Educating the isolated ageing: Improving the quality of life of the housebound elderly through educational teleconferencing

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Abstract

Educational programs for older people can equip them with knowledge and skills to help them maintain their independence. However, housebound frail elderly people are usually denied the opportunity to benefit from educational programs which might assist them to better manage their difficulties and improve their quality of life. This paper reports on a recent study with 18 relatively isolated, housebound, frail elderly people aged from 58 to 92 years old who took part in an eight week educational program by teleconference. The program content was designed to stimulate their thinking and provide practical information which might assist them to better cope with their situation. Although all participants suffered from one or more disabling illnesses, and the majority came from quite limited educational backgrounds, all remained committed to the program. Assessments indicated that quality of life improvements had taken place throughout the program suggesting the need for further trials of a similar nature with other groups of isolated ageing people.
The average age of the Australian population has risen steadily throughout the twentieth century. At present the 65 plus age group in Australia is about 11 per cent of the total population, but this is expected to increase sharply after the turn of the century to almost double its present proportion by the year 2031 (House of Representatives, 1992). Australia is not unique in this population characteristic. Many countries are currently facing similar demographic changes and the 'greying' of the population will almost inevitably result in changes in the planning and delivery of social services, including education.

Well developed educational programs can suggest solutions to, or provide ways of coping with, many of the problems which cluster round the realities of ageing. Older people who have the knowledge of a wide range of options in later life are more likely to be able to retain their independence and, consequently, minimise dependence on the public purse, than are those whose knowledge of options is limited. In commenting on the Carnegie Inquiry into the Third Age in the U.K. and the increasingly important role which education will play in the lives of growing numbers of older people, Schuller and Bostyn (1992: 384) observed that helping people to take control of their lives is one of the most effective ways of enabling them to avoid dependence and, therefore, of avoiding the huge social and economic costs of a passive Third Age.

Related to the issue of late life independence and its attendant financial advantages for society, is a growing body of research which appears to relate mental stimulation in later life with good health. A notable contribution to the intriguing link between intellectual challenge and sustained cognitive function in later life comes from 'Operation Retirement', the landmark 20-year longitudinal study of the effects of sustained programmes of cognitive challenge on older Australians. At the conclusion of the study, Harwood (1988: 8) observed that if independence in the older population could be maintained and people's mental function appropriately stimulated, significant economic benefits would accrue.

Other researchers have reported additional thought-provoking findings which appear to suggest that older people who engage in cognitively challenging activity live healthier and longer lives than those who do not. For example, Langer (1989) reviewed a number of studies in which the health and longevity of matched groups of cognitively challenged and cognitively unchallenged older people were compared. The studies showed that intellectually challenged older people lived longer than those who were not similarly challenged. Langer (1989: 147) and co-workers also found a significant relationship between mental stimulation and the number of T4 helper cells in the body's immune system. The results of her studies were sufficiently striking that Langer was moved to '... make the strong claim that the body begins to die as the mind ceases to deal with novelty' (p. 142).

Until quite recently little more than lip service had been given to the educational needs of those past their 'productive years' on the lifelong education continuum. However, during the last 20 years or so, a number of very successful education programs for older adults have emerged, some of the most successful of which are variations on the University of the Third Age (U3A) model (Swindell & Thompson, in press). In his analysis of the recent emergence of the Third Age, (Laslett 1989: 159-179) developed a persuasive argument for the empowering nature of self-help, late life education. Because experts of all kinds retire, Laslett sees educational programs which are
developed and taught by retirees for those in their Third Age as being the most appropriate model.

For fairly obvious reasons the great majority of late life educational programs are developed for the healthy ageing. However, educational programs could also benefit the frail ageing. Kendig (1986: 76) estimated that 17 per cent of the Australian population aged 65 or over have a disability which rendered them either incapable of self care or mobility outside the household. Of this group, some 70 per cent remained in home care which was far more cost-effective than institutional care. Therefore, in terms of financial as well as social justice considerations, it would make sound sense to investigate whether low cost educational programs could improve the quality of life of the housebound frail elderly.

