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Knowledge and Attitudes of Sexuality in the Elderly
Among Educators of Health Care Professionals

By

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A thesis Submitted in Partial Fulfilment of the
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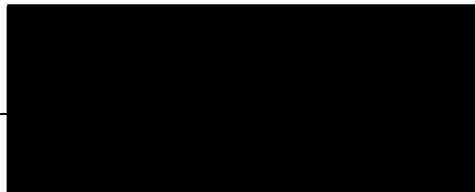
Abstract

Many elderly adults have fears and concerns regarding sexuality, including the impact of chronic disease on sexual function. Typically, society has negative attitudes toward elderly sexual expression with misconceptions, negative stereotyping and myths compounding ageist perceptions that the elderly become asexual with age. Thus knowledge of and attitudes toward sexuality in the elderly has become an area of interest over the past several decades. In an attempt to promote sexual expression as a right for the elderly and physiological changes viewed in terms of positive adjustment, White (1982) developed an instrument to determine knowledge of and attitudes towards sexuality of elderly people. The Ageing Sexual Knowledge and Attitude Scale (ASKAS) is designed to measure the knowledge of and attitudes toward sexuality held by elderly individuals, or any group of people who have an impact upon the sexual expression of elderly people. This current study seeks to determine the knowledge of and attitudes toward sexuality in the elderly among educators of health care professionals. Demographic and experiential variables of respondents (n=360) were compiled to determine their ability to predict knowledge of; attitudes toward; and the knowledge and attitude relationship of sexuality in the elderly. Lecturers in medicine (n=25), nursing (n=109), occupational therapy (n=33), physiotherapy (n=30), psychology (n=93) and social work (n=53) from within Australia, New Zealand and South Africa volunteered as participants. The existence of a weak but significant relationship between knowledge and attitudes of sexuality in the elderly was found. Age was found to be the singular variable predictive of attitude. No differences across country or profession of the respondent were found. A discussion of the implications of the knowledge and attitude relationship is given.

I certify that this thesis does not, to the best of my knowledge and belief:

- (i) incorporate without acknowledgment any material previously submitted for a degree or diploma in any institution of higher education;*
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Knowledge and Attitudes of Sexuality in the Elderly
among Educators of Health Care Professionals

Much of the world's population is living longer as better education, nutrition and medical science continue to reduce the impact of illness and increase the quality of life. Nevertheless as people live longer, they also are more likely to develop chronic disabling conditions. Consequently, there is a larger elderly population in need of care and services from health care professionals.

Increasing attention by health care professionals has focused on the impact of physiological changes in older age, and how these changes may influence other domains of the individual's life. Often other factors besides chronological age play a deciding role in the etiology of physiological changes. Factors such as nutrition, psychological health, risk-taking behaviour and family history may play a pivotal role in the expression of a variety of illnesses, including sexual dysfunction.

Furthermore, the impact of psychosocial influences on the health of older persons is of particular relevance, and the burgeoning research undertaken in such areas has contributed significantly to the psychological understanding of older adult health issues. Interestingly however, although research has focused upon the impact of illness in older life, little emphasis has been placed on examining the effects of sexuality and interpersonal issues in the elderly.

The recognition of sexuality as an important part of an elderly person's life is necessary for an accurate picture of this period of the lifespan. Concerns expressed by the elderly about their sexuality are not so different from those in other age groups of society (Weinstein & Rosen, 1988). Among these concerns are performance capability, anxiety, the availability of a suitable partner with whom to be intimate, living arrangements, and having time available for intimate expression of sexuality.

Often, these concerns may be discounted or poorly addressed by health care professionals.

What is sexuality?

Sexuality can mean many different things to different people. Although sexual intercourse and other forms of intimate physical aspects of sexuality are important, the term has a much wider and more important meaning (Adams, Rojas-Camero & Clayton, 1990; Brogan, 1996; Drench & Losee, 1996). To a large extent, human sexuality determines a large part of who we are, one of the features defining the uniqueness of every person.

Sexuality in a broader sense includes much more than sexual intercourse. It encompasses the most intimate feelings and deepest longings of the heart to find meaningful relationships (Strain, 1991; Tower & Kasl, 1996). It may include touching, holding, and close companionship in addition to genital play, oral sex and other intimate expressions short of intercourse (Schlesinger, 1996). This broader definition of sexuality includes biological aspects as well as sociocultural, psychological and ethnic components of sexual behaviour (Drench & Losee, 1996).

Sexuality and Ageing

Sexuality in the elderly may be negatively or positively influenced by the physiological and social changes that occur with normal ageing (Deacon, Minichiello & Plummer, 1995; Gibson, 1996). The developing literature on sexuality in the elderly indicates that while the frequency of sexual intercourse may decline to some extent with age, there is no clear age-identified ending to sexual behaviour (Webb, 1988). Specifically, if sexual activity or expression diminishes, it is often better

explained by variables other than age, such as social circumstances, illness, or societal influences.

Interest levels regarding sexuality vary among individuals at all times of life and reliable and accurate information about sexual behaviour is difficult to gather (Fairchild, Carrino & Ramirez, 1996; Matthias, Lubben, Atchison & Schweitzer, 1997). It is even more difficult to collect information and knowledge regarding sexuality in the elderly as they are especially inclined to reticence. Furthermore, the elderly of today's society have values and beliefs that may differ from those within younger cohorts (Bretschneider & McCoy, 1988).

The problem of ageism exists in our youth orientated society and as such there is a general social belief that elderly people are, or should be, asexual with the accompanying false assumption that physical attractiveness depends on youth and beauty (Adams et al., 1990). The belief is often held not only by youth of society, but exists among elderly persons themselves (Brogan, 1996; Ory & Cox, 1994).

Furthermore, sexuality in elderly people has most often been characterised by stereotypes, misconceptions and a lack of knowledge. The conception surrounding individual aspects of sexuality in the elderly, including interpersonal relationships and sexual expression was first been marked by the assertion from Masters and Johnson (1966, cited in Schiavi & Rehman, 1995) that as individuals age, they were thought to become asexual. Steinke (1994) however reported that the negative myths and stereotypes surrounding sexuality in ageing are not supported, and that in fact sexuality is of interest to many elderly people.

In particular, dispelling many of the myths surrounding sexuality in the elderly has in fact lead to increases in the older adults sexual pleasure. These increases are applicable to both physiological changes, for example not having to be concerned

about pregnancy after menopause, and psychosocial changes including increased intimacy.

Myths surrounding sexual behaviour are unfounded and reviews of the literature regarding the subject (Mulligan & Palguta, 1991; White, 1982) show that there is both sexual interest and activity among elderly people, although there is a recognised difference between both men and women with advancing years. Kinsey (1948, cited in Weinstein & Rosen, 1988) was one of the first to study the differences between male and female sexual behaviour of elderly persons. As much of Kinsey's research was compiled on the physical capabilities of ill or institutionalised elderly, misconceptions about sexual activity arose. Men were often labelled as "dirty old men" and women as "dried up old ladies".

However, research conducted by Masters and Johnson (1966, cited in Weinstein & Rosen, 1988) was able to address some of the clinical impressions of sexuality and ageing. Masters and Johnson identified that there was a decrease in intensity of the physiological response in the sexual response cycle. This assisted in dispelling part of the myth that interest in sexual expression disappeared altogether, but rather it diminished slightly.

Further to the research compiled by Masters and Johnson (1966, cited in Weinstein & Rosen, 1988), White (1982) indicated that the differences between sexes lay with the degree of interest in continuing a sexual relationship. Women were more likely to display waning interest, possibly the result of greater hormonal changes than in men. Furthermore, women were not supposed to enjoy intercourse as believed in the Victorian era (Gibson, 1996) and many older women thus believed that once menopause was reached, sexual expression should be refrained from.

Similarly, the taboo against masturbation that had been strongly supported by the medical professional (Gibson, 1996) has impacted greatly upon the expression of sexuality in both elderly men and women. Masters and Johnson (1966, cited in Weinstein & Rosen, 1988) identified that although large numbers of elderly women participated in masturbation practices, many women expressed fears about injuring themselves and thus refrained from doing so. Men however, were found to be less concerned about injury and the perceived guilt associated with masturbation and were more comfortable about engaging in masturbation practices.

Differences between the Sexes

White (1982) suggested that sexual attributes and behavioural patterns in older age are a continuation of life-long patterns. Thus, males in general are more sexually active than females, with perhaps the exception of the oldest age groups, where the sexual behaviour of males and females do not differ significantly.

White (1982) also stated that when sexual interest declines or ceases in females, it is largely due to waning interest or illness in the male partner. Most older married women are seen to have ceased sexual relations because of their spouses' incapacity, most older married men because of their own incapacity (Brogan, 1996).

However, on average approximately 70% of healthy 70 year olds continue to have regular sexual intercourse (Holzapfel, 1994; O'Donohue & Graber, 1996) and more than one quarter of healthy men and women older than 80 years continue to be sexually active. The greatest barrier to being sexual in older age is a lack of a healthy sexual partner (Katzman, 1990; Starr, 1987).

This is in part a result of the traditional age differences between husband and wife, a factor that affects far more women than men. Consequently, a woman's sexual

activity may be reduced at an earlier age than that of a man because of the husband's incapacity. Divorced or widowed women from older age groups also experience similar problems (Gibson, 1996; Traupman, Eckels & Hatfield, 1982). Due to the longer life expectancy of women and the tradition of women to marry older men, there are three times as many widowed women as there are widowers (Starr, 1987). This implies that there are extreme difficulties for women in finding a suitable partner in later life.

