

PERCEIVED HEALTH PROBLEMS IN ELDERLY RESIDENTS OF JORDAN

ABSTRACT. Jordan is typical of many developing countries in that the improving health services have significantly reduced child and infant mortality. A high fertility rate coupled with this reduction in mortality has increased the numbers of those living to adulthood and into old age. This paper identifies, in broad terms, areas where service delivery might be considered for implementation thereby improving the well-being in the elderly person. 965 residents of Jordan 55 to 95 years of age were sampled from Amman, Irbid and the surrounding suburbs. All subjects were designated, from a medical examination, as having or not having a chronic illness. Student's t-test comparing the Jordan subjects' mean scores on the six dimensions of the NHP with previously reported data suggested that although the instrument was faithfully translated there might exist significant cultural differences. Similarly, differences between males and females suggested a possible gender bias in the interpretation of the items. All chronically ill subject groupings had higher (poorer) mean scores on all dimensions. Healthy elderly males and females have a better perceived well-being than their chronically ill counterparts.

KEY WORDS: Health care, Quality of life

INTRODUCTION

Quality of life is an important consideration in health care decisions involving elderly persons and can provide a clinical outcome measure of health care (Pearlman and Uhlmann 1988). There has been considerable interest in formulating measures of health status and quality of life based upon self-reported data (for example, Belloc, Breslow and Hochstim 1971; Hessler, New, Kubish and Elison 1971; Hunt, McKenna and McEwen 1980; Lawton and Cohen 1974; Maddox 1964; McDowell, Martini and Waugh 1978; Reker and Wong 1984; Reker, Peacock and Wong 1987). These and other studies have provided evidence of the reliability of self-assessed health status as an important component of perceived quality of life.

Studies examining relationships between perceived health status and psychosocial variables have yielded multivariate associations (Chen 1987; Levkoff, Cleary and Wetle 1987; Mullins, Sheppard and Andersson 1988; Mullins, Tucker, Longino and Marshall 1989; Wan 1976; Willits and Crider 1988). Mullins et al. (1989), in a study of Canadians who seasonally reside in Florida, showed that while they were in generally good health more than a fifth said that they were lonely and that these subjects were younger, female, and in poorer perceived physical health than the remainder of the sample. Mullins, Sheppard, and Andersson (1988), in an earlier study of Swedish elderly, showed that loneliness was associated with being older, alone, and having poor self-reported health. Despite the reported

differential in age between these two samples the essential feature for the present study is the association of loneliness and perceived poor health despite the subjects being medically found in good health. A strong association between perceived poor health and depressive symptoms was also found among the aged (Levkoff, Cleary and Wetle 1987).

Willits and Crider (1988) using data obtained from a mail survey of 1,650 persons 50 to 55 years of age found, for this relatively young sample, little evidence to suggest that the relationship of health to expressed well-being varied by gender, education, marital status, income, number of relatives and friends in the area, or frequency of leisure involvement.

In a cross-cultural investigation of perceived health problems in the elderly, Mitchell, Imperial, Zhou, Lu, Watts, Kelleher, Bruncker, Gass, Cue, and Cross (1992) reported that a small ($n = 25$) sample of Mainland Chinese had perceived problems with energy, emotional reactions, social isolation, and physical mobility. These problems were identified when the Chinese were compared with a Western 'Fit Elderly' sample (Hunt, Mckenna and McEwen 1987). Elderly Australian and Mainland Chinese were all identified by Mitchell et al. (1992) as having problems associated with sleep.

Jordan has established a comprehensive health care delivery system, serving both urban and rural communities. As of 1992 the Jordan Department of Statistics placed the population at 3.6 million and estimated that by the year 2010 this population will almost double to 6.4 million. This projected increase in population is attributed to several factors, these being: high immigration of Arab nationals from surrounding Arab states, the return from overseas of large numbers of Jordanian nationals, and decline in infant and child mortality.

With the projected increases in surviving young, the health services in Jordan have had, as their primary focus, maternal and child health. Only 3% of the present population are elderly. However, the high fertility rate of 5.5 coupled with the lower mortality rates in the young means that many in the population will survive into old age.

To date there have been few studies conducted in Jordan on the health status of the elderly. This project was designed to obtain data that would suggest to authorities the extent to which residents of Jordan 55 years of age and over have perceived health problems. While these statistics are derived from Jordan, they parallel data reported from other developing nations. The findings of this study may suggest, in broad terms, areas where service delivery might be considered for implementation to meet the needs of the projected population increase at the upper end of the age spectrum.

