

A STUDY OF THE RELATIONSHIP BETWEEN QUALITY OF LIFE, HEALTH AND SELF-ESTEEM

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ABSTRACT

In this study, 757 participants reported data on quality of life (QOL), health and self-esteem. Findings indicated that older people experienced higher QOL than people in other age groups. Variables contributing to higher QOL include having good relationships with their partner, with their children, and God. Caring for others, or carrying a disability or illness diminished QOL scores. High positive self esteem scores were important in overall indices of QOL. High positive self esteem and an absence of negative self esteem were substantial contributors to the 'happiness' dimension of QOL. Having a good sex life, or not having sex was more important than having poor sexual relationships. QOL has been an important concern for nurses in terms of the relationship between individual health and QOL, but there is a need to broaden the perspective from which QOL is viewed.

INTRODUCTION

The World Health Organisation (WHO), in its most recent assessment of the health of nations, has presented a compelling argument that the numbers of nurses, doctors, hospital beds, total health expenditure, medical care, and public spending on health have a negligible effect on health outcomes (WHO 2000).

For all their achievements and good intentions, health systems have failed globally to narrow the health divide between rich and poor. In fact, the gap is actually widening. (WHO 2000 p.5)

... evidence seems to show that health systems make little or no difference ... there is little independent connection with inputs such as doctors or hospital beds, with total health expenditure, with expenditure only on conditions amenable to medical care, or with public spending on health ... health system expenditure often seems to make little difference even in poor countries ... (WHO 2000 p.9)

Health systems and more specifically health care systems, it seems, are not contributing significantly to increasing life expectancy or to reducing the burden of disease when measured across populations. Nurses must consider that, as part of this system, they also are not contributing to the improvement of population health according to these measures.

While it appears to be highly counter-intuitive that health care systems do not have much to do with health it is simply because poverty remains the single greatest cause of ill-health, and affluence the single greatest remedy both between nations and within nations. The very presence of a highly trained nursing workforce is simply an indicator of the level of affluence of a society. Nurses know, however, that whether they are working in a third world primary health care context or incorporated into a

commodified, multi-national health care industry, they are working to improve QOL through 'value-adding' to the human capital of society (Kermode, Emmanuel and Brown 1994). Indeed, the Australian Health Ministers' Forum (HMF) (1994) seemed to recognise this phenomenon in stating that the proper focus of population health ought to include not just '...adding years to life' but also '...adding life to years' (HMF 1994, p.6).

The issue of QOL has probably become the most important role of nursing, particularly in affluent societies, where life expectancy has risen, and the burden of disease has fallen due to social, political and economic causes, and not through any contribution of health care systems (Eyer 1984; Navarro 1984; WHO 2000). QOL is reflected in what it feels like to exist in a society at any point in time. It reflects a wide range of experiences, of which health is merely one. Nurses contribute to QOL in many ways - not all of them are what might be called mainstream health care.

From the earliest times human beings have striven to create a better society inhabited by better human beings (Nash, Kazamias and Perkinson 1965). Campbell (1981) suggested that the term 'quality of life' emerged during the period between the end of World War II and the Johnson 'Great Society Program'. Quality of life (QOL) was deemed to have been synonymous with the 'good life' and with well-being. However, what constitutes the 'good life' and what are the criteria by which QOL can be measured have always been problematic. The present consensus is that 'QOL' ought to be regarded as a multi-dimensional construct (eg Ferrell, Wisdom and Wenzel 1989; Goodinson and Singleton 1989; Ferrans and Powers 1992).

This multidimensional nature of QOL has been manifested in a variety of ways. Flanagan (1978), for example, listed 15 aspects of the QOL in five major categories, ranging from physical and material well-being to quality of personal development and recreation. Ware (1984) identified five dimensions. Ryff and her colleagues at the University of Wisconsin-Madison (eg Ryff 1989; Ryff and Essex 1992; Ryff, Essex and Schmutte 1994) have utilised six dimensions of well-being including autonomy, environmental mastery, personal growth, positive relations with other, purpose in life and self acceptance. The National Wellness Institute in Wisconsin has developed computerised versions of their Wellness Inventory (1993) that has 10 dimensions ranging from spirituality, emotional management, occupational and intellectual wellness through to physical fitness and nutrition. Conill, Verger and Salamera (1990) argue that the notion 'quality of life' is based on function and satisfaction with function - physical function, somatic discomfort, mental health and economic status. Others (eg Aaronson 1988; 1993) have argued that QOL is a concern with happiness or satisfaction. Ferrans and Powers (1992) argue cogently that satisfaction may be a more appropriate term than happiness because it suggests cognitive appraisal and

evaluation that has a greater degree of permanence than happiness (eg Goodinson and Singleton 1989).