White (1982) concluded with the difficulty on relying upon existing research into sexuality. Older males are more frequently studied than females; therefore the findings suffer from extreme sample bias. Most research relies on self-reported data, which constitutes a problem for all sexuality research. It is difficult to persuade elderly people to talk candidly about their sexuality, particularly females, because in many cultures women are reluctant to give factual data about their sexual activity and history to others, particularly to strangers.

Matthias et al (1997) concur with White's (1982) statements regarding the difficulty in obtaining elderly participants for research on sexuality practices, issues and concerns. Although sexual behaviour in the elderly has been of interest to researchers for several decades now, studies that pertain to elderly persons are still not comprehensive. Most samples are small, confined to either males or females, and age categories differ widely.

Health, Sexuality and the Elderly

Although the need to express sexuality continues into older age, the elderly are more susceptible to many disabling medical conditions such as cardiac problems, diabetes and arthritis, as well as normal ageing changes that may hinder the

expression of sexuality. In addition, the treatments used for these often disabling medical conditions may further impair the elderly persons sexual response and expression (Lueckenotte, 1996).

Sexually, the healthy male and female can function effectively at least into their 80s. This is however, dependent upon an understanding that certain physiological changes are likely to occur and that effective sexual functioning depends upon positive adjustments to these changes (Schlesinger, 1996).

In the older male, diabetes may impact upon the ability to achieve or maintain an erection, with a high proportion of diabetic men likely to experience impotence at one time or another (Tiefer & Schuetz-Mueller, 1995). However, biomedical interventions available to treat or manage impotence assist in reducing anxiety about impotence and provide opportunities for continued sexual relations.

In women, postmenopausal changes often mark the beginning of a decline in sexuality that encompasses not only sexual activity, but attitudes, affect and relationships (Mueller, 1997). Mood swings and hot flushes that often accompany menopause may be experienced as declined interest in sexual responsiveness.

Furthermore, approximately 40% of older women have undergone hysterectomy surgery (Mueller, 1997). A possible result of this medical procedure is a perceived loss of femininity and thus a loss of sexuality. Similarly, the removal of the reproductive system may alter how a women experiences orgasm, and sexual desire may alter as a result.

Men and women may both experience a drop in hormone levels as they age (Mueller, 1997). With the decline in testosterone production, semen output is diminished, the testes decrease in size, erections become less firm and the

postejaculation refractory period lengthens. This however, does not imply that erectile dysfunction is a certain byproduct of ageing.

Similarly, the ageing female still retains the ability to have satisfying sexual reactions despite a reduction in primary and secondary erogenous tissue properties (Drench & Losee, 1996). As women age, the ovaries get smaller and the vagina generally has a decreased capacity for elasticity and expansion. Estrogen levels can affect arousal, sensory perception and sexual desire. Estrogen replacement therapy may decrease vaginal atrophy, help prevent secondary urinary problems and eliminate hot flashes. Furthermore, women who are in good health and who have regular sexual stimulation generally retain their ability to experience orgasms during menopausal and postmenopausal stages of life (Drench & Losee, 1996).

Culture and Sexuality

Although the need for intimacy and sexual expression is universal among all cultures of the world, the manner in which this need is expressed and satisfied among cultures varies greatly (Glass & Webb, 1995; Lueckenotte, 1996). The form of the expression, the degree of physical and emotional closeness and expectations from the relationship, relationships with family and friends as well as religious and social responsibilities differ significantly across cultures and socio-economic levels.

Although marital fidelity and heterosexuality are traditionally considered the norm among the elderly populations in Western societies, acceptance of extramarital relationships, homosexual or bisexual relationships have now become more prevalent, or are simply more public (Miller, 1990).

Homosexuality and Elderly People

While the heterosexual elderly may be currently limited sexually, homosexuals encounter even greater problems (Fairchild et al., 1996). Little research has been published to identify issues facing the homosexual elderly. Approximately 10% of men and women over 65 years are homosexual (Schlesinger, 1996) and as older adults they face considerably more discrimination and difficulties in their relationships with society than do the heterosexual elderly.

The health care system is one part of a predominantly heterosexual society into which most homosexuals will at some time enter, but ignorance about homosexuality and elderly people has led to exaggerated stereotyping of them by society. Furthermore, when one partner of the relationship requires considerable care, the homosexual couple faces discrimination regarding power of attorney, guardianship and placement into nursing homes. This is often compounded by the attitudes of the health care professionals upon whom the homosexual couple are relying on for care and services.

Sexuality within Nursing Homes

Until the late 1970's, the literature identifying sexuality within nursing homes was almost nonexistent. Wasow and Loeb (1979) identified that the difficulties in obtaining funding and even participants meant research in this area was very limited. Furthermore, several articles on aspects of life in nursing homes failed even to consider sexuality as an issue of interest.

Within some residential care facilities, overt expression of sexuality may be labelled 'disinhibited or disruptive behaviour' and treated with chemical restraints. Conversely, many residents of nursing home facilities receiving medication for

physical illness may find sexual expression, libido, and activity inhibited by the effects of that medication.

Wasow and Loeb (1979, p 74) further identified that “most nursing home operators simply don’t allow sexual relations between patients, either because of their own middle-class morality, or because of their fear of causing a moral uproar in the community, particularly from the patients’ families”. Furthermore, the reluctance of both the medical profession and allied health professionals to treat the elderly for sexual dysfunctions perpetuates the problems within nursing home environments (McCartney, Izeman, Rogers & Cohen, 1987).

Mulligan and Palguta (1991) studied sexual interest, activity and satisfaction among male nursing home residents and reported that for those elderly who reside independently in the community, the expression of sexuality may continue unabated. However, sexual activity for those living in nursing homes may change dramatically, as many constraints are placed upon those in residential care facilities (McCracken, 1988).

Ordinarily, older people in residential care facilities are separated by sex, perhaps in an attempt to avoid problems for staff and the criticism from families mentioned by Wasow and Loeb (1979). However, if expressing sexuality is viewed as a basic human right, then opportunities to socialise with the opposite sex and for privacy are also rights.

At the moment there is little or no privacy when spouses visit in long term care facilities (Schlesinger, 1996). Ballard, Solis, Gahir, Cullen, George, Oyebode and Wilcock (1997) reported that couples living separately may still wish to engage in sexual relations but are often restricted due to the confines placed upon them by nursing home policies. Single rooms are infrequent in older residential care facilities

and due to safety concerns and practices of care, curtains drawn between beds are often the only privacy permitted. Doors are rarely closed or those in multi-bed rooms are required to sit in the reception or visitors lounge if they wish to be alone (Nay, 1992; Wallace, 1992). Therefore although the couple may wish to continue their sexual relationship, they are unable to.

Residents of residential care facilities wishing to begin a relationship are similarly constrained by their environment. Same sexed resident groupings often inhibit socialisation among heterosexual couples, while homosexual relationships are rarely permitted to begin (Schlesinger, 1996). Furthermore, attitudes demonstrated by family tend to minimise the opportunity that a new relationship may be formed. Families are concerned that their parent may be taken advantage of or injured and thus complain to administration staff if a relationship appears to be developing (Schlesinger, 1996).

This lack of privacy, plus the absence of available willing and desired partners are obstacles to the development of new relationships. Furthermore, sexual expression may be further prevented by condemnation from society outside of nursing home facilities, enforced circumstances of lack of privacy and misconceptions by the elderly themselves that they are beyond sexual interest and expression. Such negative feelings over “imagined” sexual emotions and relations may add to shame and guilt among older people who believe that old age does not involve sexuality.

Mulligan and Palguta (1991) reported on the sexual interest, activity and satisfaction among 61 male nursing home residents in the United States. Interviews were conducted with the men, of whom 30 had partners. They found that those with partners reported greater sexual interest, but those without also reported that their interest would be greater if a partner was available.

Sexual relationships between partners, one of whom is suffering from a dementia is another issue of contention regarding the sexual expression of both residential care inhabitants, and residents of the community (Ballard et al., 1997). Although little research has sought to discuss some of the perceived taboos regarding sexuality activity of dementia sufferers, this is an area that requires consideration and attention.

Ballard et al (1997) researched the sexual relationship of 47 married couples, in which one of the partners was suffering with a dementia. Interviews and questionnaires that included the Marital Intimacy Scale (with additional questions) identified those couples continuing with a sexual relationship, the carer's level of satisfaction and the associations of remaining sexually active. Results indicated that almost one quarter of married couples had continued their sexual relationship, although male carers were more likely to be involved in continuing a sexual relationship with their spouse than were female carers.

Although Ballard et al (1997) offer some insight into spousal relationships, they failed to enlarge their sample to include residents of aged care facilities or relationships between non-spousal partners. Furthermore, the research focused upon the carer's perception only and did not seek to identify the dementia sufferer's willingness or consent to participate in sexual activity. Therefore the question of the generalisability can be raised, given the considerations of socially acceptable response bias and the questionable mental competency of one half of the relationship participants.

Sexuality and Health Care Professionals

Professionals providing services for the elderly require an understanding of human sexuality in order to effectively assist the older individual with physiological, practical and psychological influences that may impede expressions of sexuality (Schlesinger, 1996). Myths and stereotypes may be replaced with factual information and sexuality encouraged rather than eliminated, although there is no guarantee that factual information provided to professionals will displace beliefs which are strongly held or reinforced by religious training

Health care professionals may assist by encouraging sexual expression within residential care facilities. Structuring an environment that allows for privacy and basic rights of sexual expression are practical issues that health care professionals can address (Luketich, 1991). Interestingly, comments made on the questionnaire distributed by Steinke (1994) indicated that many elderly individuals have concerns and comments about sexuality that are not being addressed by health care professionals for one reason or another.