Development of conventional face-to-face adult education programs for the housebound frail elderly would almost certainly be impractical and expensive. Special transportation would be required to convey participants to a central site and, in some cases, specialist medical support or equipment would have to be available. It is also likely that many frail elderly people would experience a sense of vulnerability about their health circumstances and personal appearance which could deter them from meeting face-to-face with total strangers in learning groups. However, most frail elderly people are comfortable with using the telephone, and simple modifications such as loudspeaker and 'hands-free' phones enable all but the most incapacitated to use this medium for outside contact. For these reasons, teleconferencing was chosen as the delivery medium for a series of educational programs designed to test the practicality of providing cognitive stimulation, practical information, and increased social interaction to a small group of housebound frail elderly.

Method

The principal aims of this study were:

- to identify characteristics of educational programs delivered by teleconference which might encourage participation by frail elderly people; and,

- to obtain quantitative and qualitative data about frail elderly participants' reactions to teleconferencing.

Substantial insights for the development of the present study came from a preliminary nine week educational teleconferencing study involving 20 frail elderly participants in limited care hostels (Swindell, James & Mann 1992: 1-10).

Sixteen female and two male frail elderly people who lived alone in their own homes in suburban Brisbane took part in an 8 week study to test the feasibility of using the telephone to deliver an educational program designed to enrich their quality of life. Participants were randomly chosen from a list provided by a caring agency, of 42 frail elderly people living in their own homes. Criteria for selection were that participants should live at home, receive some form of regular support from a caring agency, have a phone, be able to hear reasonably well, not be suffering from dementia and be able to read.
A research assistant with skills in gerontology and nursing the elderly was employed for the duration of the eight week program. The research assistant had prior understanding of teleconferencing procedures for frail elderly persons through involvement in the preliminary study (Swindell, James & Mann 1992: 1-10). Her role was to interact closely with participants throughout the program, monitor the teleconferences, and collect information relevant to the aims of the trial. Participants were visited before the start of the program, a quality of life questionnaire was developed and administered, a health assessment was performed, and the teleconferencing procedure was explained. Individual photographs were taken and copies of these were sent to everyone in the group as an aid to speaker identification during the teletutorials.

The eighteen participants were divided into three groups of six, each group taking part in one 50-60 minute teleconference per week, for 8 consecutive weeks. Teleconferences were managed by eight volunteer tutors from Brisbane U3A. The volunteer tutors had all taken part in a preliminary study with frail elderly people in limited care nursing homes and, as a consequence, were skilled in the mechanics of teleconferencing with the ageing. Tutors and participants remained in their own homes for each of the sessions. Group permission was obtained for two of the sessions to be audio taped for subsequent analysis, and for the research assistant to be a silent listener in all sessions. Educational content was varied substantially each week.

Weekly contact was maintained with participants throughout the program, either by phone calls, visits, or by mailing of information on forthcoming topics to be discussed during the teletutorial. Questionnaires and semi-structured interviews were used to elicit information on health status, support services used, levels of life satisfaction, and changes over the period of the program. At the beginning of the project, participants were asked to fill in a questionnaire which included questions about daily activities, social contacts, present state of health and support services utilised. A diary was kept by the research assistant with comments about phone calls, visits, and details of weekly participation. At the end of the project, the participants were asked to repeat a slightly modified version of the initial questionnaire and answer additional questions about the program.

**Results and Discussion**

**Participant Characteristics**

**Age:** The age range of participants varied from 58 to 92 years. The average age was 76.8 years.

**Health:** All 18 participants had one or more disabling health problems. For example, one person required the use of continuous oxygen, another was virtually immobilised due to a spinal problem, and the youngest person had a major physical handicap affecting gait and speech. Sixteen visited a medical practitioner at least fortnightly. Most were able to perform only light household duties; all were dependent on at least one social service. Comments from health care providers and relatives provided useful complementary data which helped to substantiate many of the qualitative observations made throughout the study.
A minority of participants were openly angry about their housebound situation. Others did not admit to being anxious or depressed, including those who were more severely housebound. Despite their disabling health problems many maintained a positive view of their health. When asked to rate their health on a 4 point scale, three rated their health as poor; seven as fair; seven as good; none excellent; and one person did not respond.

Social activities: The most common single weekly social contact for most participants was a visit to the local 'Day Care' centre. This was usually the only social outing for the week; one person attended a Day Centre twice weekly for physiotherapy, which was also her only outing. Five participants rarely left their home environment and did not attend any regular activities. These people occupied themselves by reading, watching TV or playing cards. The main reasons for not taking part in outside activities were their medical conditions and limited mobility. In addition, many expressed a lack of interest in the activities in the local area. One person rarely ventured out due to a fear of falling. Four of the nine who rarely went out socially except to Day Care, stated that they were content to stay at home.