Government agencies have also used QOL measures to develop and implement policy. The QOL approach, for instance, has been used to develop standards and outcomes of quality of care of aged people (eg Bortner and Hultsch 1970; Commonwealth Department of Community Services and Health 1987; 1988); as an index in the context of treatment selection and therapeutic approaches (Goodinson and Singleton 1989); to assist in the evaluation of the quality of nursing care (Ferrans and Powers 1985; Hatz and Powers 1980); and of health services and subsequent client satisfaction (Bryne and MacLean 1997; Davis 1991).

It has also been proposed that people who act as carers would tend to have higher levels of chronic stress (named 'strain' in this study) and those who feel they are making a contribution (high 'useful' scale scores) would tend to have a higher QOL. The individual subscales related to these constructs typically show high levels of internal consistency ($\alpha=0.86, 0.79$ - 'useful', and $0.89, 0.84$ - 'strain', $n=378, 837$); (Lo 1996 and MacLean 1990 respectively). The issue of caring is, of course, a central concern to nurses. Caring, while having the potential to provide satisfaction and fulfillment to those doing the caring, also has the potential to create stress and even burnout. It is a reasonable proposition, therefore, when examining the relationships between health, self-esteem and QOL, to also examine the mediating relationship of being a carer on QOL. By examining this relationship in lay carers in the community, nurses may gain some insights not only into the complex issues affecting the QOL of their patients, but also of the potential risks to themselves as professional carers.

Ferrans and Powers (1992, p.29) define QOL as '...a person's sense of well-being that stems from satisfaction or dissatisfaction with the areas of life that are important to him/her.' This research study used the Ferrans and Powers Quality of Life Index (QLI 1985), as a general measure of QOL. The authors of this paper chose the QLI to help answer a number of questions:

- Does QOL vary over the lifespan?
- Does it vary according to marital status or gender?
- Does it vary according to socio-economic status?
- Does it vary according to health status?
- Does having to care for somebody with an illness and/or a disability affect QOL?
- How are self-esteem and health related to QOL?

Hypotheses

On the basis of previous findings, and the concerns of the investigators to examine the relationship between QOL, health and self-esteem, this study sought to test the hypotheses, that:

1. Self-esteem is positively correlated with QOL;
2. Chronic and transient stress, as indicators of general health, are negatively correlated with QOL;
3. Having a disability, carrying an illness or caring for someone within the family correlates negatively with QOL;
4. Good important relationships, including marriage, are positively correlated with QOL.

METHODS AND PROCEDURES

This study was undertaken using a cross-sectional survey design, with questionnaire data collection methods from a non-probability sample. The Human Research Ethics Committee of Southern Cross University gave ethical approval for this study. Health psychology students as part of their studies were asked to recruit six to 10 people each for participation in the study within three broad age groups - those aged less than 40 years, those aged 40 to 65 years, and those aged over 65 years. This resulted in a total sample of 757 obtained from a wide range of people, mainly resident in NSW. Respondents were asked to complete biographical data that included requests for information on marital, employment, and health status. Participants were asked to indicate size of family still living at home and whether or not they were responsible for the care of a sick, or elderly person within the family.

Each participant also provided data on health, self-esteem and QOL on three separate psychometric instruments. In addition to the Ferrans and Powers (1985) QOL Index, respondents were asked to complete the Rosenberg (1965; 1979) Self Esteem Inventory. This scale is a measure of global self esteem, that according to Rosenberg and his associates is more relevant to self esteem (Rosenberg, Schooler, Schoenbach and Rosenberg 1995). The scale is not unifactorial. It consistently comprises two factors. Positively worded items tend to form one factor, and negatively worded items the other factor (Kohn and Schooler 1969, 1983; MacLean 1990; Owens 1993), with reliabilities for each scale in excess of $r=0.80$. The two components have been labeled simply positive self-esteem or self-confidence for the positively worded items and negative self-esteem or self-deprecation for the negatively worded items. According to Kohn and Schooler (1983) structural equation modeling the two component model of self esteem demonstrates a better fit to the data than does having a global self esteem score based on all items.