Possible interventions by health care professionals may include education for staff, family and carers that sexuality and sexual activity among the elderly should be considered a choice by the individual. However, encouragement of sexual expression within residential care facilities may invite recriminations. Strained relations between family members and the older adult may result in emotionally-loaded discussions if extensive counselling, education and involvement of family members is not encouraged. Ultimately however, sexual expression can be viewed in similar terms to other activities such as eating and exercising, part of a natural procession from birth to death (Schlesinger, 1996).

Attitudes and Knowledge among Health Care Disciplines

Demographic changes within the population indicate that health care professionals currently enrolled in health and welfare courses are more likely to be employed to provide services for the elderly within society than those trained in previous years (Gattuso & Saw, 1998). In particular, the education, training and skills of health care professionals shape their role as practitioners and their norms of practice. In certain circumstances, the attitudes and knowledge demonstrated by health care professionals will enhance or inhibit effective service provision to their elderly clientele (Malatessta, 1989).

As the elderly patient often has multiple health problems, collaboration among health care professionals is currently changing to include multi-disciplinary teams and specialised care facilities (Clark, 1997; Scott, Gade, McKenzie & Venohr, 1998; Zeiss & Steffen, 1996). The focus of most multi-disciplinary aged care teams is on quality of life issues. These further encompass dimensions of care, including values, beliefs, knowledge and attitudes, and the interaction between the individual and their environment.

Within aged care units several professions appear to have significant input into the care of elderly people (Boult, Boult & Pacala, 1998). Medical doctors, nurses, social workers, psychologists, physiotherapists and occupational therapists are all involved in the physical, functional and psychological care of elderly persons. The knowledge and attitudes that these professionals display often are influential for the well being of the older person. Importantly then, determining who is best suited and most likely to offer services regarding sexuality in the elderly is an area of consideration.

Within Australia, typically negative attitudes are held among health care professionals' attitudes toward the elderly (Gething, 1994). Deacon et al (1995) identified that negative ageist and custodial attitudes of health care professionals within residential care facilities were indicative of restrictive attitudes toward sexuality in the elderly. Promotion of education and training within the aged-care realm was recommended in an attempt to promote positive attitudes and thus freedom for sexual expression by the elderly (Ferguson & Koder, 1998).

Deacon et al (1995) further identified that "Education in the field of sexuality and ageing is also essential for all health professionals who are in contact with older people, both in institutions and in the wider community" (p. 510). Importantly, those who are educating health professionals may assist with re-addressing ageist attitudes toward sexuality in the elderly (Garratt, 1991).

Within certain professions, research has identified attempts by health care professionals to determine methods of best practice when it comes to dealing with sexuality in the elderly (Zeiss & Steffen, 1996). Moreover, several studies have identified that a health care professional's ability to communicate effectively with their elderly client's sexual concerns is dependent upon the correlation between their knowledge and their attitudes toward sexuality in the elderly.

Knowledge of Sexuality in the Elderly

Hillman and Stricker (1994) characterised an individual's knowledge of sexuality among elderly adults as his or her level of cognisance of the physiological changes associated with ageing. This may include the impact of illness and medication upon sexual potential, of the variety of sexual behaviours available other than intercourse, and of informational resources available to elderly persons.

Knowledge about sexuality in the elderly was initially influenced by investigations from Masters and Johnson in the 1960's (Schiavi & Rehman, 1995). Physiological influences of changes in sexuality that are associated with age, together with psychological aspects of ageing and sexuality, have since this time been of interest but researched sparingly. For example, anxiety concerning sexual performance and fear of sexual failure for males were identified as the main concerns for elderly men, along with the importance of interpersonal relationships.

Empirical findings further identified that individuals from different age cohorts possess various levels of knowledge regarding sexuality and ageing (Hillman & Stricker, 1994). Elderly persons have significantly less knowledge of sexuality and ageing than do middle-aged children of elderly parents and caretakers of older adults (White & Catania, 1982). Elderly participants in the Adams et al. (1990) study also were found to possess little knowledge of sexuality in the elderly. White (1982) suggested that elderly individuals typically might have had little access to information regarding sexuality and ageing. Several other studies summarised by Hillman and Stricker (1994) demonstrated contrasting results regarding knowledge of sexuality in the elderly among different age cohorts as well as professions. These findings suggest that an individual's knowledge of sexuality in the elderly may be related to specific educational interventions, as well as to the general availability of information regarding sexuality and ageing (Brogan, 1996; Hillman & Stricker, 1994; Luketich, 1991; White, 1982).

Attitudes toward Sexuality in the Elderly

As with knowledge, attitudes toward sexuality in the elderly show wide variation. Although general societal attitudes toward sexuality in the elderly have

been described as highly negative (Brown, 1989), older adults and health care workers have presented both restrictive (Glass, Mustian, & Carter, 1986; White & Catania, 1982) and permissive (Luketich, 1991) attitudes regarding sexuality in the elderly. Although middle-aged children of elderly persons presented generally positive attitudes toward sexuality in the elderly (White & Catania, 1982), the positiveness of their attitudes may be related to the self-selection of the participants into a sexuality and ageing course.

The factors predictive of individual's attitudes regarding sexuality in the elderly remain unclear (Glass & Webb, 1995; Hillman & Stricker, 1994). Demographic variables such as sex and age were found not to be related to nursing students' attitudes toward sexuality in the elderly (Luketich, 1991). Other research highlights that strong religious beliefs as well as the positive or negative nature of interactions with elderly adults may be related to individuals attitudes (Adams et al., 1990; Hillman & Stricker, 1994).

Hillman and Stricker (1996a) identified that attitudes toward sexuality in the elderly could be identified as comprising two separate dimensions. Restrictive and permissive attitudes could be identified convincingly, while several of the items of the Ageing Sexual Knowledge and Attitude Scale were perhaps better represented by "empathy" toward sexuality in the elderly. Analyses completed by Hillman and Stricker appeared to support this presumption, however the variance accounted for by the empathy factors was negligible.

Evidence of a Positive Relationship between Knowledge and Attitude

Investigations into a possible relationship between an individual's knowledge and their attitudes toward sexuality have demonstrated that increases in knowledge of

sexuality in the elderly have led to more permissive and more positive attitudes toward sexuality among elderly adults (White & Catania, 1982). In an attempt to confirm these findings, White (1982) sought to identify the link between attitudes and knowledge using more rigorous experimental methodology than had previously been demonstrated.

Recognising the lack of standardised measures, White (1982) developed the Aging Sexuality Knowledge and Attitudes Scale (ASKAS). This psychometric test is designed to assess individual knowledge and their attitudes concerning sexuality among older adults (Hillman & Stricker, 1994).

The ASKAS was first used by White and Catania (1982) to target three populations: community-residing elderly, middle-aged children of older adults, and nursing staff. They hypothesised that increases in knowledge would generate more permissive attitudes toward sexuality among older adults. Their study included providing educational programs to the experimental group of the study, and comparing pretest and posttest scores on the ASKAS. Results indicated a more positive and permissive attitude for those who had received the educational intervention (White & Catania, 1982). This study indicated a positive linear relationship between knowledge and attitudes in the three different populations (Hillman & Stricker, 1994).

Soon after the development of the ASKAS, Story (1989) examined the relationship between sexual knowledge and attitudes by contrasting youthful and elderly populations using the Adult Sexuality Knowledge and Attitude Test (ASKAT). Similar to the ASKAS, the ASKAT is composed of two parts, a knowledge section consisting of true/false questions and an attitude section consisting of Likert scale items assessing attitudes toward sexuality in the elderly. A correlational between

groups design was employed to measure the relationship, with results indicating a positive correlation between attitudes and knowledge.

Although other instruments such as the ASKAT have been used in research of, knowledge of, and attitudes toward sexuality in the elderly, its lack of reported and demonstrated reliability and validity hinders its consideration as a measurement instrument (Webb, 1988). The lack of standard psychometric information for the ASKAT would suggest caution when generalising findings, and perhaps why the ASKAT has not been commonly used as a research measure. Furthermore, Hillman and Stricker (1996a) explored the psychometric properties of several questionnaires on sexuality in the elderly and determined that the ASKAS displayed the most reliable and valid psychometric properties of any instrument available to research sexuality in older adults.

Further to White and Catania's (1982) study, other researchers have contributed substantial information concerning the relationship between knowledge and attitudes toward sexuality in the elderly. Hillman and Stricker (1994) identified several studies that confirmed a positive linear relationship between knowledge of and attitudes toward sexuality in the elderly held by health care professionals (Hammond & Bonney, 1985), elderly adults (Salamon & Charytan, 1984) and freshman and senior medical school students (Tarbox, Connors & Faillace, 1987).

Non-significant and Negative Relationships

Although a significant relationship between knowledge of and attitude towards sexuality in the elderly have been identified, non-significant and negative relationships have too been reported. In the early 1980s, White used the ASKAS to conducted a study of sexuality in older adults among nursing home residents. White

(1982) reported that attitudes and knowledge were not found to be significantly related among the nursing home residents. Although White (1982) did not provide information regarding the knowledge possessed by the nursing home residents, the general lack of knowledge possessed by the elderly in a previous study (White & Catania, 1982) lends some credibility to White's (1982) assertion.