Family support: Seventeen of the participants lived alone at home. Nine received regular visits from their family together with instrumental support. Four had no family support and few friends or neighbours to depend upon.

Education level: Nine participants had completed primary school; two had completed less than two years high school; two had completed high school and five had a certificate or tertiary qualification. Ten had never undertaken a voluntary course in the past (i.e. no continuing/adult education), while eight had completed a voluntary course. None had completed a course in the previous ten years.

The program

Program content variety. Results from the preliminary teleconferencing study showed that frail elderly participants with substantially different educational backgrounds quickly became bored with a program dealing with a recurring theme (Swindell, James and Mann 1992: 10). As a consequence, considerable program variety was introduced into the present study; each of the eight teleconferences dealt with a different topic rather than developing one or two themes in depth. Six of the topics were intended to stimulate memories and discussion; the remaining two (Nutrition and Health, and Medicare and Social Services) concentrated on providing instrumental information thought to be of potential value to housebound older people. Participants were asked to rate each of the sessions one week after the program had ended. Means and standard deviations of participant evaluations of the responses are summarised in Table 1.
Table 1. Participant rating of eight programs (10 point scale)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Presenter</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction and personal histories</td>
<td>T</td>
<td>8.1</td>
<td>2.0</td>
</tr>
<tr>
<td>Nutrition and health</td>
<td>G</td>
<td>7.6</td>
<td>2.0</td>
</tr>
<tr>
<td>Current affairs</td>
<td>T</td>
<td>8.8</td>
<td>1.3</td>
</tr>
<tr>
<td>Heroes and heroines of the war</td>
<td>T</td>
<td>7.4</td>
<td>1.2</td>
</tr>
<tr>
<td>Drama in the 50s and 60s</td>
<td>G</td>
<td>8.1</td>
<td>2.0</td>
</tr>
<tr>
<td>Australian society</td>
<td>T</td>
<td>8.1</td>
<td>1.3</td>
</tr>
<tr>
<td>Poetry from our youth</td>
<td>T</td>
<td>7.8</td>
<td>1.6</td>
</tr>
<tr>
<td>Medicare and Social Services</td>
<td>G</td>
<td>6.1</td>
<td>2.6</td>
</tr>
</tbody>
</table>

Note. The items G or T in the Presenter column indicates whether the program was presented by a guest speaker (G) with a U3A tutor introducing the speaker and managing the order and duration of discussion; or whether the entire program was conducted by the U3A tutor (T).

With the exception of 'Medicare and Social Services' all topics were well rated by participants. This particular session had been included to provide participants with details of innovations in the national health program and benefits for older people. The two guest telephone presenters came from a government department and their delivery tended to be somewhat stilted and lacked opportunities for participant interaction. This, coupled with their apparent unfamiliarity with working with the ageing may have been responsible for one participant having a sense of '...being talked down to', and the majority regarding the Medicare material as 'boring and irrelevant'. By comparison, the guest presenters in two other sessions were experienced in interacting with older people and related very well to the participants. Both had very relaxed delivery styles and they effectively balanced presenting information in short bursts followed by opportunities for the participants to discuss issues or raise questions. The 'Nutrition and Health' tutorial created considerable interest and resulted in six participants changing their diets. 'Drama in the 50s and 60s' was also rated very highly by all but one participant. Other topics which participants could relate to easily were 'Current affairs' and 'Changes in Australian Society'. Most participants commented very favourably on the types of program which allowed them to reminisce because they '...had something of interest for everyone'. Two of the topics, 'Heroes and Heroines' and 'Poetry from our Youth', were more obviously academic in nature. Both involved participants in some voluntary reading of mailed material before the telephone tutorial. These two sessions were also well rated by participants, although some with limited formal education experience appeared less comfortable with the idea of preparatory reading. Of note, however, was the fact that the only person who gave a 10 rating (the highest possible) to the 'Heroes and Heroines' tutorial, and the three who gave 10 ratings to the poetry tutorial, had completed only primary school. Limited educational backgrounds are frequently found amongst the old-old Australian population. This should not be construed as a lack of interest in continuing education; rather, it is likely to reflect their childhood conditions during the first few decades of this century when money was scarce and educational opportunities were very limited.