Respondents were also asked to complete the 12 item General Health Questionnaire (Goldberg 1972; 1978). The six positively toned items tend to reflect normal healthy activities and those according to Goodchild and Duncan Jones (1985) reflect more transient states or reactions to transient stress. The negatively toned items, they believe,

represent an indication of long-term pathological symptomatology. This shortened version of the GHQ has been widely used in Australia (Australian Bureau of Statistics 1982; Lo 1996; MacLean 1990; National Heart Foundation of Australia 1980) and tested and validated in a number of overseas countries (Harding 1976; Munoz and associates 1978; Chan and Chan 1983).

Validity and reliability issues

There have been many attempts to measure QOL through psychometric tests (eg Bowling 1993). Critical review of the concepts, measures and clinical implications of QOL undertaken by other authors has concluded that the following criteria must be satisfied by an adequate QOL instrument (Goodinson and Singleton 1989 p.339):

- (i) It should be subjective in the sense that the information be obtained from the individual;
- (ii) Recognition must be given to the fact that the information cannot be abstracted from the individual in isolation from coping strategies, past experiences of illness and other variables;
- (iii) The QOL test should incorporate a weighting by the individual, of the importance to them, of the dimensions investigated in the test;
- (iv) The test should cover a range of dimensions known to contribute to QOL and include the definition/basis from that it has been developed;
- (v) It must be designed such that it is appropriate to apply it at different times, to cover the period before the onset of illness, during illness and the different phases that follow treatment; and,
- (vi) Further investigation is necessary to establish the influence of adaptation phenomena and coping strategies on QOL.

Oleson (1990a) used a concept analysis procedure to analyse subjectively perceived QOL. She identified that satisfaction and happiness were the two critical attributes for QOL. She recommended the Ferrans and Powers Quality of Life Index (QLI 1985) as an instrument with the promise of being able to produce empirical data across populations for perceived QOL. In a study of the content validity of the QLI (1990b), Oleson found it to have a Content Validity Index of 87%, surpassing the 80% benchmark required to consider the instrument to be valid.

Ferrans and Powers developed the Quality of Life Index (QLI) and evaluated its psychometric properties (1985; 1992). It was found to have content validity, criterion-related validity, construct validity, stability reliability (0.87) and internal consistency (Cronbach's $\alpha=0.90$).

The Ferrans and Powers QLI has been used successfully with many clinical groups, including coronary bypass patients, transplant patients and patients

undergoing radiation therapy (eg Artinian and Hayes 1992; Belec 1992; Bliley and Ferrans 1993; Grady et al 1991; Johnson et al 1994; Smith 1993). It has been translated into nine languages and is currently being used in research and clinical practice by psychologists, physicians, nurses and other professionals (Ferrans 1996 p.301). There are as yet, however, no published data based on a widespread population study and which are matched to data from other well-tested correlates of health and well-being.

The quality of life index

The Ferrans and Powers (1985) Quality of Life Index (QLI) comprises two major components - 'satisfaction' and 'importance'. There are 34 items within each scale with essentially the same wording. The emphasis in the 'satisfaction' scale however, is on the extent to which a person is satisfied with the aspect of their life represented by each item, while the 'importance' scale asks how important it is to them. An item may, for instance, be very important to someone but they may not be very satisfied with that aspect of their life. Both scales are crucial in acquiring an accurate picture of someone's perceived QOL. They allow for accurate comparison of the relative importance of items as well as the relative levels of satisfaction with them.

The authors made a number of minor adjustments to the QLI to allow more valid responses, including the addition of a 'Not Applicable' category for items pertaining to children, spouse or partner, sex life or God, and the creation of dummy variables for items related to marital and employment status. In addition, the four sets of items in relating to children, relationship with spouse, sex life and God were scored somewhat differently to more adequately allow for their use in regression equations.