METHOD

A total of 965 persons with a mean age of 65.6 years (standard deviation = 7.00 years) and a range of 55 to 95 years of age were surveyed. All subjects were sampled from metropolitan Amman, Irbid, and the surrounding suburbs. Commu-

nities were advised verbally (by community nursing sisters) and by posters, that volunteers were required to participate in a major international study on aging. Recruitment commenced five weeks before the first interviews. Volunteers were requested to attend their local health clinic on specific dates if they wished to participate. To attract participants and increase the response rate all participants were told that they would be given a full medical examination/check-up free of charge. The data from these medical examinations were to be used in another study. However, findings from these examinations were used in the present study to classify subjects as either healthy or chronically ill, i.e., having a disease or disability for longer than three months.

Data were collected at the local health clinics by staff and senior students from the Faculties of Nursing in The University of Jordan and The Jordan University of Science and Technology. All participating investigators were trained in the interviewing, coding and recoding skills required to collect the data from each subject. This training was carried out by VN in two half day workshops.

All subjects were administered the Nottingham Health Profile (NHP). The manual accompanying the NHP states that this instrument is appropriate for use in a variety of ways including providing '...an outcome measure for group comparisons' and 'As a survey tool with specified groups, e.g., the elderly...' (Hunt, McKenna and McEwen 1987). The NHP consists of 38 statements each requiring a yes/no response. Each response is weighted and categorized into one of six dimensions which describe the typical effects of ill health. The six dimensions measured are physical mobility (PM), pain (P), sleep (S), energy (E), emotional reactions (ER), and social isolation (SI). Reliability coefficients for each of the sub-scales are reported as lying between 0.77 and 0.85 (Hunt, McKenna and McEwen 1987). A high score on any dimension suggests a poor score and that the respondent perceives that they are having problems in that dimension.

The NHP was translated into Arabic by VN and independently back-translated to English in order to evaluate the accuracy of the translation in literal terms as well as in interpretation. The translation appeared to be an honest and interpretable rendition of the instrument.

All data were coded and entered onto an IBM compatible 386SX personal computer. Analyses were carried out using the SPSSPC package.

RESULTS

Of the 965 subjects 452 (46.8%) were male and 513 (53.2%) were female. The total mean scores and mean scores for males and females on each of the dimensions of the NHP and for age are given in Table I. Also presented in this table are the means reported by Hunt, McKenna and McEwen (1987) and Hunt, McKenna, McEwen, Backett, Williams and Papp (1980) for 'fit elderly' and 'chronically ill elderly'. These mean scores for males and females were compared using student's t-test for two independent groups. The obtained values of t and their significance are reported in Table I.

Table I. Means and standard deviations on each of the NHP dimensions and age total group, males and females and means from Hunt et al. (1987), t-ratios from Student's t-test comparing males and females

| | Total group | Hunt fit | Hunt ill | Males | Females | t-ratios |
|-----|-------------|----------|----------|------------|------------|----------|
| Age | 54.6 ± 7.0 | | | 65.6 ± 6.5 | 65.6 ± 7.4 | ns |
| TE | 45.9 ± 6.2 | 4.1 | 38.0 | 40.4 ± 6.1 | 50.7 ± 6.2 | 26.08* |
| TP | 39.3 ± 5.6 | 1.1 | 29.2 | 34.9 ± 5.6 | 43.2 ± 5.6 | 23.01* |
| TER | 41.9 ± 5.1 | 3.3 | 15.1 | 38.9 ± 5.1 | 44.6 ± 5.1 | 17.41* |
| TSL | 36.0 ± 5.2 | 0.7 | 32.1 | 34.3 ± 5.0 | 37.5 ± 5.2 | 9.63* |
| TSO | 23.5 ± 5.3 | 1.3 | 12.8 | 20.4 ± 5.0 | 26.2 ± 5.3 | 17.34* |
| TPM | 32.5 ± 4.9 | 1.9 | 29.2 | 30.6 ± 4.9 | 34.1 ± 4.8 | 11.11* |

TE: total energy; TP: total pain; TER: total emotional reactions; TSL: total sleep; TSO: total social isolation; TPM: total physical mobility

Note: A high mean score on any NHP dimension indicates a less favorable self-perception
* $p < 0.001$.