Adams et al. (1990) administered a sex education program to a predominantly black and economically disadvantaged sample of 10 elderly adults with similar findings as reported by White (1982). The lack of significant differences between pretest and posttest scores on the ASKAS indicated the ineffectiveness of the sexual education program in its attempt to increase knowledge and increase permissive attitudes among the participants. Despite the failure of the experimental educational manipulations, the authors made observations that may account for their findings. Strong religious beliefs appeared to dictate the generally restrictive attitudes among the participants, and unfamiliarity with the testing vocabulary prevented some participants from completing the questionnaire. Although the authors produced no significant findings, and the small number of participants may have contributed to this lack of significance, this study does offer a first look at the relationship between knowledge and attitudes of sexuality in the elderly in a minority sample (Hillman & Stricker, 1994).

Similarly, Luketich (1991) reported non-significant findings on the ASKAS when examining the relationship between knowledge and attitudes in a sample of nursing home students. Although the correlation between knowledge and attitudes was found to be non-significant, no discussion regarding this finding was given.

In a study by Glass et al. (1986), nursing home aides and administrators participated in a study of the correlation between knowledge and attitudes. Results

indicated that health providers with more knowledge possessed more restrictive attitudes toward sexuality in the elderly than health care providers with less knowledge. This is particularly notable in that it contradicts previous findings that greater knowledge is associated with more permissive attitudes.

Glass et al (1986) explained their findings by stating that those in a position of responsibility, such as administrators, attend to practical considerations that influence their attitudes, thus resulting in a negative relationship between knowledge and attitude. However, statistical analysis comparing the relationship between attitudes and knowledge and the various occupations of the participants was not performed. Thus factors that may account for the negative correlation found could not be specified.

Many authors have postulated explanations for non-significant or negative relationships between knowledge and attitudes (Glass & Webb, 1995, Hillman & Stricker, 1996b). Sache (1983 cited in Hillman & Stricker, 1994) hypothesised that physicians' reactions to elderly persons were mediated by their own fear of ageing. Concerns similar to these have also been reported among therapists, nursing care staff and support staff who are in a position to view the impact and problems of ageing frequently (Hillman & Stricker, 1994).

Cognitive dissonance has too been suggested as another possible explanation of the negative knowledge/attitude relationship (Adams et al., 1990). Cognitive dissonance and withdrawal may result from strict religious beliefs that prohibit self-stimulation and sexual activity outside of marriage or for non-procreation purposes.

Countertransference has also been suggested as a commonly occurring phenomenon that may account for a negative relationship between knowledge and attitudes. Health care providers may view the elderly client as a parent or grandparent

on an unconscious level (Hillman & Stricker, 1994). More restrictive attitudes may therefore be held in accordance with standards they set for their own familial relations.

Furthermore, in addition to psychological interpretations of the relationship between knowledge and attitudes, health care providers are faced with more practical limitations of sexuality in the elderly. Residential care facilities often do not make available privacy and opportunities for socialisation and relationships. Administration of the nursing homes may be required to deal with negative family views and concerns about residents' relationships.

Despite varied research methodologies and measurement instruments that seek to identify the relationship between knowledge of and attitudes toward sexuality in the elderly, findings indicate a relatively consistent pattern of results, that being a positive linear relationship (Hillman & Stricker, 1994; Salamon & Charytan, 1984; Story, 1989; White & Catania, 1982). However, although there appears to be solid evidence for a positive linear relationship between knowledge and attitudes of sexuality in the elderly, there have also been several reported instances of a non-significant or indeed negative knowledge/attitude relationship (Adams et al., 1990; Glass et al., 1986; Luketich, 1991; White, 1982). Furthermore, although many studies using the ASKAS have compiled information regarding those with a close personal relationship to elderly individuals, little research has been compiled regarding one of the main contributors to elderly health and well being, health care professionals.

Sexuality in the Literature of Health Care Professionals

Brogan (1996) identifies that sexuality has been neglected in the nursing literature until recently. Although nursing standards maintain that an emphasis is

placed on treating the individual as a whole, historically nurses have not been trained to cope with sexuality (Brogan, 1996).

Various research documents the general inadequacy of nursing professionals in taking account of the sexuality of those in their care (Luketich, 1991). Among nurses, students were more knowledgeable and liberal in their attitudes regarding sexuality in the elderly than were registered nurses. Similarly, family planning nurses demonstrated less knowledge than did undergraduate students when surveyed (Damrosch, 1984).

Although Webb (1988) called for the inclusion of sexuality in the elderly into the teaching curriculum of nursing students, Brogan (1996) identified that curriculum changes as recommended by Webb have only happened recently and are still being taught in narrow terms, with vital areas often overlooked. Furthermore, Quinn-Krach and Van Hoozer (1988) identified that sexual expression and functioning is often not addressed in nursing interventions due to the lack of adequate knowledge and realistic clinical training in the area of sexuality in the elderly. Without appropriate and adequate training, nurses are not confident enough to address this sensitive area (Lueckenotte, 1996).

As there is some degree of social conditioning involved regarding sexuality and ageing, educational preparation will assist to dismantle traditional stereotypic views on the subject and help improve nursing care and professional development of nurses (Luketich, 1991). Before this occurs however, university educators themselves should gain an insight into their own attitudes and beliefs particularly if they are to be viewed as role models for future health care professionals (Waterhouse, 1996).

Quinn-Krach and Van Hoozer (1988, p. 359) commented that “the area of aged sexuality is of particular concern to nurse educators, because perpetuation of

myths and lack of knowledge regarding elderly human sexuality can have far-reaching effects of elderly nursing care". In particular, interest in caring for and the quality of nursing care provided to the elderly may be adversely affected by misconceptions, inadequate knowledge and negative attitudes about sexuality in the elderly.

Findings from Quinn-Krach and Van Hoozer's (1988) study of 158 nursing students on the relationship between knowledge and attitude identified that there is a positive relationship between attitude and knowledge, although the relationship is a weak one. The implications of this study included the placement of aged sexuality information into the nursing curriculum and that increased knowledge may result in a more positive attitude toward sexuality in the elderly.

Similarly, within the medical arena, education about how to best provide services to the elderly with sexuality concerns has found conflicting results. Physicians are reported as being uncomfortable about exploring their patient's sexuality as a part of the functional inquiry (Holzapfel, 1994). Some suggestions that account for this reticence include the personal anxieties each of us have about the process of ageing. Such anxieties make it difficult to view later life as a vital, active time of life with its own unique qualities (Brummel-Smith, 1998; Mazzoni, Nash & Barber, 1997).

Taking a sexual history from an elderly patient is however meaningful for at least two reasons (Holzapfel, 1994). The first is that many causes of sexual dysfunction in the elderly are treatable, the second being that sexual functioning is an indicator of overall health status.

As general practitioners are often contacted by elderly patients regarding changes in sexual functioning (Holzapfel, 1994), the manner in which queries are raised and answered may influence the continuation of sexual expression. Faced with

society's stereotypes about sexuality in the elderly, accurate and informed knowledge together with non-restrictive attitudes may enable an open and useful communication about issues the elderly client is faced with (Krause, 1996; Lichtenberg, Smith, Frazer, Molinari, Rosowsky, Crose, Stillwell, Kramer, Hartman-Stein, Qualls, Salamon, Duffy, Parr & Gallagher-Thompson, 1998).

Psychologists too are currently expanding their practices to incorporate care for the elderly (Ferguson & Koder, 1998). Traditionally, the role of the psychologist has been heavily based in a variety of assessments, treatment planning and staff consultation concerns, often in interdisciplinary teams (Lichtenberg et al., 1998). However, the little research that has been published with respect to the elderly and their sexual practices focused more upon health strategies for successful ageing (Mitchell & Krout, 1998) with little mention of sexuality in the elderly.

Similarly, social workers should base their interventions on the acceptance of sexual activity in the elderly client (Schlesinger, 1996). Strategies that included acknowledging sexual practice and allowing time for privacy in couples were suggested as necessary to afford elderly clients a right to sexual expression. Furthermore, Schlesinger (1996) suggested that health care professionals have the ability to help facilitate safe and secure sexual relationships between consenting couples.

However, a study by Fairchild et al (1996) identified that although staff of residential care facilities have the ability to promote sexual expression of the facility's residents, staff attitudes were often judgmental and embarrassed by any form of resident sexuality. Of the 29 social workers surveyed, approximately one third identified that staff were intolerant towards resident sexuality and over one half of staff were intolerant of or condemned homosexual relationships within the facility.

Although these results may in fact reflect the personal values and attitudes of the social workers themselves, the findings suggest that staff attitudes toward resident sexuality are quite restrictive or negative.

Although sexuality and sexual behaviour have become topics of interest within many health care disciplines, little has been reported within the physiotherapy and occupational therapy literature. Although a search was made, most literature published appeared concerned with physiological adjustments of age on mobility and the elderly person's environment.

Educators of Health Care Professionals

Questions about current models of professional training and whether they are adequate in educating health care professionals in an honest and learned manner about sexuality in the elderly need to be raised. While many educational programs seek to educate and inform regarding adolescent sexuality, sex education and information about sexuality in the elderly is minimised and exceedingly brief, if present at all (Adams et al., 1990; Holzapfel, 1994).

The knowledge and attitudes of health care professionals are in part dependent upon the knowledge taught to them, and the manner in which is it taught. Health care educators are therefore in a unique position. They may assist the elderly by dealing openly and in an informed manner with those they are educating to work in the aged care field. Older people have a right to sexual expression, but this right may be restricted if health care professionals do not accept and acknowledge that sexuality in older age is a natural right of their clientele.

Health care educators, that is university teaching staff, can influence future health care professionals care in either a positive or negative manner. If educators are

comfortable, honest and confident about the knowledge they communicate about sexuality in the elderly, this may facilitate similar attributes in their students.