RESULTS AND DISCUSSION

Overall, 757 persons participated in this study. Fifty-six percent of participants were female, while 8% were 'carers', with responsibility for the home-based care of a relative. Of the 'carers' two-thirds were female. Table 1 presents the regression of the QOL indices on all the dependent variables. Stepwise multiple regression was used in an attempt to identify the key 'predictive' variables. Indeed there were only slight overall differences in the models whether they were derived by entering all variables hierarchically in blocks, or by entering all variables at once followed by stepwise elimination, or using stepwise only procedures. The amount of accounted for variance is quite substantial for overall total QOL and for the happiness subscale. All correlations and beta weights are in the expected direction. Only results that achieved a significance level of $p=0.05$ or better are reported in this paper.

In Table 2, data are presented by gender and age group based on the expectation that QOL components would vary between the sexes and over the life span.

The sub-scales

Ferrans and Powers, through development of the QLI and Factor Analysis identified four sub-scales of the QLI. The authors of this study decided to undertake a post-hoc Factor Analysis of data to determine the accuracy of these sub-scales within the available data pool. The data from several random samples of 50% of the respondents were factor analysed utilising the maximum likelihood procedure, both varimax and oblique rotation and utilising Baggaley's (1982) use of the inverse matrix to identify likely redundant items. Four factors were derived similar to those suggested by Ferrans and Powers:

Table 1: Correlation coefficients and beta weights - regression of QOL and the components of QOL on the independent variables, multiple correlation coefficient and r squared

	Overall QOL		Happiness		Health		Standard of living		Emotional support	
	r	β	r	β	r	β	r	β	r	β
Positive self esteem	51	30	57	35	32	17	35	20	28	17
GHQ - Strain	-50	-24	-16	-20	-34	-16	-36	-14	-25	-10
Gender	-14	-12	-13	-10	-	-	-07	-09	-24	-20
Partner	40	19	35	11	30	17	14	14	31	23
God	31	21	30	18	16	16	12	12	29	22
Children	26	10	24	10	-	-	13	13	22	09
Sex	38	11	39	10	-	-	11	11	-	-
Caring Index	-12	-10	-	-	-35	-32	-	-	-	-
Retired	11	10	-	-	-	-	16	16	-	-
GHQ - Useful	-	-	49	13	-	-	-	-	-	-
Divorced	-	-	-20	-08	-	-	-11	-11	-	-
Employed	-	-	06	07	-	-	-	-	-	-
Not Seeking Work	-	-	-	-	-	-	-11	-10	-	-
Widowed	-	-	-	-	-	-	-	-	08	09
R	0.71		0.76		0.54		0.57		0.53	
R squared	51%		57%		30%		32%		28%	

Table 2: Beta weights - regression of QOL and components of QOL on the independent variables, multiple correlation coefficient and r squared, for females and males by age group

Age group	Females			Males		
	<40	40-65	65+	<40	40-65	65+
n=	215	169	38	166	125	44
TOTAL QUALITY OF LIFE						
GHG - Strain	-19	-37	-38	-32	24	-
Positive self esteem	35	27	41	25	49	-
Partner	16	-	34	39	-	38
Sex	15	-	-	-	25	-
God	23	29	-	18	-	-
Children	-	-	62	-	-	-
GHQ - Useful	-	-	-	-	-	54
R=	65	67	84	71	77	78
R squared	43%	44%	71%	50%	59%	61%
HAPPINESS						
GHG - Strain	-	-34	-	-35	-	-69
Positive self esteem	43	34	70	51	39	-
Partner	-	-	-	31	-	-
Sex	20	21	-	-	-	-
God	19	20	-	18	-	-
Children	-	-	44	-	-	-
GHQ - Useful	25	-	-	27	-	-
Divorce	-	-	-	-	-16	-
R=	69	74	79	71	82	69
R squared	47%	55%	63%	50%	67%	48%
HEALTH						
Index of caring	-25	-34	59	-26	-40	-
Positive self esteem	20	29	-	-	-	-
Negative self esteem	-	-	-	-	-31	-
GHQ - Strain	-16	-17	-	-38	-	-
GHQ - Useful	-	-	-	-	-	68
God	17	21	-	-	23	-
Partner	-	-	-	30	-	-
R=	44	58	59	60	59	68
R squared	20%	34%	35%	36%	35%	46%

- (i) Personal Happiness (items 28, 30, 31, 32, 34; $\alpha=0.90$);
(ii) Support (items 13 and 14; $\alpha=0.78$);
(iii) Personal Health (items 1, 3, 4, 5; $\alpha=0.80$), and,
(iv) Standard of Living (items 18, 19, 20, 24 and 26; $\alpha=0.81$).