Comparison between the total groups' scores on the NHP dimensions were made with the means reported by Hunt et al. (1980) and Hunt, McKenna and McEwen (1987). In these studies the NHP was validated using 49 subjects who attended a luncheon club conducted by the social services and 40 males who were participating in a physical exercise program. These subjects were designated as 'fit' elderly. A total of 73 subjects were also sampled from general practices in the United Kingdom and were designated as 'ill' elderly. The mean age for the fit group was 72 years (range 63 and 93) and for the ill group 72 years (range 60 to 78). Comparisons were carried out using a single sample t-test with the Hunt means employed as the 'population means'. Hunt, McKenna and McEwen (1987) do not report standard deviations for these means thus it proved necessary to estimate standard errors from the Jordan data. While no values for the results of these tests are reported in Table I, the smallest value obtained for the t-ratio was 46.3 ($p < 0.0001$) for the comparison between the Jordan sample and the 'chronically ill elderly' on the dimension physical mobility. While we were confident of the accuracy of the translated scale these extremely large differences suggested that cultural interpretation of the concepts may well have influenced the overall scores.

In an attempt to compensate for possible cultural and sexual bias in the instrument, scores were analysed for all healthy male (61 subjects) and female (76 subjects) Jordanians 55 years of age and over. These scores were then used to provide the means for comparison between healthy and non-healthy subjects. The means and standard deviations from these analyses are given in Table II. The t-ratios comparing the means for healthy males with the means of healthy females and the means of ill/disabled males with those of ill/disabled females are also given in Table II. Table III presents the t-ratios for the comparisons between healthy and ill/disabled subjects. Males and females are presented separately.

Table II. Mean and standard deviations for age and the six NHP dimensions healthy and ill Jordanian males and females. Values from Student's t-test comparing males and females within health strata

| | Healthy males | Healthy females | t-ratios | Ill males | Ill females | t-ratios |
|-----|---------------|-----------------|----------|-------------|-------------|----------|
| N | 61 | 76 | | 391 | 443 | |
| Age | 63.9 ± 4.44 | 64.6 ± 7.39 | 0.52 | 65.9 ± 6.74 | 65.8 ± 7.41 | 0.89 |
| TE | 25.9 ± 5.58 | 29.5 ± 5.87 | 3.65* | 42.7 ± 6.12 | 54.1 ± 6.13 | 26.8* |
| TP | 15.9 ± 4.44 | 26.7 ± 5.34 | 12.67* | 37.8 ± 5.63 | 45.9 ± 5.55 | 20.9* |
| TER | 27.6 ± 4.79 | 36.4 ± 5.02 | 10.41* | 40.7 ± 5.09 | 45.9 ± 5.06 | 14.8* |
| TSL | 24.6 ± 4.52 | 28.7 ± 4.89 | 5.04* | 35.8 ± 5.08 | 38.9 ± 5.26 | 8.6* |
| TSO | 14.8 ± 4.39 | 21.4 ± 4.94 | 8.16* | 21.2 ± 5.10 | 26.9 ± 5.36 | 15.7* |
| TPM | 17.4 ± 4.11 | 21.1 ± 4.57 | 4.92* | 32.7 ± 4.97 | 36.2 ± 4.79 | 10.3* |

TE: total energy; TP: total pain; TER: total emotional reactions; TSL: total sleep; TSO: total social isolation; TPM: total physical mobility

Note: A high mean score on any NHP dimension indicates a less favorable self-perception
* $p < 0.01$.

Table III. T-values from Student's t-test for comparisons between healthy and ill males and healthy and ill females

| Variable | Males v Males | Females v Females |
|----------|---------------|-------------------|
| Age | 2.24* | 1.30 |
| TE | 20.2** | 32.5** |
| TP | 29.0** | 28.0** |
| TER | 18.8** | 15.1** |
| TSL | 16.2** | 15.8** |
| TSO | 9.3** | 8.4** |
| TPM | 22.8** | 25.6** |

* $p < 0.05$; ** $p < 0.001$.

DISCUSSION

The sample of elderly Jordanians employed in this study obtained significantly higher (poorer) scores on all six dimensions of the NHP than either the fit or the chronically ill elderly reported by Hunt et al. (1980) and Hunt, McKenna and McEwen (1987).

Differences identified between the elderly Jordanians and Western subjects may be explained in terms of a cultural bias in the NHP. For example, it can be argued that the following items contain English colloquial language: 'Things are getting me down' (translated as 'I am always depressed'), 'I'm feeling on edge' (translated as 'I am always very nervous'), 'The days seem to drag' (translated as 'I have very little to do during the day'), 'I feel that I am a burden to people' (translated as 'People have to do a lot for me'). The translations to Arabic became

quite literal and do not necessarily reflect the nuances of the colloquial English. To further support the presence of bias in the translation of the NHP an earlier study in China yielded the following. 'Things are getting me down' (translated as 'Things make me feel frustrated'), 'I'm feelings on edge' (translated as 'I feel irritated'), 'I have pain at night' (translated as 'I feel painful every night'); and, 'I wake up feeling depressed' (translated as 'I feel sad when I wake up'). Mitchell et al. (1992) suggest that the NHP may be culturally unbiased, but they also suggest that some of the concepts in the NHP may be interpreted quite differently in different cultural settings.