However, if educators of health care professionals hold restrictive attitudes and limited knowledge about sexuality in the elderly, they are unable to assist their students develop adequate knowledge and positive attitudes.

Glass and Webb (1995) sought to explore the relationship between health care educators knowledge and attitudes toward sexuality in the elderly. Similar to previous research in this area, they asked nursing and allied health teaching staff at a college in North Carolina to complete the ASKAS. Results indicated that health care educators held little knowledge about sexuality in the elderly, but held positive attitudes towards it. Of demographic details requested, those who rated themselves as more religious held more restrictive attitudes, and those with continuing education in geriatrics possessed more knowledge. This is not surprising given past research findings. No significant relationship was found between knowledge and attitudes, perhaps due to the small sample size of 42 participants.

This current study this seeks to replicate in part Glass and Webb's (1995) study with a more representative sample of educators of health care professionals. Furthermore, it seeks to determine if certain demographic variables are predictive of the attitude and knowledge relationship.

This study thus explores the following research questions:

1. the extent of knowledge possessed by educators of health care professionals regarding sexuality in the elderly,
2. the attitudes of educators of health care professionals regarding sexuality in the elderly,

3. To determine whether there is a relationship between knowledge and attitudes of educators of health care professionals regarding sexuality in the elderly,
4. Whether certain personal and demographic variables, including age, country of residence and sex are predictive of the relationship between knowledge and attitudes of educators of health care professionals regarding sexuality in the elderly are related to certain personal and demographic variables, and
5. whether certain professional and experiential factors, including health care profession, years of teaching experience, years of clinical experience, years of geriatric experience and highest degree obtained are predictive of the relationship between knowledge and attitudes of educators of health care professionals regarding sexuality in the elderly

Method

Participants

Three hundred and sixty university lecturers from universities in Australia (78.5%), New Zealand (17.6%) and South Africa (3.6%) volunteered as participants. The 261 female and 99 male educators of health care professionals were currently employed as lecturers in Medicine (6.9%), Nursing (30%), Occupational Therapy (9.1%), Physiotherapy (8.3%), Psychology (25.6%) and Social Work (14.6%). Missing information with regard to the respondent's health care profession totalled 4.5% of the total sample.

Instruments

Demographic Variables

Requested demographic information included personal variables (age range and sex), and professional and experiential variables (highest educational degree

obtained, health care profession, total years of clinical experience, total years of geriatric experience and years of teaching experience).

The Aging Sexual Knowledge and Attitudes Scale

The ASKAS is designed for use with elderly people, people who work with the elderly, and any group of people who have an impact on the elderly. The questions are designed to measure sexual attitudes and sexual knowledge through the utilisation of items dealing with age-related changes in sexuality and the content of sexuality with the elderly.

The items were developed from a survey of existing physiological research on sexuality in older persons and a review of social-psychological writing on aged sexuality. The attitude portion of the test is based on the assumption that attitudes toward sexuality in the elderly in the context of residential care facilities are predictive of attitudes toward sexuality in the elderly in other contexts.

The ASKAS consists of 61 questions, of which 35 are true-false or 'don't know' in response format and 26 are responded to on a 7-point Likert scale as to the extent of agreement or disagreement with the item statement. The true-false questions are measures of knowledge about sexuality in the elderly, while the agree-disagree Likert scale questions measure attitudes toward sexuality in the elderly. Glass and Webb (1995) determined through personal contact with Webb that the ASKAS had not been revised in the period between 1982 and 1995.

Knowledge

The first 35 questions on the ASKAS measure knowledge about aging sexuality and are answered *true, false or don't know*. White (1982) believes that including the option *don't know* reduces guessing and results in a better representation of actual knowledge. For the purpose of this study, the score on the knowledge section was the sum of the correctly answered items; therefore, the range of possible scores was 0-35. A low score indicated less knowledge and a score of 35 indicated maximum knowledge as measured by the instrument.

Attitude

Attitude toward sexuality in the elderly is measured on the ASKAS by 26 items with which the respondent indicates the extent of agreement or disagreement. White (1982) used a 7-point Likert scale and similarly in this study the range of possible scores on the attitude measure was 26-182. A low score indicates permissive or positive attitudes; a high score indicates restrictive or negative attitudes.

White (1982) presented considerable data supporting the reliability of the ASKAS. Alpha reliabilities were between .76 and .93, split-half reliabilities ranged from .83 to .91, and test-retest reliabilities were between .72 and .97. The knowledge section had slightly higher reliability than the attitude section, but all reliabilities were within an acceptable range, typically over .85 (Glass & Webb, 1995). White also reported that the validity of the ASKAS was demonstrated by the sensitivity of scores to educational interventions and to whether an individual was sexually active or not.

Procedure

In total, 114 Department Heads, 81 from the 28 Australian universities, 14 from the 7 New Zealand Universities and 19 from the 7 South African Universities offering courses in Nursing, Medicine, Psychology, Social Work, Occupational Therapy and Physiotherapy were identified using the Commonwealth University Yearbook (1995-1996). As the Commonwealth University Yearbook was several years out of date, a search was made using the Internet to identify the current Head of Department for each of the mentioned professions.

A letter detailing the purpose of the research (see Appendix B) was sent to the Head of each Department, together with a copy of the letter to be sent to participants (Appendix C) and a copy of the 'Ageing Sexual Knowledge and Attitudes Scale'. Permission was sought to distribute the ASKAS questionnaire to academic staff (including a reply paid envelope). The letter indicated that the author would contact each Department Head after a two week period in an attempt to determine how many questionnaires to forward to the department secretary for distribution. Many Department Heads corresponded to the author within the two-week period to specify the number of potential respondents.

E-mails were sent to the Department Heads for those who had not already responded to the request. Of 838 questionnaires sent for distribution to academic staff by the department secretaries, 363 were returned, a response rate of 43.3% (See Table 1). In total, 22 of the 28 Australian universities, all of the 7 New Zealand Universities and 5 of the 7 South African Universities participated in the research.

Table 1

University Faculties and their response to the request to participate in the study

“Knowledge and Attitudes of Sexuality in the Elderly Among Educators of Health Care Professionals”

	Country					
	Australia		New Zealand		South Africa	
	agreed	declined	agreed	declined	agreed	declined
Medicine	1	10	1	1	0	2
Nursing	13	7	2	0	0	2
Occupational Therapy	4	2	0	0	1	1
Physiotherapy	5	1	0	1	0	1
Psychology	11	13	4	2	2	5
Social Work	7	6	3	0	4	2

Results

Among the total sample ($n=360$), knowledge scores on the ASKAS ranged from 8 to 35, with a mean of 24.90 ($SD=4.80$). Attitude scores ranged from 29 to 140, with a mean of 42.37 ($SD=12.23$). Compared to previous findings (Glass & Webb, 1995; Hillman & Stricker, 1996b; White, 1982; White & Catania, 1982), these scores indicated, for this sample of educators of health care professionals, above average levels of knowledge and relatively permissive attitudes toward sexuality among elderly adults.

For individual experiential variables, over 70% ($n=256$) of respondents had less than 5 years of geriatric experience, with only 23 respondents reporting geriatric experience of over 16 years (6.3%). With respect to years of clinical experience obtained by respondents, 19.2% ($n=67$) had between naught and five years, 19.8% ($n=69$) had six to ten years clinical experience, and 13.8% ($n=48$) held between 11 to 15 years as did respondents in the 16-20 years clinical experience range. Over 33% ($n=117$) of respondents had obtained over 20 years of clinical experience. Invalid responses accounted for 3.9% of the sample.

Over 19% ($n=69$) of respondents held between naught to five years teaching experience, with over 53% of lecturers having between 6 and 15 years of teaching experience. Fifty five respondents reported over 20 years of teaching experience.

The highest educational level that had been obtained by educators of health care professionals ranged from a bachelor's degree by 14.1% ($n= 51$) of respondents, a graduate diploma by 3.6% ($n=13$), a master's degree by 41.3% ($n=150$) of participants, a PHD by over 34.4% ($n = 125$) and a medical degree by 6.6% ($n =24$) of respondents. The number of respondents in each range are shown in Table 2 along with coefficient alpha by age range.

Table 2

Coefficient Alphas across Age Range for Attitude Scores

Age Range	Coefficient Alpha	Number of Respondents
21-30	.85	9
31-40	.88	97
41-50	.80	164
51-60	.77	81
60+	.81	9
Total	.85	360

Relationships between Variables

Pearson product moment correlations of the relationships between knowledge and attitudes toward sexuality in the elderly to selected variables are indicated in Table 3. As shown, several relationships were significant at the .01 level, all involving knowledge of sexuality: the relationship between attitude and knowledge; the relationship between knowledge and age; the relationship between knowledge and years of clinical experience; the relationship between knowledge and years of geriatric experience; and the relationship between knowledge and years of teaching experience.

There was a negative correlation between knowledge and attitudes, indicating that as knowledge increased, a more permissive attitude was held. There was also a positive relationship between knowledge and age, indicating that as age increased, there was an increase in the knowledge of sexuality in elderly people.

Furthermore, the positive relationships between knowledge and the three predictors of experience (teaching, geriatric and clinical) indicated that experience is one of the best predictors of knowledge. This is not surprising however, as age (often associated with experience) was found to be positively correlated with knowledge. This is perhaps more indicative of the multicollinearity of the variables.

Highest degree obtained, or the sex of the respondent were not significantly related to either knowledge of or attitude toward sexuality in the elderly according to Pearson product-moment correlation analyses (Table 3).

Means and standard deviation scores across country and profession are displayed in Table 4 for attitude scores and Table 5 for knowledge scores. Coefficient alpha results representing the reliability of attitude and knowledge scores are given in Tables 6 and 7 respectively.