The items for the 'happiness' and 'standard of living' scales are congruent with the psychological/spiritual and socioeconomic subscales reported by Ferrans and Powers. The items comprising our 'support' and 'health' scales are closely related to the Ferrans and Powers' 'health' and 'functioning' scale. Our analysis produced no equivalent scale for their 'family' subscale (items 8, 9, 10 and 11). We summed the scores on these four scales to obtain a Total Quality of Life score.

Gender

Females are more likely than males to view their QOL positively. This is the case for overall QLI scores ($t=3.83$ $p<0.000$), in terms of 'personal happiness' ($t=3.59$ $p<0.000$), support from friends and in terms of emotional support ($t=6.85$ $p<0.000$) and standard of living ($t=2.08$ $p<0.038$).

There were significant differences between males and females in terms of their employment status ($\chi^2=55.29$, 4df, $p=0.0001$). Females were under represented in the full-time work category, over-represented in part-time work and unemployed not seeking work categories. There were no significant gender differences in those who were unemployed and seeking work nor were there any differences in the retired category.

There were no significant differences between the sexes in terms of the quality of their health. There were no gender differences in positive or negative self-esteem, chronic or long-term stress, marital status, age, disability, treatment, or size of household.

Age

A third of those over the age of 60 had some form of disability, compared with approximately 9% of those aged 59 years and under. Both marital and employment status were obviously influenced by age. There were no age differences in whether or not they cared for someone who was unwell or disabled.

Positive self-esteem was distributed non-significantly over the five age groups. Negative self-esteem seemed to decline with age ($F=4.00$ $p=0.003$) with a statistically significant difference occurring (Scheffe $p=0.05$) between the 18-24 age group and the over 75 year age group. There were consistent increases with age in perceived QOL overall ($F=3.80$ $p=0.005$) and in the home and social support areas. No increase in health QOL or in general levels of happiness were noted. There were age related increases in the scores obtained from the subscale concerned with psychological and spiritual QOL.

Chronic stress scores tended to reduce with age ($F=2.96$ $p=0.0191$) with the significant difference (Scheffe $p=0.05$) occurring between those aged 40 to 59 and the 60 to 75 age group. Transient stress increased paradoxically with age ($F=5.66$, $p=0.0002$) with significant differences between the 25-39 age group and the two age groups covering the years 40-75. This finding is at odds with the positive correlation ($r=0.40$) between total QOL score and transient stress scores. A closer examination through the use of Chi Square analysis show that the 25-39 age group is over represented in higher useful scores categories (that is lower stress) whereas the 40-59 and 60-74 year old were under represented in these categories.

Being a carer

Being a carer imparts significantly more chronic stress and reduces the QOL overall than it does for non-carers. Self esteem is however, not significantly different for carers than for non-carers, nor is transient stress. Significant differences in the QOL in and around the home and personal health occur between carers and non-carers. Non-carers have higher QOL in these areas. Being a carer is a threat to QOL.

The 'caring index', that is the sum of caring for others within the family household, being ill one's self or having a disability, was strongly predictive of the quality of health being experienced. This seems to present some degree of construct validity for the 'health' subscale of the Ferrans and Powers scale.

Having a disability

Those having a disability or having treatment for a medical condition are reflected in the health subscale scores as expected. QOL is lower for those who are currently in treatment or disabled. They also exhibited both chronic and transient stress. Transient stress scores are higher than those for chronic stress. Being in treatment or having a disability is not, however, reflected in self-esteem scores.

Marriage

Those who are married perceive their QOL to be higher, overall and in most areas, than those who are

widowed, single or divorced. They have higher positive self-esteem and lower negative self-esteem. Married people experience lower chronic long-term stress than the divorced or separated and the widowed. They have lower transient stress scores than the widowed or separated. The never married group tended to experience less stress than the married group, but this does not attain statistical significance. Those at most risk from a poor QOL are the never married group and the separated/divorced group. Being divorced mitigates against happiness and reduces perceived standards of living.

Interestingly, while divorce affects the standard of living for both men and women, it has a negative impact only on the happiness of women. In addition to this, widowhood for men appears to have a positive influence on their happiness.

