Stress, Social Engagement and Psychological Well-Being in Institutional Settings: Evidence Based on the Minimum Data Set 2.0

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RÉSUMÉ

Alors qu'il existe une importante documentation sur la relation entre le stress, le soutien social et le bien-être chez les aîné(e)s vivant dans la communauté, peu d'études ont examiné la population des institutions. Cette étude a utilisé les données d'enquêtes pilotes du MDS 2.0 de trois hôpitaux ainsi que d'autres enquêtes reliées au bien-être psychologique. On a constaté que les patients les plus engagés socialement avaient tendance à afficher des niveaux plus élevés de bien-être et cette tendance était encore plus frappante chez ceux qui jouissaient d'un meilleur état de santé. La douleur était un prédicteur important de la réduction du bien-être. Étant donné que le MDS 2.0 fournit une approche complète à l'identification des problèmes sociaux, psychologiques et physiques et à leur réponse chez les aîné(e)s vivant en institution, il peut entraîner des effets importants sur le bien-être si on l'utilise à l'appui de la prise de décision et des interventions cliniques.

ABSTRACT

While a substantial body of literature has emerged on the relationships between stress, social support and well-being in community-based older persons, few studies have examined institutionalized populations. The present study used data from pilot studies of the MDS 2.0 in three hospitals, along with supplementary surveys related to psychological well-being. It was found that patients with higher social engagement scores tended to have higher levels of well-being, and this effect was greatest among those with more stable physical health. Pain was an important

predictor of lower well-being. Since the MDS 2.0 provides a comprehensive approach to identifying and responding to social, psychological and physical problems in institutionalized older persons, it can have an important impact on well-being when used to support decision making and clinical intervention.

Older persons are more likely than younger persons to experience stressful life events such as the death of a spouse, retirement and relocation. The role of social ties in reducing the negative impact of such events in the lives of older persons has been the focus of on-going research. The vast majority of this research has focussed on the community dwelling older persons rather than their institutionalized counterparts. The lack of research on the stressors experienced by this population and the level of support received is likely due to the inherent difficulties in conducting research in institutional settings. Cognitively impaired residents are most often unable to respond to questionnaires and interviews, and many tire easily if interviews are too long.

Some research suggests that institutionalization is reduced among community dwelling elders with strong social support networks (Wan & Weissert, 1981). The extent to which this support continues to be available following admission to a long-term care setting remains largely unknown. Bear (1990) studied the social network characteristics of elderly individuals before and after institutionalization. Visiting patterns of family and friends did not decline following admission to long-term care; however, material linkages with significant others decreased. Those residents who had a larger number of possible links with members of their support network (i.e. network density) were more likely to continue to visit and speak with network members. Hook, Sobal, and Oak (1982) found that visiting frequency to nursing homes was related to closer geographic proximity, closeness of the ties between visitors and the resident, and shorter length of stay. Greene and Monahan (1982) used structural equation models to show that higher visitation frequency was a significant predictor of lower levels of psychosocial impairment.

Long-term care residents have been found to have the lowest levels of activity engagement in a study of everyday activities (type, frequency, duration, and social context) among community based and institutionalized older adults in Berlin (Horgas, Wilms, & Baltes, 1998). The type and variety of activities available to long-term care residents will influence the choices they make regarding participation. Opportunities to engage in social interaction among this population are likely limited by cognitive deterioration, as well as declines in functional status and communication ability. A diminished capacity to engage in social interaction and correspondingly low levels of activity have been shown to be associated with hearing, visual, and communication impairments in a large sample of nursing home residents (Resnick, Fries, & Verbrugge, 1997).

A good deal of the literature on social relationships and institutionalization focusses on description of the roles of various individuals and their

interaction patterns. Hirdes and Scott (1998) used whole network methods to study social network structures among patients, family and staff members. Gladstone (1995) used qualitative methods to examine marital perceptions of institutionalized Canadians. A number of studies examined role expectations and the perceptions of long-term care staff and family (Bowers, 1988; Hansen, Patterson, & Wade Wilson, 1988; Rubin & Shuttlesworth, 1983).

The relatively limited number of studies of the stresses experienced by institutionalized older persons suggest that they are likely related to loss of control over aspects of personal care, quality of life and interaction with others. Baltes, Burgess, and Stewart's (1980) observational study of self-care behaviour in a nursing home found that dependency was reinforced positively by staff, while independent behaviour was not acknowledged. In a follow-up study (Barton, Baltes, & Orzech, 1980), residents engaged in more independent behaviours than dependent ones, but staff were found to demonstrate far more dependence-supportive behaviour (e.g., verbal or physical behaviours that encourage the resident's request for help with self-care activities). Such reinforcement of dependency by staff may limit opportunities for reciprocal interaction of nursing home residents with members of their social network. Goal setting and self-initiation of activities may be hindered by institutional settings where autonomy is reduced.

