lipids results available; of those, 45% had raised lipids levels defined as total cholesterol >5.5mmol/l or triglycerides >2.5mmol/l. Eighty five per cent thought that increases in cholesterol and triglycerides are important or very important, as they aged.

Fifty six per cent smoked cigarettes. Fifty seven per cent were older than 45 years of age.

Antiretroviral medication can increase the risk of heart disease, however when the respondents considered their future health, only 18% identified heart disease as being related to HIV. Fifty per cent thought they were at high risk of heart disease and hypertension due to ageing, but only 24 % thought antiretroviral drugs could increase their risk of heart disease.

Additional health issues

As part of the questionnaire, respondents were asked to rate a list of health conditions as important or not in relation to ageing, to determine whether they were aware of and concerned by conditions which were related to HIV infection or HIV medications such as osteoporosis, heart disease and depression. The highest rating conditions were: decreased vision (95%), decreased mobility (92%), decreased hearing (89%), prostate cancer (85%) and stroke (82%).

Sexual function

There was a highly significant association between concerns regarding sexual dysfunction, erectile problems, loss of libido and the effects of ageing on sexual attractiveness (p=0.008). The effects of ageing on respondents' appearance and concerns regarding how others perceive their appearance as they age was also highly significant (p<0.001).

Aged related concerns

Respondents considered issues which they thought might be of concern to them when reflecting on future concerns regarding ageing (see table 3).

Table 3: Description of ageing related concerns

	n	Percentage
Lifestyle changes Lifestyle changes		
Social isolation	36	50
Financial status	33	46
Changes in lifestyle	27	38
Social supports	22	31
Practical supports	14	28
Mental wellbeing		
Anxiety	47	65
Loneliness	47	65
Sleep pattern changes	49	68
Depression and other mood changes	50	69
Memory deterioration	41	57
Physical support		
Impaired vision	66	92
Impaired hearing	61	85
Decreased mobility	62	86
Practical support required for physical issues	20	28

Aged care facilities

Sixty one per cent of respondents were concerned about future placement in an aged care facility.

Those respondents concerned about going into an aged care facility who identified as homosexual were anxious that aged care facilities may not be friendly toward a person who was homosexual (p=0.003.) Three other respondents who did not identify as homosexual were also concerned about this for the same reason. Fifty four per cent were concerned about lack of HIV knowledge; 42% about lack of HIV experience; and 48% about discrimination due to HIV in aged care facilities.

DISCUSSION

As the HIV positive population ages there is a need to establish plans for future health service requirements which are effective, client focused and cost efficient. Gathering information and addressing issues now should assist health care providers to plan for the future care requirements of this growing population.

Holistic care is an optimal goal for individuals with HIV infection. As they age they may be affected by other health conditions. Individuals may need to commence taking medications for health problems related to ageing such as antihypertensives. HAART prescribers need to be vigilant when prescribing medications for interactions, side effects and medication burden. Optimal communication between specialities is a key factor when providing care for ageing individuals who are HIV positive. Health care providers need to be cognisant of the ageing process when caring for these individuals.

The mean CD4 count was 380 $x10^6$/l. Sixty five per cent of respondents were concerned that as they became older any illness may be related to HIV. Fifty three per cent thought their HIV may progress faster with age and that their immune system would not work as well. A comparison of CD4 count, whether the person was taking HIV medications, their concerns regarding ageing and whether they thought HIV would progress faster effecting immune function as they got older showed no association between these variables.

It was assumed that finances would be a marker of whether a person could afford medication and thus affect medication adherence. Comparisons between accommodation, employment and the amount spent on cigarettes were considered as a surrogate marker of socioeconomic status. Seventy six per cent considered the cost of medications could be an issue for the future. Fifty eight per cent thought the cost of medications would influence their ability to keep taking the medications as they got older, with 19% not knowing whether it would be an issue. Although this was not statistically significant, there were a high proportion of people concerned about their finances with regard to medications. As clients age, health care providers need to consider long term strategies for care such as factors which may influence medication adherence including requiring medications for other concurrent diseases, finances and dosing combinations such as fixed dose combinations, which would incur one dispensing fee to reduce cost of medications and pill burden.

Only 25% of respondents were not concerned about the long-term effects of HIV drugs. Younger respondents (<45 years) were more likely to be concerned (Mann-Whitney test p=0.02), which is possibly because they are likely to be on antiretroviral medication for a longer time and may be more likely to experience long-term side effects.