Employment

Employment status was independent of both positive and negative self-esteem. Levels of happiness were independent of employment status. Generally speaking, the retired group had higher levels of QOL, overall and in most major areas of functioning than did people who were not retired. Those in employment full-time, and part-time tended to have higher levels of QOL than those who were unemployed.

Retirement was associated with high QOL and standard of living, while being employed is functional for happiness and being unemployed and not seeking work has significant negative implications for standard of living.

Relationships

The quality of relationships with significant others - children, partner, God and the quality of respondent's sex life were deemed to be part of the set of independent variables that included positive and negative self esteem measured by the Rosenberg Self Esteem Inventory, chronic and transient stress levels measured by the General Health Questionnaire, and biographical items including marital and employment status, and an index of caring, along with age and gender information. It is quite clear from table 1 that having positive self esteem, having good relationships with God and one's partner and an absence of long term chronic stress ('strain') appear to be consistent with a high QOL, overall and among its various components.

Unlike much previous research into QOL, personality characteristics and personal effort, perhaps represented as proactivity or optimism, seem to play an important role in how the vicissitudes of life are tackled. This fits in with research into a major transition by MacLean (1990) and by MacLean and Lo (1998) in research into compliance among people who suffer from diabetes. Happiness has to be worked at. Though having a good sex life and having an agreeable relationship with one's children make a

substantial contribution to the over-all QOL experienced, levels of happiness and standard of living. It reinforces the positive effects of a stable and supportive family on QOL.

For males having a poor partner and/or not having sex, and having a poor relationship with their children reduced QOL scores. For females, the absence of poor self-esteem, having a good sexual relationship, and not having a partner were conducive to good QOL scores.

Spirituality

The spiritual dimension was also significant. Having a good relationship with God was conducive to high QOL scores. It seems that strong relationships of all kinds were conducive to high QOL. This tends to reinforce the notion of spirituality as being derived from holism and 'interconnectedness', rather than simply a form of religiosity (Ramsay 2000).

LIMITATIONS

The three instruments used in this study have well-established and well-documented levels of reliability and validity. The major limitation in this study is not internal validity, but external validity. The sampling technique chosen for the study was non-probability, and therefore limits the generalisability of the findings. The size of the sample, however, significantly reduces the risk of Type I or Type II errors, and would indicate acceptable validity in respect of the intra-sample comparisons on which the major findings are based.

CONCLUSION

As far as the major hypotheses that underpinned this study were concerned, the findings confirmed all of them to varying extents. In summary:

- (i) Having positive self-esteem was related to higher QOL.
- (ii) Absence of long-term chronic stress was related to higher QOL.
- (iii) Having a disability, carrying an illness or caring for someone within the family was related to lower QOL.
- (iv) Married people tended to have higher QOL scores than those who are divorced or single.
- (v) Good relationships with children, partner or spouse and God are all positive influences on QOL.

In addition to confirming these major hypotheses, there were a number of other significant findings in this study. They included that:

- (i) Females tended to have higher levels of QOL than males.
- (ii) QOL improved with age.

(iii) Unemployment was a significant factor in reducing QOL.

(iv) A good sex life is a positive influence on QOL.

For nurses, none of these findings are counter-intuitive. They reinforce many of the notions regarding QOL and its relationship to health that have permeated nursing literature for some time. There is, however, evidence in these data that the QOL of lay carers is diminished as a result of their caring activities. Lay caring, of course, differs from professional caring in a number of ways. Most importantly, caring for a family member in one's own home does not finish at the end of a shift - it stays with you permanently. Nevertheless as professional carers it is important for nurses to recognise the deleterious effect that caring may have on one's own QOL, particularly for nurses who are also lay carers of children or other dependents in their non-professional lives. Indeed, in combination with the presence of long-term, job-related chronic stress, there is a warning in these data for nurses. Caring is a very real threat to QOL.

The role of nursing in promoting QOL is a seminal one. While we know that population health is more strongly determined by poverty than by any other factor and that affluence improves population health more than anything, we also know that good health is only one factor among the many that contribute to QOL, and that individuals may trade-off health-behaviours against other behaviours in order to optimize their QOL at any one time. Expressing concern for QOL will require nurses to embrace a broad and inclusive concept of what health care can and should be. Indeed, nursing will need to address all aspects of the pursuit of QOL, not just for patients, but for nurses as well. The personal determinants of QOL have always been a concern for nurses. The social, spiritual, political and economic determinants of QOL are also legitimate concerns for nursing. This study has provided some baseline data for considering the parameters of QOL.