Table 3

Correlations Between Knowledge and Attitude and Selected Predictor Variables

Predictor Variables	Knowledge	Attitude
Knowledge		-.182*
Age	.203**	-.078
Clinical experience (years)	.150**	-.044
Teaching experience (years)	.165**	-.006
Geriatric experience (years)	.163**	.067
Sex	.010	-.087
Highest degree obtained	.091	.040

** $p < .01$ * $p < .05$ *Predictors of Knowledge*

To determine if a combination of predictors can account for a greater degree of the variation in the knowledge of educators of health care professionals, a multiple regression analysis was conducted with knowledge scores on the ASKAS serving as the dependent variable. All predictor variables were entered simultaneously to determine the total variance accounted for in educators' knowledge. Contrast coded dummy variables were used to enter all categorical variables in this and all subsequent regression equations. Missing or invalid responses were excluded from the analysis. Results showed that all predictors combined accounted for just 11.7 % of the variance ($F = 2.15$, $df = 19, 308$, $p = .004$) in educators' knowledge of sexuality in the elderly.

To determine which factors were most predictive of educators' knowledge of sexuality in the elderly, a forward stepwise regression procedure was conducted on the educators' knowledge scores so that each individual predictor variable was regressed onto the outcome measure. Findings showed that there was no evidence that age, clinical experience, years of teaching experience, years of geriatric experience or gender significantly accounted for levels of knowledge. The one predictor that indicated a uniquely significant contribution to greater knowledge of sexuality in the elderly ($t = 2.06$, $df = 19, 308$, $p = .040$) was if the respondent held a medical degree.

Predictors of Attitudes

As with knowledge, a multiple regression analysis was used to assess the overall effectiveness of the demographic and experiential variables' ability to predict educators' attitudes. Attitude scores on the ASKAS served as the dependent measure, and all predictor variables were entered simultaneously in the regression equation. As noted above, contrast coded dummy variables were used to enter all categorical variables in the equation, with missing or invalid responses excluded from the analysis. Findings showed that all predictors combined accounted for 10.70% of the variance ($F = 2.01$, $df = 19, 318$, $p = .008$) in educators attitudes toward sexuality in the elderly.

Several stepwise multiple regression analyses were conducted to assess the extent to which individual predictors accounted for significant variation in educators' attitudes. Results showed that age was the only significant predictor of educators' attitudes, uniquely accounting for 3.5% of the variance ($\Delta F = 6.35$, $df = 4, 318$, $p = .000$), as shown in Figure 1. No other demographic or experiential variables were predictive of educators' attitude scores.

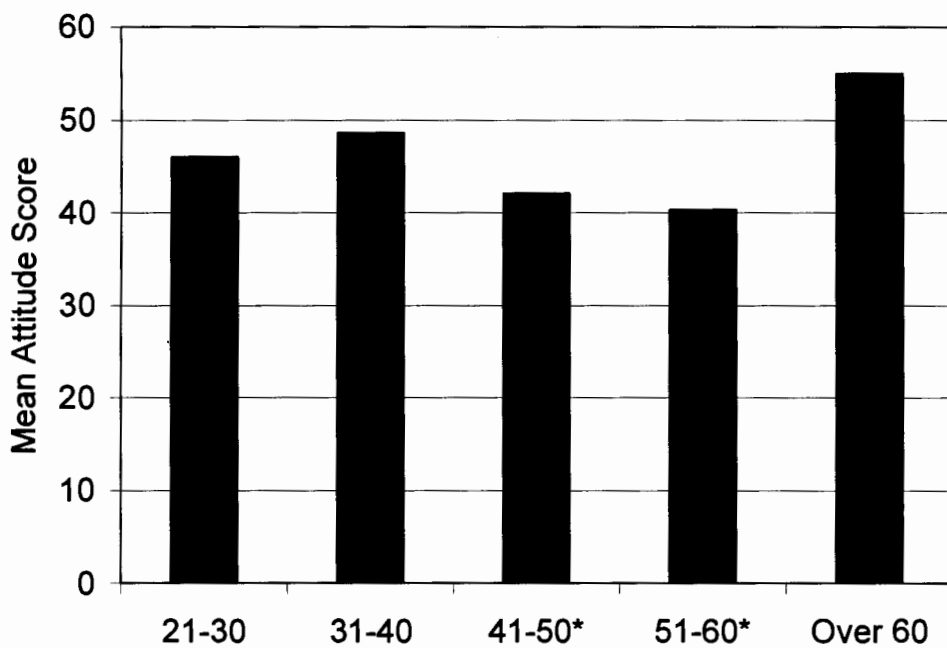


Figure 1

Age as a Predictor of Attitudes toward Sexuality in the elderly

* $p < .05$

Table 4

Means and Standard Deviations across Country and Profession for Attitude Scores

Profession	Country							
	Australia		New Zealand		South Africa		Total	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Medicine	50.58	10.12	44.40	16.40	-	-	49.29	11.55
Nursing	40.06	8.59	39.78	6.22	57.67	30.07	40.56	9.77
Occupational Therapist	44.22	12.30	40.33	8.50	41.00	0.00	43.66	11.55
Physiotherapist	41.64	9.55	-	-	39.00	-	41.55	9.39
Psychologist	43.85	17.33	39.85	10.20	38.00	9.54	42.48	15.39
Social Worker	36.75	6.70	43.72	9.85	35.00	6.24	39.20	8.57
Other	44.00	11.98	-	-	-	-	44.00	11.98
Missing	56.90	16.11	36.50	4.95	-	-	53.50	16.67
Total	42.62	12.54	41.22	9.90	42.75	16.53	42.37	12.23

Table 5

*Means and Standard Deviations across Country and Profession for Knowledge**Scores*

Profession	Country							
	Australia		New Zealand		South Africa		Total	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Medicine	27.71	3.96	25.20	5.07	-	-	27.14	4.25
Nursing	25.02	4.39	23.57	2.94	19.00	3.00	24.73	4.38
Occupational Therapist	24.07	4.20	23.67	4.93	26.00	5.66	24.16	4.20
Physiotherapist	23.63	5.45	-	-	25.00	-	23.68	5.35
Psychologist	25.07	4.81	27.65	4.05	26.00	3.56	25.91	4.65
Social Worker	24.86	4.34	21.94	6.51	25.00	5.66	23.77	5.37
Other	21.17	4.88	-	-	-	-	21.17	4.88
Missing	26.67	6.12	25.50	3.54	-	-	26.45	5.61
Total	24.91	4.69	25.03	5.35	24.00	4.49	24.90	4.80

Nature of the Knowledge and Attitude Relationship

Table 3 previously summarised the Pearson Product Moment correlations which suggested that knowledge was the only significant predictor of attitude. A multiple regression analysis of all predictor variables, excluding knowledge, against attitude confirmed this finding except for the influence of age.

The partial listing of the regression output, shown in Figure 1, provides some evidence that attitudes change as respondents get older. Respondents in the 41-60 years age grouping have an attitude score some 20% lower than average. When age was included in a step-wise regression analysis after all other predictor variables, excluding knowledge, the variation in attitudes explained, as measured by R^2 , jumped from 3.6% to 10.7%.

However, there was no such difference when the analysis was repeated for knowledge. Age, after allowing for all other predictor variables excluding attitude, makes an insignificant contribution to the explanation of knowledge. This result is consistent with multi-collinearity between age and experience predictors with knowledge but not with attitude.

Table 6

Coefficient Alphas across Country and Profession for Attitude Scores

Profession	Country			
	Australia	New Zealand	South Africa	Total
	Alpha	Alpha	Alpha	Alpha
Medicine	0.73	0.84	-	0.77
Nursing	0.75	0.58	0.98	0.81
Occupational Therapist	0.84	0.67	-	0.81
Physiotherapist	0.81	-	-	0.80
Psychologist	0.90	0.80	0.85	0.89
Social Worker	0.80	0.68	0.71	0.76
Other	0.85	-	-	0.85
Total	0.85	0.74	0.94	0.84

Table 7

Coefficient Alphas across Country and Profession for Knowledge Scores

Profession	Country			
	Australia	New Zealand	South Africa	Total
	Alpha	Alpha	Alpha	Alpha
Medicine	0.70	0.70	-	0.71
Nursing	0.75	0.52	0.34	0.75
Occupational Therapist	0.69	0.78	0.88	0.70
Physiotherapist	0.83	-	-	0.83
Psychologist	0.78	0.73	0.55	0.78
Social Worker	0.72	0.87	0.71	0.81
Other	0.69	-	-	0.69
Total	0.77	0.82	0.70	0.78

A multiple regression of all predictors, excluding attitude, against knowledge demonstrated that respondents with a medical degree obtained a knowledge score 3.5 points (14%) higher than average, which was significant. A similar difference in knowledge was obtained even with attitude present in the model (4.1 points or 14%).

This has ramifications for the professional standing of non-medical disciplines and the education received by non-medical health care professionals on sexuality in the elderly, especially when one considers that years of geriatric experience made no significant difference to knowledge.

Whilst knowledge could be explained by reference to the highest degree obtained by the educator of health care professionals, no relationship existed between attitude and highest degree obtained when the regression was repeated with attitude as the dependent variable.

Discussion

These findings suggest that educators of health care professionals within this sample possess above average knowledge of and relatively permissive attitudes toward sexuality in the elderly. Age was associated with increased knowledge; older educators possessed more knowledge than did younger educators, which is consistent with previous studies (Glass & Webb, 1995; Hillman & Stricker, 1996a). Of note is the finding of little difference across the various health care professions and across the three countries surveyed.