Hunt, McEwen and McKenna (1984) employed a sample of men and women drawn from an age-sex register in a medical group practice near Nottingham and partitioned this sample into five year age groups. For all age groups 55 years of age and over these authors reported significant differences ($p < 0.01$) between males and females on all of the NHP dimensions. On all of the dimensions females had higher (poorer) mean scores than males.

Notwithstanding the possibility of cultural bias in the NHP, the analyses presented in Table I revealed some unexpected differences between elderly Jordanian men and women. Women differed from men on all six NHP dimensions, and the magnitude of these differences ranged from 3.2 to 10.3. These differences, i.e., women having poorer scores than men on all dimensions, cannot be accounted for by age differences as the two groups did not differ significantly on this variable. These findings are very similar to those reported by Hunt, McEwen and McKenna (1984).

A more realistic picture emerges when the healthy subjects alone are compared. Healthy and ill males and females did not differ significantly in age, but there were significant differences on all of the NHP variables. These large differences (Table II) between males and females, within the same health status, may be due to genuine differences between males and females. Explanations of these sex differences in perceived health can be attributed to a number of possibilities. First, these differences may reflect actual differences in health status which are consequences of biological and social factors. Second, the differences may reflect a tendency for males and females to report health problems and distress differentially. Finally, the sex differences in perceived health may reflect a differential awareness in the socioemotional sphere. To further compound this situation sex differences in perceived health may be a combination of two or more of the above three possible explanations. Irrespective of the reasons for these differences, the comparisons in Table II indicate that there are differences between Jordanian men and women in their perceived health.

Given the above and previously identified differences in perceived health between men and women the researchers considered that it would be more productive to make comparisons between healthy and chronically ill persons within the same gender. Restricting comparisons to same sex means does not eliminate possible gender or cultural bias. Controlling for gender in this fashion and

restricting comparisons to those between Jordanian subjects should control for any possible cultural or sexual bias in the instrument. The means for all males and females stratified by health status are given in Table II and the t-ratios obtained from comparing same sex mean scores are given in Table III.

As would be expected, those subjects identified as having a chronic illness were significantly different from their healthy gender counterparts on all of the NHP dimensions. Healthy males were significantly ($p < 0.05$) younger than their ill countrymen whereas there was no difference on age between healthy and chronically ill females. The chronically ill, whether male or female, had higher (poorer) mean scores on all of the NHP dimensions than their healthy counterparts.

Differences within the male stratum may be due to a significant difference in age, i.e., the chronically ill males were older than the healthy males. Controlling for this difference, using age as a covariate on analyses of mean scores between healthy and ill males, only marginally reduced the observed values of t, the significance levels did not change. Age differences did not exist between the female strata, so that differences between healthy and chronically ill females cannot be attributed to differences in age.

The modern researcher, employing human subjects in a survey design, is ethically required to employ volunteers. Potential subjects are required to give full, free, and informed consent prior to their participation in a study such as that being presented in this report. Despite any incentive to participate, such as a free medical examination, potential subjects either fail to participate or can and do withdraw during the course of the study. The present study applied these ethical considerations and consequently it must be recognised that the sample does not constitute a random sample. It proved impossible to estimate a refusal rate for the target population. There were no withdrawals from among the volunteer subjects. Despite the limitation in the sampling it is considered that differences within the sexes reflect real differences in the population.

It is likely, on the basis of this and previous studies (Mitchell et al. 1992), that when the NHP is translated, albeit faithfully, from English that there is a cultural bias in the interpretation of the various concepts reflected in the various items. We also support the earlier findings of Hunt, McEwen and McKenna (1984) that the NHP measures of perceived health do yield significant differences between males and females from identical cultural and ethnic groups. Despite the reasons for these differences, the NHP does significantly discriminate between the healthy and ill within the same ethnic/cultural grouping when gender is controlled.

This study provides normative data for the Nottingham Health Profile when translated into Arabic and administered to a sample of Jordanian persons 55 years of age and over. The means and standard deviations for healthy (i.e., not ill) and ill males and females are presented and clearly indicate that ill subjects, irrespective of gender, have higher (poorer) scores on all dimensions of the scale.

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