REFERENCES

- Aaronson, N., Ahmedzai, S. Bergman, B. 1993. The European Organisation for Research and Treatment of Cancer QI-Q-C30: A quality-of-life instrument for use in international clinical trials in oncology. *Journal of the National Cancer Institute*. 85:365-376.
- Aaronson, N.K. 1988. Quality of life: what is it? How should it be measured? *Oncology*. 2: 69-74.
- Artinian, N. and Hayes, M. 1992. Factors related to spouses' quality of life one year after coronary artery bypass graft surgery. *Cardiovascular Nursing*. 28(4):33-39.
- Australian Bureau of Statistics. 1982. *Australian Health Survey, 1977-78: outline of concepts, methodology and procedures used*. Canberra: Australian Government Publishing Service.
- Baggaley, A.R. 1982. Deciding on the ratio of number of subjects to number of variables in factor analysis. *Multivariate Experimental Clinical Research*. 6(2):81-85.
- Belec, R. 1992. Quality of life: perceptions of long-term survivors of bone marrow transplantation. *Oncology Nursing Forum*. 19(1):31-37.
- Bliley, A. and Ferrans, C. 1993. Quality of life after angioplasty. *Heart and Lung*. 22(3):193-199.

- Bortner, R. and Hultsch, D. 1970. A multivariate analysis of correlates of life satisfaction in adulthood. *Journal of Gerontology*. 25:41-47
- Bowling, A. 1993. *Measuring health: a review of quality of life measurement scales*. Philadelphia: Open University Press.
- Bryne, H. and MacLean, D. 1997. Quality of Life: what residents say and nurses need to know. *International Journal of Nursing Practice*. 3(1):21-28.
- Campbell, A. 1981. *A Sense of Wellbeing in America*. New York: McGraw-Hill.
- Chan, D.W. and Chan, T.S.C. 1983. Reliability, validity and the structure of the General Health Questionnaire in a Chinese context. *Psychological Medicine*. 13:363-371.
- Commonwealth Department of Community Services and Health. 1987. *Living in a nursing home*. Canberra: Australian Government Publishing Service.
- Commonwealth Department of Community Services and Health. 1988. *Nursing Home standards monitoring guidelines*. Canberra: Australian Government Publishing Service.
- Conhill, C., Verger, E. and Salamera, M. 1990. Performance status in assessing cancer patients. *Cancer*. 65:1864-1866.
- Davis, M. 1991. On nursing home quality: a review and analysis. *Medical Care Review*. 48:129-166.
- Eyer, J. 1984. Capitalism, health and illness, In: McKinlay, J. (ed) *Issues in the Political Economy of Health Care*. New York: Tavistock.
- Ferrans, C. 1996. Development of a conceptual model of quality of life. *Scholarly Inquiry for Nursing Practice*. 10(3):293-304.
- Ferrans, C. and Powers, M. 1985. Quality of life index: development and psychometric properties. *Advances in Nursing Science*. 8(1):15-24.
- Ferrans, C. and Powers, M. 1992. Psychometric assessment of the Quality of Life Index. *Research in Nursing and Health*. 15:29-38.
- Ferrell, B.R., Wisdon, C. and Wenzel, C. 1989. Quality of life as a variable in the management of cancer pain. *Cancer*. 63:2321-2327.
- Flanagan, A.J. 1978. A research approach to improving our quality of life. *American Psychology*. 33:138-147.
- Goldberg, D. 1972. The detection of mental illness by questionnaire. *Maudsley Monograph*, 21. Open University Press.
- Goldberg, D. 1978. *Manual of the General Health Questionnaire*. Windsor: NFER-Nelson.
- Goodchild, M.E. and Duncan-Jones, P. 1985. Chronicity and the General Health Questionnaire. *British Journal of Psychiatry*. 146:55-61.
- Goodinson, S. and Singleton, J. 1989. Quality of life: a critical review of current concepts, measures and their implications. *International Journal of Nursing Studies*. 26(4):327-341.
- Grady, K., Jalowiec, A., White-Williams, C., Grusk, B. and Blood, M. 1991. Health care provider interventions for heart transplant candidates. *Circulation*. 84(4 Suppl):696.