The greater number of years of clinical experience and years of geriatric experience that an educator had were also found to indicate greater knowledge of sexuality in the elderly. This result was not found in Glass and Webb's (1995) study,

perhaps due to their limited sample size. Furthermore, those educators with greater teaching experience demonstrated greater knowledge of sexuality in the elderly.

As mentioned previously, the positive relationship between experience, age and knowledge is not unsurprising. The collinearity of these variables has been demonstrated in previous research findings (Glass & Webb, 1995; Hillman & Stricker, 1996b).

Knowledge

The type of highest degree obtained was identified as the best predictor of knowledge of sexuality in the elderly; only those holding a medical degree were found to differ significantly on their unique contribution to greater knowledge. Perhaps this is not surprising however given the extent of physiological knowledge taught during medical training. However, the specialty of the educator of medical students was not determined and this may have impacted upon the findings if the respondent was in fact practicing in aged care. It is also of interest to note that all other educators of health care professionals did not differ significantly in the level of knowledge demonstrated regarding sexuality in the elderly, despite a variety of highest degrees obtained.

That age was positively correlated with knowledge again is not surprising. As Hillman and Stricker (1996, p. 550) suggested, "It is possible that older individuals may have greater motivation to learn about sexuality in the elderly than younger individuals because of increased personal relevance or salience, either to satisfy personal interest or to understand the needs of an elderly parent".

Attitude

The variation in attitudes can be explained by only age as a predictor variable. This result is similar to that reported by Quinn-Krach and Van Hoozer (1988) who stated that older participants in their study held a more permissive attitude about sexuality in the elderly. Respondents in the age categories (41-50) and (51-60) held significantly more permissive attitudes than did younger educators of health care professionals. A possible explanation as postulated by Quinn-Krach and Van Hoozer (1988) was that older participants may have familial relations closer to age of elderly persons than do younger participants. Furthermore, Hillman and Stricker (1994) identified that older participants may give more thought to sexuality in the elderly due to their closer personal experiences of approaching older age.

The lack of any further systematic relationships between attitude and predictor variables may perhaps be viewed as a positive outcome. If attitudes are unaffected by any personal variables sampled in this study of educators of health care professionals, then the transfer of knowledge from educator to the ultimate client, the elderly individual, is unaffected by any biases of the educator.

The knowledge and attitude relationship

Consistent with previous findings in the literature regarding sexuality in the elderly, a positive relationship between knowledge and more permissive attitudes was demonstrated. This relationship was present after controlling for all demographic variables sampled in this study. The relatively small strength of this relationship was also consistent with previous research findings (Hillman & Stricker, 1996b; Quinn-Krach & Van Hoozer, 1988).

The fact that few demographic or experiential variables were found to be predictive of knowledge, attitude or the knowledge and attitude relationship is interesting. It has implications for future research to identify what variables may in fact best predict levels of knowledge, influences of attitudes and the relationship between knowledge and attitudes. Given that knowledge of sexuality in the elderly appears not to differ across health care professions (except for medicine), it suggests that all health care professionals offer well-informed supportive informed assistance to the elderly client.

Implications and Recommendations

The findings of this study indicate that educators of health care professionals are a target audience for education regarding sexuality in the elderly and ageing issues. Many respondents expressed a desire for further information related to sexuality in the elderly and thus this is suggestive of a potential target audience for both acquisition of knowledge for personal interest, as well as for dissemination to students.

Although the results from this present study concur with previous studies reporting a significant relationship between knowledge of and attitudes toward sexuality in the elderly, these results may need to be interpreted with caution. Although an effort was made to recruit participants from all professions across the three countries selected, the participant pool may limit the generalisability of the findings. For example, there were no participants lecturing in Occupational Therapy or Physiotherapy from New Zealand in the respondent sample. Similarly, the participant pool for courses in Physiotherapy, Medicine and Nursing from South Africa was nil. Therefore the findings from this study cannot include the above

mentioned educators of health care professionals in any of the possible interpretations of the results.

For many educators of health care professionals, their own education may not have provided informed knowledge of sexuality in the elderly as several decades ago there were still many misconceptions and stereotyping regarding sexuality in the elderly (Deacon et al., 1995). However, lecturers at universities are in the unique position to acquire knowledge through researching current clinical findings regarding this important area.

Furthermore, accessing information regarding sexuality issues in the elderly also promotes competent and comfortable transmission of knowledge (Glass & Webb, 1995). Involvement of educators of professionals in the development of continuing education programs relating to sexuality in the elderly may facilitate interest and help provide motivation for educators to acquire more knowledge and skills in teaching students about sexuality in the elderly.

An important component of dissemination of knowledge regarding sexuality in the elderly is to understand the physiological changes that occur with age, and the promotion of positive adjustment towards these changes. Assisting the health care student to identify their feelings, attitudes and reactions toward sexuality in the elderly permits the individual to understand their biases in this topic. Open discussions, clinical experience from practicum placements and accurate information may facilitate the understanding of how negative attitudes towards sexuality in the elderly may inhibit the older clientele in speaking of their concerns.

It may be useful to replicate these findings, incorporating more specific demographic variables to determine the implication of those with physiological knowledge of the elderly and sexuality. As previously mentioned, those with medical

degrees demonstrated different levels of knowledge than other health care professionals. This may not be so surprising in that medical education generally requires more years of professional training than other disciplines. However, as other allied health professionals were not found to differ among themselves, it would be interesting to determine what information regarding the physiology of elderly sexual functioning was being taught.

Older peoples' concerns regarding sexuality issues are no different from those in other age cohorts. Among these concerns are performance capabilities, the availability of a partner with whom to be intimate, accommodation arrangements as well as society's influence (Holzapfel, 1994). These concerns may be worked through with the elderly individual if the health care practitioner promotes him/herself as an unbiased and knowledgeable professional in this area.

In particular, elderly concerns about intimate sexual expression such as masturbation, sexual intercourse, and same-sex relationships obligate the health care professional to educate or counsel the elderly client regarding these issues. Furthermore, informed and educated health care professionals may be able to dispel myths regarding sexuality practices, together with assisting the elderly client to adjust to age related physiological changes.

Recognising that the elderly population is the largest growing segment of the population, it is important to continue and increase the education of health care professionals about sexuality in the elderly. The implications for education therefore rest with providing knowledge of sexuality in the elderly, free of bias based on attitudes when educating those entering the health care arena at university.

Clearly, educational intervention is required to facilitate informed practitioner services. If educators of health care professionals are able to transfer knowledge

without regard to personal attitude, elderly individuals have a greater chance of benefiting from open and honest exchanges.

Despite all evidence that sexuality in all its forms is essential to health and identity, society continues to make the aged sexually invisible. Some elderly individuals continue to suffer guilt for having sexual feelings or for acting sexually, and many aged internalise the misconception that they are asexual. Companionship, closeness, touch and intimacy are all forms of sexual expression. Those providing services to the elderly are able to assist the elderly client see this.

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Appendix A

Knowledge Regarding Sexuality in the Aged**Please circle your response**

- | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------|------|-------|------------|
| 1. Sexual activity in aged persons is often dangerous to their health. | True | False | Don't know |
| 2. Males over the age of 65 typically take longer to attain an erection of their penis than do younger males. | True | False | Don't know |
| 3. Males over the age of 65 usually experience a reduction in intensity of orgasm relative to younger males. | True | False | Don't know |
| 4. The firmness of erection in aged males is often less than that of younger persons. | True | False | Don't know |
| 5. The older female (65+ years of age) has reduced vaginal lubrication secretion relative to younger females. | True | False | Don't know |
| 6. The aged female takes longer to achieve adequate vaginal lubrication relative to younger females. | True | False | Don't know |
| 7. The older female may experience painful intercourse due to reduced elasticity of the vagina and reduced vaginal lubrication. | True | False | Don't know |
| 8. Sexuality is typically a life-long need. | True | False | Don't know |
| 9. Sexual behaviour in older people (65+) increases the risk of heart attack. | True | False | Don't know |
| 10. Most males over the age of 65 are unable to engage in sexual intercourse. | True | False | Don't know |
| 11. The relatively most sexually active younger people tend to become the relatively most sexually active older people. | True | False | Don't know |
| 12. There is evidence that sexual activity in older persons has beneficial physical effects on the participants. | True | False | Don't know |
| 13. Sexual activity may be psychologically beneficial to older persons. | True | False | Don't know |
| 14. Most older females are sexually unresponsive. | True | False | Don't know |
| 15. The sex urge typically increases with age in males over 65. | True | False | Don't know |
| 16. Prescription drugs may alter a person's sex drive. | True | False | Don't know |
| 17. Females after menopause, have a physiologically induced need for sexual activity. | True | False | Don't know |
| 18. Basically, changes with advanced age (65+) in sexuality involve a slowing of response time rather than a reduction of interest in sex. | True | False | Don't know |