Outcomes
Participants' acceptance of teleconferencing

The majority of participants commented on the interesting range of topics and noted that if a topic 'looked boring on paper there was something good to follow'.

All participants remained with the eight week program. The participants were asked to rate 16 items about the teleconferencing trial on a five point scale (5 = most liked, 1 = least liked). Means and standard deviations for the 16 items are shown in Table 2.

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liked listening to others in the group</td>
<td>4.7</td>
<td>0.46</td>
</tr>
<tr>
<td>Like to talk about many things</td>
<td>4.3</td>
<td>0.77</td>
</tr>
<tr>
<td>Enjoyed answering tutors' questions</td>
<td>4.3</td>
<td>0.84</td>
</tr>
<tr>
<td>Questions challenged me to think</td>
<td>4.1</td>
<td>0.80</td>
</tr>
<tr>
<td>Found teleconferencing to be interesting</td>
<td>4.1</td>
<td>0.42</td>
</tr>
<tr>
<td>Like being challenged to think</td>
<td>3.9</td>
<td>1.03</td>
</tr>
<tr>
<td>Would enjoy other educational challenges</td>
<td>3.7</td>
<td>0.69</td>
</tr>
<tr>
<td>Found teleconferencing to be valuable</td>
<td>3.6</td>
<td>0.93</td>
</tr>
<tr>
<td>Found most of the 8 programs interesting</td>
<td>3.6</td>
<td>0.86</td>
</tr>
<tr>
<td>Challenged me to think about other things</td>
<td>3.5</td>
<td>0.72</td>
</tr>
<tr>
<td>Spoke to others not involved, about</td>
<td>3.4</td>
<td>0.92</td>
</tr>
<tr>
<td>teleconferencing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have a lot to do in daily life</td>
<td>3.3</td>
<td>1.19</td>
</tr>
<tr>
<td>Liked to have heard tutors talk more</td>
<td>3.2</td>
<td>0.54</td>
</tr>
<tr>
<td>8 week program is about right length</td>
<td>3.1</td>
<td>0.42</td>
</tr>
<tr>
<td>Morning/afternoon tea talks interesting</td>
<td>3.0</td>
<td>0.73</td>
</tr>
<tr>
<td>Program once a week is about right</td>
<td>3.0</td>
<td>0.00</td>
</tr>
</tbody>
</table>

The three highest ranked items point to participants' strong preference for social interaction during the teleconferences. This would appear to indicate that similar trials should focus as much on the socialising capabilities of teleconferencing as on the message itself. For this study sessions involving the transmission of information were generally limited to 4-5 minute segments followed by participants' brief responses.

Quantitative and qualitative changes in health status and informal and formal support services utilised during the study were also assessed. No significant differences were obtained from a number of protected t-tests run on before/after responses to selected items from the mental/social/health questionnaire. If, indeed, programs of this nature are associated with measurable changes in health status, a longer intervention may be necessary.

a) The following positive social outcomes were observed.
• Social networks, relationships and health are regarded by older people as the three most important considerations in their quality of life (Ferris and Bramston 1994: 122). For the frail elderly opportunities for socialising and developing relationships are severely curtailed. However, informal social networks were established by a number of group members who telephoned each other independently of the program. One person visited another living nearby.

• Short term behavioural changes were detected through some participants suggesting that the program appeared to be having a beneficial effect on how they felt. For example, one incapacitated housebound person volunteered the statement '...I feel that it (the program) is doing me good'. This view was reinforced by a health care worker at the local Day Care Centre who stated that the participant had developed a more positive and optimistic outlook during the project. Another participant, who suffered from a painful arthritic condition which severely limited her mobility, stated that before one session she felt '...awful and depressed...I felt it (the teleconference) stirred me up - I feel mentally stimulated'. Other housebound participants also discussed feelings of upliftment directly after teleconference sessions. Relatives and health care providers reported having animated discussions with participants about various topics covered in the program. Content analysis of recorded sessions taken early and late in the program revealed improvements in participants' self confidence and self expression had taken place.