- Harding, T.W. 1976. Validating a method of psychiatric case identification in Jamaica. *Bulletin of the World Health Organisation*. 54:225-231.
- Hatz, P. and Powers, M. 1980. Factors related to satisfaction with life for patients on hemodialysis. *Journal of Nephrology Nurses and Technicians*. 1:290-295.
- Health Ministers' Forum. 1994. *Towards a national health policy: a discussion paper*. Canberra, Australia: Australian Government Publishers.
- Johnson, D., Casey, L. and Noriega, B. 1994. A pilot study of patient quality of life during radiation therapy treatment. *Quality of Life Research*. 3:267-272.
- Kermode, S., Emmanuel, N. and Brown, C. 1994. A critical overview of current public policy trends and their implications for nursing. *The Collegian*. 1(1):14-23.
- Kohn, M.L. and Schooler, C. 1969. Class, occupation and orientation. *American Sociological Review*. 34:659-78.
- Kohn, M.L. and Schooler, C. 1983. *Work and personality: an inquiry into the impact of social stratification*. Norwood, N.J.: Ablex.
- Lo, R. 1996. *Psychosocial factors affecting adherence of people with diabetes*. Unpublished doctoral thesis. Lismore: University of New England-Northern Rivers.
- MacLean, D. 1990. *The Experience of transition*. Unpublished doctoral thesis. Canberra: Australian National University.
- MacLean, D. and Lo, R. 1998. The non-insulin-dependent diabetic: success and failure in compliance. *Australian Journal of Advanced Nursing*. 15(4):31-40.
- Munoz, P.E., Vazquez, J.L., Pastrana, E., Rodriguez, F. and Oneca, C. 1978. Study of the validity of Goldberg's 60 item GHQ in its Spanish version, *Social Psychiatry*. 13:99-104.
- Nash, P., Kazamias, A.M. and Perkinson, H.J. 1966. *The educated man*. New York: Wiley.
- National Heart Foundation of Australia. 1980. *Risk Factor Prevalence Study Report No 1*.
- National Wellness Institute. 1993. *Testwell - Wellness Inventory*. Stevens Point.
- Navarro, V. 1984. A critique of the ideological and political positions of the Willy Brandt Report and the WHO Alma Ata Declaration. *Social Science and Medicine*. 18(6):467-474.
- Oleson, M. 1990a. Subjectively perceived quality of life. *IMAGE: Journal of Nursing Scholarship*. 22(3):187-190.
- Oleson, M. 1990b. Content validity of the Quality of Life Index. *Applied Nursing Research*. 3(3):126-127.
- Owens, T. 1993. Accentuate the positive and the negative: rethinking the use of self-esteem, self-deprecation and self-confidence. *Social Psychology Quarterly*. 56:288-99.
- Ramsay, L. 2000. Holism and Spiritual Wellbeing, in Kermode, S. *Foundation Concepts for Holistic Health*. Lismore: Southern Cross University Press.
- Rosenberg, M., Schooler, C., Schoenbach, C. and Rosenberg, F. 1995. Global self-esteem and specific self-esteem: different concepts, different outcomes. *American Sociological Review*. 60:141-156.
- Ryff, C.D. 1989. Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of personality and Social Psychology*. 57:1069-1081.
- Ryff, C.D. and Essex, M.J. 1992. Psychological well-being in adulthood and old age: Descriptive markers and explanatory processes, In K.W. Schaie (ed). *Annual Review of gerontology and geriatrics*. 11:144-171. New York: Springer.
- Ryff, C.D., Lee, Y.H., Essex, M.J. and Schmutte, P.S. 1994. My children and me: midlife evaluations of grown children and of self. *Psychology and Aging*. 9(2):195-205.
- Smith, C. 1993. Quality of life in long-term total parenteral nutrition patients and their family caregivers. *Journal of Parenteral and Enteral Nutrition*. 17(6):501-506.
- Ware, J. 1984. Conceptualising disease impact and the treatment of outcomes. *Cancer*. 53(Suppl.10):2316-2323.
- World Health Organisation. 2000. *The World Health Report 2000*. Geneva: WHO Publications.