With regard to the relationship between well-being, stress and social support, there are a variety of different models commonly discussed in the literature. The resource mobilization perspective (Alloway & Bebbington, 1987) suggests that individuals seek out assistance from their social networks during times of high stress. The buffering hypothesis maintains that having supportive others to turn to in times of crisis reduces the adverse effects of stress on quality of life (Antonucci, 1990). Therefore, individuals with highly supportive networks may be more able to adapt to adverse events associated with aging than those with weaker social supports. The buffering hypothesis is most often operationalized in terms of an interaction effect between stress and social support.

There is inconsistent evidence on the relationship between stressful life events and social support, which Leavy (1983) attributed to poor assessment tools, inappropriate data analysis strategies, differences in how support is conceptualized and variations in sample characteristics. Krause and Jay (1991) argue that research in this area has relied on overly crude global measures of life stress rather than examining specific stressors. Different situations may be more or less stressful depending on individual interpretations of the event and abilities to cope using available resources. In addition, the vast majority of these studies have focussed exclusively on the positive aspects of social networks and have ignored the possibility that social networks may also create a certain amount of stress in and of themselves (Rook, 1984). Wellman and Hall (1986) maintain that when researchers decide in advance that a set of ties constitutes a "support

system," they falsely assume that support systems are homogeneous in composition; that ties are organized into a tight and effective "system"; that all community ties provide social support; and that support itself is a single resource.

Negative interaction may attenuate the relationship between stressful life events and the provision of social support (Krause, 1995). Rook (1984) contends, for example, that network members may be a source of strain when they become burdensome, controlling, critical or demanding. When social network members become a source of stress, these relationships are likely to have a negative impact on quality of life. Rook (1984) found that negative social interactions had stronger associations with well-being than positive, supportive interactions among a sample of 120 widowed women. In addition, the degree to which the respondent felt comfortable with available network members was more important than the absolute number of network members providing support. The quality of social ties among institutionalized older persons has not been studied to the same extent. Conflicts with staff, family members, and other residents likely influence the well-being of long-term care residents and their subsequent ability to cope with stressful events.

There is evidence that active involvement in social networks reduces the probability of illness and mortality among community-based older adults (Hirdes & Forbes, 1992, 1993; Orth-Gomér & Johnson, 1987). Higher levels of support have been shown to be associated with better health outcomes than lower levels of support (Berkman, 1983). Duffy and MacDonald (1990) reported that younger age, married status, higher income, a lesser tendency to view health as determined by powerful others, higher perceived current health status and better nutrition contributed to higher scores in five areas of functional health (social resources, economic resources, physical health, mental health and ADL).

The relationship between stresses experienced by and support available to individuals residing in institutional settings has not received the same degree of attention as has been the case in community settings. These stressors are likely to be different and may have a greater impact on frail individuals with reduced autonomy. A better understanding of the relationship between health, stress, social engagement, social relationships and psychological well-being among institutionalized older persons may help identify ways to improve quality of life in long-term care settings.

Method

The data for this study were obtained through the use of the Minimum Data Set 2.0 (Morris, Murphy, & Nonemaker, 1995) and a supplementary questionnaire on patient needs that addresses autonomy, visiting patterns, happiness and emotionality. Data were collected over a four-month period with samples of residents from three Ontario hospitals: Grand River

Hospital (Freeport site), Kitchener; Sunnybrook and Women's College Health Science Centre (Sunnybrook site), Toronto; and Providence Centre, Scarborough. A non-proportional stratified random sample of continuing care and long-term care residents was selected from the three sites. The resulting sample sizes are 155, 183, and 168 residents, respectively. The Providence population was drawn from continuing care hospital patients (N = 99) and long-term care residents from its Home for the Aged[1] (N = 69). The overall response rate for this study was approximately 80 per cent. The main reasons for non-response included refusal to participate, failure to obtain proxy consent for cognitively impaired residents, and subsequent mortality before completion of the study.

The MDS is an assessment tool used by researchers in approximately 20 countries to provide information about nursing home residents. It contains a minimum core of items to provide a comprehensive assessment of the needs of institutionalized older persons. For example, the MDS measures items such as demographic information, the daily routine of residents, cognitive and communication patterns, psycho-social well-being and physical functioning. It can be used for a variety of purposes including quality improvement, outcome evaluation, care planning and resource allocation (Hirdes & Carpenter, 1997).