• The severely physically handicapped male participant displayed great enthusiasm throughout the program; a fact remarked on by the co-ordinator of one of the Day Care centres. He suffered from a disease which resulted in a severe speech impairment which made understanding difficult, particularly over the telephone. Despite this impediment, the group dynamics remained sound. Members of his group were frequently monitored to determine their reactions. Comments such as:

'... he's a battler, difficult to understand, and labours a lot';
'... he has his say and does his best'; and
'... he was quite good (this week), he didn't get off the track'

point to a tolerant attitude by members of a group towards others with difficulties worse than their own.

• Thirteen participants stated they would like to take part in other educational trials if the opportunity arose.

• Six participants changed their diet after taking part in the discussion on nutrition. (This dietary change persisted for the duration of the study.)

• During the sessions memories were stimulated. Feedback after the programs showed that a number of participants had had old memories triggered, remembering places, names and events long since forgotten. New ideas were exchanged and people had many opportunities to express themselves.

• Of a possible total of 144 participant hours, only six participant hours were missed through illness or other commitment. Most participants would have liked the program to continue. These results contrast with those from the preliminary study during which a fifty per cent attrition occurred. Program variety is believed to have
been the single most important contributing factor to the success of this study compared with the preliminary one.

b) The following positive economic outcomes were identified.

Teleconferencing is an inexpensive support medium for the frail aged when compared with conventional support programs. The 1994 commercial rate in Australia for local teleconferences is about $10 per person per hour. In this study each session involved 6 participants, one or two tutors, and the silent evaluator for a total hourly cost of less than $100. Course preparation and presentation costs, if they had to be paid for, would increase the cost of each teletutorial by a similar amount. The total cost of less than $200 per hour for a fully costed program would be considerably cheaper than face-to-face support by a paid specialist travelling to each of the six participant's homes. In addition teleconferencing provides an opportunity for increased social interaction, which would not be available from programs of individual, face-to-face support.

The potential cost advantages of providing expert support by teleconference becomes even more impressive if the costing is estimated on a State-wide level. The population of the State of Queensland is some 3 million people scattered over an area about 5 times the area of Great Britain. Many older Queenslanders live great distances from population centres large enough to provide the levels of expert support frequently required by the ageing. Intra-state teleconferences cost $26 per person per hour regardless of a participant's location. If paid expert support over the telephone is costed at $100 an hour, a 60 minute teleconference involving 6 frail elderly people from isolated areas of rural Queensland with a city based expert would cost less than $50 per person hour.

Conclusion

Laslett's (1989: 172) idea of harnessing the talents of the rapidly growing Third Age population for the benefit of the ageing population is worthy of serious consideration by practitioners concerned with supporting the frail ageing. Teleconferencing appears to have considerable potential for enriching the lives of the frail ageing and providing them with levels of educational and informational assistance which may not otherwise be available. The growing numbers of healthy ageing people in society would likely provide a large pool of qualified, interested people who would be very happy to assist with this task, with or without payment. There was no difficulty in obtaining volunteers from U3A Brisbane to undertake a variety of major tasks throughout our studies. The eight U3A teletutors were involved for more than a year in planning and training, and in the preparation and delivery of the programs. This protracted commitment was not seen by them to be an impost on their time; rather it was regarded as an opportunity for their own personal growth as well as for assisting others.

This study has demonstrated that it may be possible to enrich the quality of life of small groups of housebound frail elderly people through well designed educational programs delivered by telephone. However, it is possible that some of the gains observed throughout the program may not have been attributable solely to the educational activities. Increased face-to-face contact throughout the program, and the novelty of the trial itself, are likely to have influenced participant responses.
Despite these potentially confounding influences, the results were sufficiently encouraging to suggest that further trials of this nature are warranted, particularly for frail elderly people living in isolated rural communities. Educational programs delivered by teleconference, which deal with a variety of coping subjects like diet, exercise, alternative medicines, managing stress and so forth, may well lead to measurable health improvements. Institutional care is costed at more than $20,000 per person per year. If educational programs for those nearing the end of the lifelong education continuum are successful in helping them to retain their independence for just a little longer, the financial savings to the community will be considerable. Similarly, programs which are directed towards improving participants' quality of life through intellectual stimulation and discussion may have psycho-social benefits. The advantages to such individuals, in terms of increased self-esteem and dignity, cannot be judged in financial terms alone.
References