→ **Please turn over the page to Question 19**

- | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------|------------|
| 19. Older males typically experience a reduced need to ejaculate and hence may maintain an erection of the penis for a longer time than younger males. | True | False | Don't know |
| 20. Older males and females cannot act as sex partners as both need younger partners for stimulation. | True | False | Don't know |
| 21. The most common determinant of the frequency of sexual activity in older couples is the interest or lack of interest of the husband in a sexual relationship with his wife. | True | False | Don't know |
| 22. Barbiturates, tranquillisers, and alcohol may lower the sexual arousal levels of aged persons and interfere with sexual responsiveness. | True | False | Don't know |
| 23. Sexual disinterest in aged persons may be a reflection of a psychological state of depression. | True | False | Don't know |
| 24. There is a decrease in frequency of sexual activity with older age in males. | True | False | Don't know |
| 25. There is a greater decrease in male sexuality with age than there is in female sexuality. | True | False | Don't know |
| 26. Heavy consumption of cigarettes may diminish sexual desire. | True | False | Don't know |
| 27. An important factor in the maintenance of sexual responsiveness in the aging male is the consistency of sexual activity throughout his life. | True | False | Don't know |
| 28. Fear of the inability to perform sexually may bring about an inability to perform sexually in older males. | True | False | Don't know |
| 29. The ending of sexual activity in old age is most likely and primarily due to social and psychological causes rather than biological and physical causes. | True | False | Don't know |
| 30. Excessive masturbation may bring about an early onset of mental confusion and dementia in the aged. | True | False | Don't know |
| 31. There is an inevitable loss of sexual satisfaction in post-menopausal women. | True | False | Don't know |
| 32. Secondary impotence (non physiologically caused) increases in males over the age of 60 relative to younger males. | True | False | Don't know |
| 33. Impotence in aged males may literally be effectively treated and cured in many instances. | True | False | Don't know |
| 34. In the absence of severe physical disability, males and females may maintain sexual interest and activity well into their 80's and 90's. | True | False | Don't know |
| 35. Masturbation in older males and females has beneficial effects on the maintenance of sexual responsiveness. | True | False | Don't know |

→ **Please turn the page to Question 36**

Please circle your response to these questions on this 7-point Likert scale (disagree =1, agree = 7)

36. Aged people have little interest in sexuality. disagree -----agree
1 2 3 4 5 6 7
37. An aged person who shows sexual interest brings disgrace to himself/herself. disagree -----agree
1 2 3 4 5 6 7
38. Institutions such as nursing homes ought not to encourage or support sexual activity of any sort in its residents. disagree -----agree
1 2 3 4 5 6 7
39. Male and female residents of nursing homes ought to live on separate floors or in separate wings of the nursing home. disagree -----agree
1 2 3 4 5 6 7
40. Nursing homes have no obligation to provide adequate privacy for residents who desire to be alone, either by themselves or as a couple. disagree -----agree
1 2 3 4 5 6 7
41. As one becomes older (say past 65) interest in sexuality inevitably disappears. disagree -----agree
1 2 3 4 5 6 7
42. If a relative of mine, living in a nursing home, was to have a sexual relationship with another resident I would complain to the management. disagree -----agree
1 2 3 4 5 6 7
43. If a relative of mine, living in a nursing home, was to have a sexual relationship with another resident I would move my relative from this institution. disagree -----agree
1 2 3 4 5 6 7
44. If a relative of mine, living in a nursing home, was to have a sexual relationship with another resident I would stay out of it as it is not my concern. disagree -----agree
1 2 3 4 5 6 7
45. If I knew a particular nursing home permitted and supported sexual activity in residents who desired such, I would not place a relative in that nursing home. disagree -----agree
1 2 3 4 5 6 7
46. It is immoral for older persons to engage in recreational sex. disagree -----agree
1 2 3 4 5 6 7
47. I would like to know more about the changes in sexual functioning in older years. disagree -----agree
1 2 3 4 5 6 7

→ Please turn over the page to Question 48

48. I feel I know all I need to know about sexuality in the aged.
- disagree ----- agree
1 2 3 4 5 6 7
49. I would complain to the management if I knew of sexual activity between any residents of a nursing home.
- disagree ----- agree
1 2 3 4 5 6 7
50. I would support sex education courses for aged residents of nursing homes.
- disagree ----- agree
1 2 3 4 5 6 7
51. I would support sex education courses for the staff of nursing homes.
- disagree ----- agree
1 2 3 4 5 6 7
52. Masturbation is an acceptable sexual activity for older males.
- disagree ----- agree
1 2 3 4 5 6 7
53. Masturbation is an acceptable sexual activity for older females.
- disagree ----- agree
1 2 3 4 5 6 7
54. Institutions such as nursing homes, ought to provide large enough beds for couples who desire to sleep together.
- disagree ----- agree
1 2 3 4 5 6 7
55. Staff of nursing homes ought to be trained or educated with regard to sexuality in the aged and/or disabled.
- disagree ----- agree
1 2 3 4 5 6 7
56. Residents of nursing homes ought not to engage in sexual activity of any sort.
- disagree ----- agree
1 2 3 4 5 6 7
57. Institutions such as nursing homes, ought to provide opportunities for the social interaction of men and women.
- disagree ----- agree
1 2 3 4 5 6 7
58. Masturbation is harmful and ought to be avoided.
- disagree ----- agree
1 2 3 4 5 6 7
59. Institutions such as nursing homes should provide privacy so as to allow residents to engage in sexual behaviour without fear of intrusion or observation.
- disagree ----- agree
1 2 3 4 5 6 7
60. If family members object to a widowed relative engaging in sexual relations with another resident of a nursing home, it is the obligation of the management and staff to make certain that such activity is prevented.
- disagree ----- agree
1 2 3 4 5 6 7

→ Please turn the page to Question 61

61. Sexual relations outside the context of marriage are always wrong.

disagree -----agree
 1 2 3 4 5 6 7

Please fill in your demographic details

Please circle your present country of residence

Australia New Zealand South Africa

Age (please circle the appropriate age range)

20-30 31-40 41-50 51-60 61+

Gender

Male Female

Health care profession
 (ie. Medical Doctor, Nurse, Physiotherapist, etc.)

Years of clinical experience

0-5 6-10 11-15 16-20 20+

Years of geriatric experience

0-5 6-10 11-15 16-20 20+

Years of teaching experience

0-5 6-10 11-15 16-20 20+

Highest degree obtained

Thank you for your participation

Please enclose the completed questionnaire in the reply-paid envelope for posting

Appendix B

25th June 1998

Professor *****
School of *****
University of *****
Address
TOWN STATE POSTCODE

Dear Professor *****

I am currently completing my Masters of Psychology (Clinical Geropsychology) at Edith Cowan University. I need volunteers to participate in a study for my thesis.

I am investigating attitudes and knowledge towards sexuality in the elderly among educators of health care professionals. I anticipate that my findings will have implications for the delivery of training programs regarding sexuality concerns for the aged.

What am I requesting from you? Your involvement would be minimal. It would include giving me permission to forward to your Department secretary copies of my questionnaire. I will provide a consent letter to your academic staff, and I will provide the stamped, reply paid envelope. What I am requesting, is that when I contact you within the next two weeks, you may give me an indication of how many questionnaires I need to forward on.

For your own interest, I have attached a copy of the consent letter, and the "Sexual Aging Knowledge and Attitudes Scale". Participation in the study will take approximately 10 minutes. If lecturers choose to participate, the completed questionnaire should be placed in the enclosed reply paid envelope, sealed and then posted as soon as possible. I would hope to receive responses within a fortnight of receipt of the questionnaire.

Participation is voluntary, and also anonymous. Neither the questionnaire nor the envelope have been previously coded. The data gathered from this study will be published but it will be presented as group data and in a form in which no person will be identifiable. By returning the completed or partially completed material, it will be assumed that both consent to participate, and to have responses published as group data in a report suitable for publication has been given.

Any questions or concerns related to the project entitled "Attitudes and Knowledge of Sexuality in the Elderly among Educators of Health Care Professionals" can be directed to myself at the School of Psychology, Edith Cowan University on, [REDACTED] or to my supervisor, Professor Ed Helmes, on [REDACTED] You are welcome to keep this letter for your future reference if you are interested in a copy of the results at a later stage.

I cannot emphasise enough how much I appreciate your assistance in this matter.

Yours sincerely

Joanne Chapman
School of Psychology
Edith Cowan University
email: [REDACTED]

Professor Ed Helmes
School of Psychology
Edith Cowan University
email: [REDACTED]
fax: [REDACTED]

Appendix C

Dear Lecturer

I am currently completing my Masters of Psychology (Clinical Geropsychology) at Edith Cowan University. I need volunteers to participate in a study for my thesis.

I am investigating attitudes and knowledge towards sexuality in the elderly among educators of health care professionals. I anticipate that my findings will have implications for the delivery of training programs regarding sexuality concerns for the aged.

Participation in the study will take approximately 10 minutes and you will be asked to complete the enclosed questionnaire. If you choose to participate, the completed questionnaire should be placed in the enclosed envelope, sealed and then returned to the School of Psychology, Edith Cowan University (Joondalup Campus) as soon as possible. I would hope to receive your responses within a fortnight of you receiving the questionnaire.

Your participation is voluntary, and you may leave any items blank if you prefer not to answer them.

Your participation is also anonymous. Neither the questionnaire nor the envelope have been previously coded. You are not required to give your name anywhere on the questionnaire. The data gathered from this study will be published but it will be presented as group data and in a form in which you will not be identifiable. By returning the completed or partially completed material, it will be assumed that you have given consent to participate and consent to have your responses published as group data in a report suitable for publication.

Any questions or concerns related to the project entitled "Attitudes and Knowledge of Sexuality in the Elderly among Educators of Health Care Professionals" can be directed to myself at the School of Psychology, Edith Cowan University on, [REDACTED] [REDACTED] or to my supervisor, Professor Ed Helmes, on [REDACTED]. You are welcome to keep this letter for your future reference if you are interested in a copy of the results at a later stage.

I cannot emphasise enough how much I appreciate your participation in my study.

Yours sincerely

Joanne Chapman
School of Psychology

Edith Cowan University
email: [REDACTED]

Professor Ed Helmes
School of Psychology

Edith Cowan University
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