The MDS includes 18 Resident Assessment Protocols (RAPs) that provide a comprehensive overview of each resident's needs. These RAPs are composed of numerous triggers and clinical guidelines, with the former identifying those conditions that warrant additional assessment and review, and the latter providing guidance in evaluating the triggered problems.

Hawes et al. (1995) tested the reliability of MDS+ items in 13 nursing homes in five states. Their results indicate that the MDS is a useful tool for gathering accurate data on institutionalized elderly individuals. Specifically, 89 per cent of the MDS items achieved kappa coefficients of .4 or higher, and 63 per cent of the items achieved reliability coefficients of .6 or higher. A more recent evaluation of the new MDS 2.0 showed even higher levels of reliability (Morris et al., 1997).

The dependent variables used in this study consist of the happiness (SHARP) and emotionality (MIDAS) scores derived from Stones and Kozma's (1980) Memorial University of Newfoundland Scale of Happiness (MUNSH), as well as the Mood State RAP from the MDS 2.0.

The Short Happiness and Affect Research Protocol (SHARP) is a brief measure of positive and negative affect, with short-term (affective) and long-term (dispositional) components (Stones et al., 1995). The internal consistency, temporal stability and criterion validity coefficients for the SHARP are comparable to the MUNSH (Stones & Kozma, 1980).

The Measure of the Intensity and Duration of Affective States (MIDAS) was also derived from the MUNSH. The MIDAS has two factors labelled positive affectivity and negative affectivity, representing two subscales.

Based on measures of internal consistency, both subscales have been found to be reliable in an unpublished study (results available on request).

Evidence based on the Mood State RAP suggests that approximately 30 per cent of nursing home residents will exhibit symptoms of a mood state problem (Morris et al., 1995). These symptoms are most often manifested in emotions such as sadness, feelings of emptiness, anxiety, or unease. Once mood problems have been identified, staff can examine the source and extent of the risk factors to determine where intervention can best be targeted. Evaluations of the MDS 2.0 mood items showed kappa values well above acceptable cutoffs with scores ranging between .53 and .85 (Morris et al., 1997).

A number of independent variables were measured in this study. The list of stressful events consist of eight events that were deemed by nursing staff and hospital social workers to have occurred within the six months prior to the start of the study. These events include the death of a spouse; death of another close person; health change; health concerns for another person; room change; temporary discharge to an acute care hospital; conflict-laden or severed relationship; and any other event deemed to be stressful.

A number of unsettled relationships measured by the MDS 2.0 were included as measures of negative interaction. These items include covert/open conflict with or repeated criticism of staff; unhappiness with roommate; being unhappy with resident other than roommate; and open expression of conflict/anger with family and friends.

The social support data consist of questions that were asked concerning the type and level of support provided by a number of possible significant others. Specifically, nursing staff were asked to indicate how often the following individuals visited residents: spouse, children, siblings, grandchildren, friends, volunteers and others. In addition, they were asked to indicate whether or not any or all of these individuals provided support to residents on at least a monthly basis in the areas of friendly visiting, personal care (e.g., meal assistance, laundry), financial assistance (e.g., giving the resident money), decision making in terms of treatment, financial decision making (e.g., Power of Attorney) and emotional support. Data were also gathered on the nurse's rating of the overall quality of the resident's relationship with his or her key contact person as specified on the chart.

Cognitive Performance Scale (CPS) scores were computed from among a number of MDS 2.0 variables (whether the resident is comatose; impaired decision making; ability to make self understood; short-term memory intact, and dependent eating) to determine the overall functioning of residents. The CPS scores were found to be comparable to Mini-Mental State Examination scores and Test for Severe Impairment scores in field trials (Morris et al., 1994; Hartmaier et al., 1995). Inter-rater reliability coefficients for the MDS cognitive and communication items range from

.60 to .88 (Morris et al., 1997). Scores for Activities of Daily Living (ADL) were computed from a number of MDS variables, including eating, toileting, transfer and bed mobility. The construction of the ADL scale is based on the RUG-III ADL scale, ranging from a score of 4-18 (Fries et al., 1997). Higher ADL scores are indicative of greater levels of dependence. In a cross-sectional correlation study of criterion validity (Frederiksen, Tariot, & De Jonghe, 1996), the ADL scores were found to be highly correlated with the Physical Self-Maintenance Scale (PSMS).