Cardiac issues

Twenty three per cent of respondents had high blood pressure (>140/90 mm/Hg); 45% of the blood lipid values available (n=58) showed raised lipids (total cholesterol >5.5 mmol/l or triglycerides >2.5mmol/l). 24% were on protease inhibitors (PI) excluding Atazanavir; 56% were smokers and 39 individuals were over the age of 45 years. When these results were compared with whether respondents thought they were at higher risk of heart disease and hypertension due to ageing, no correlation was found which was surprising. It was anticipated, since all these factors are considered markers for potential increase risk of heart disease, that there would be an association between those considered at increased risk and what they perceived their risk to be.

Fifty six per cent of respondents smoked cigarettes, which is higher than the national average of 21%

(AIHW 2001). The HIV clinics at Royal Prince Alfred Hospital have previously provided a smoking cessation program. Future consideration will be given to developing health promotion activities for reducing cardiac risk factors leading to focused clinical monitoring of potential cardiac risk factors including lipid lowering agents, antiretroviral treatments and smoking cessation.

Mental well being

There may be changes in mental wellbeing associated with ageing. Social isolation and lack of social supports might have an impact on a person's mental wellbeing. Anecdotal evidence from this population suggests a common fear is that memory deterioration may be related to the development of HIV dementia. It was assumed that individuals would care how others perceived them if they were to experience any memory loss associated with ageing. This was not the case with respondents; the results showed that individuals thought memory deterioration was more due to ageing than HIV. There was no association between respondents stating that memory loss is an issue with ageing and their concern regarding others' perceptions of their mental state.

Sexual function

Male clients attending the outpatient clinics are monitored for testosterone levels and testosterone replacement is provided when indicated to improve the effects of low testosterone levels such as erectile difficulty, loss of libido and fatigue. There was a highly significant association ($p=0.008$) between concerns about sexual difficulties related to ageing such as sexual dysfunction, erectile problems or loss of libido and the effects of ageing on sexual attractiveness.

Physical supports

As people age there is usually some impact on their physical capability. Some may experience impaired sight and/or hearing or decreased mobility. Although 92% of respondents were concerned about impaired vision, 85% impaired hearing and 86% decreased mobility, only 28% stated they were concerned about any practical support they may require relating to these issues as they age. This was surprising considering the degree of concern stated, but perhaps the respondents did not personalise their responses when considering potential deterioration of physical ability when considering their future. Vigilant observation, questioning and assessment of clients at clinical appointments, and focusing on physical function as individuals' age, may be helpful to provide strategies for future need and support.

Aged care

Anecdotal evidence from discussion with expert HIV nurses suggested clients were apprehensive when facing the prospect of being admitted to an aged care facility; and also staff of these facilities experienced anxiety regarding potential HIV positive residents. Sixty one per cent of respondents in this study were concerned regarding placement in to an aged care facility in the future. It was anticipated that older respondents would be more concerned about being admitted to an aged care facility however there was no association between age and this concern.

To provide HIV positive individuals with skilled treatment, it is paramount for aged care health workers and geriatricians to become aware of and increase their knowledge about HIV related issues and to work in collaboration with HIV specialists. Concurrently HIV specialists need to be aware of the ageing process to enhance care and treatments to an ageing HIV population.

CONCLUSION

This research has provided valuable information on how this cohort of HIV positive individuals perceives their health needs as they age. These preliminary results have led to changes in current clinical care at the outpatient clinics and to the development of strategies such as monitoring for risk markers of cardiac disease during routine assessment. Enhanced clinical care and improved health outcomes may be achieved by a holistic approach to the ageing HIV positive population using the skills of insightful health care providers. The Advanced Nursing Course Committee (a collaborative partnership of senior HIV clinical nurses based in Sydney, NSW) has recently highlighted concerns about the level of HIV knowledge in aged care

facilities and developed an education package for staff working in this area. A pilot workshop was well received. As this questionnaire was developed as a quality improvement activity more formal research needs to be undertaken.

Limitations of the study.

This study had a small sample size and used an untested questionnaire which needs validating. There was little focus on alcohol and drug issues, mental health issues and hepatitis co-infection, all of which could have major impact on the wellbeing of an ageing HIV population. Women were excluded and future replication of this questionnaire will focus on women's needs.

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