The Index of Social Engagement was constructed from a number of dichotomous items in the MDS 2.0 relevant to the seven days prior to the assessment. The index consists of a summary score of six items including whether or not the resident: is at ease when interacting with others; is at ease doing structured activities; is at ease doing self-initiated activities; establishes own goals; pursues involvement in the life of the facility; and accepts invitations into most group activities. Mor and colleagues (1995) evaluated the Index of Social Engagement and found it to be a reliable (Cronbach's alpha = .79) and valid indicator of resident involvement in the social and recreational life of the facility. A five-country study of the Index of Social Engagement showed it had a consistent pattern of association with cognitive impairment and disability in each country (Schroll, Jonsson, Mor, Berg, & Sherwood, 1997). Recent tests of reliability for the Index of Social Engagement and ADL scale with Ontario's provincial MDS dataset show alpha scores consistently above .80 and .90 for these scales, respectively (Nenadovic, Gilbart, Hallman, Teare, & Hirdes, 1999).

The frequency and intensity of pain were also included as independent variables in this study. Each of these variables was measured in the MDS 2.0 and dealt with the highest level of pain occurring within the seven days prior to the start of the study.

A Deterioration Index was constructed by computing the sum of five dichotomized variables indicating recent declines (i.e. change in cognitive status, change in communication/hearing, change in ADL function, change in urinary continence, and overall change in care needs).

Multiple linear regression was used to assess the relationship between health, stressful events, social supports and psychological well-being among residents. Models were analysed separately for the three dependent variables (SHARP, MIDAS, Mood State RAP).

In addition, all of the variables found to be significant at the bivariate level ($p < .05$) were examined prior to the selection of a final model. In order to avoid order of entry effects, stepwise regression was not used. Rather, different combinations of independent variables were examined to rule out problems such as collinearity in the multivariate models. Variables not significant at the bivariate level were not examined further (results available on request). Control variables (i.e. age, gender, length of stay, marital status, religion) were also examined. A facility dummy variable was also evaluated prior to specification of a final model. In order to address the

Table 1
Distributions of selected variables for all facilities ($N = 385$)

Variable	Score
Happiness Scores (SHARP)	
Mean	1.1
SD	5.8
SE	0.3
Median (Quartiles Q1-Q3)	1.0 (-2–+5)
Emotionality Scores (MIDAS)	
Mean	-0.6
SD	10.4
SE	0.5
Median (Quartiles Q1-Q3)	0.0 (-6–+5)
Mood RAP Scores	
Mean	3.4
SD	3.6
SE	0.2
Median (Quartiles Q1-Q3)	3.0 (0–+5)
Age (years)	
Mean	75.6
SD	15.6
SE	0.8
Median (Quartiles Q1-Q3)	78.3 (68–86)
Social Supports	
Mean	5.9
SD	4.2
SE	0.2
Median (Quartiles Q1-Q3)	6.0 (3–8)
Cognitive Performance Scale (CPS)	
Mean	3.2
SD	2.2
SE	0.1
Median (Quartiles Q1-Q3)	4.0 (1–5)
Activities of Daily Living (ADL)	
Mean	13.2
SD	4.5
SE	0.2
Median (Quartiles Q1-Q3)	15.0 (10–17)
Index of Social Engagement	
Mean	1.9
SD	2.0
SE	0.1
Median (Quartiles Q1-Q3)	1.0 (0–3)
Deterioration Index	
Mean	0.4
SD	0.9
SE	0.1
Median (Quartiles Q1-Q3)	0.0 (0–0)

question of a buffering effect, interaction terms were constructed between the various social support scores, Index of Social Engagement, and the stressful events measure. Interaction terms were also constructed between

Table 2
Final multiple linear regression model for SHARP scores

Variable	Beta	SE	p-Value
Index of Social Engagement	0.289	0.15	0.0001
Deterioration Index	-0.131	0.33	0.01
Intensity of Pain	-0.203	0.62	0.0001
Length of Stay	0.118	0.01	0.02
Institution			
Facility A	0.131	0.78	0.02
Facility B	0.056	0.90	0.32
Facility C	0.022	0.79	0.69

R-Square	F-Value	df	Prob>F
0.14	7.941	7	0.0001

the Activities of Daily Living (ADL) Scale, Deterioration Index and the Index of Social Engagement to determine whether the effects of social variables were dependent on degree of impairment. Each of these were considered independently in the models. Interactions were only retained if they attained the .05 level of significance in the multivariate model.

Results

Table 1 provides descriptive statistics for the ratio level dependent and independent variables across all facilities. The mean scores for happiness (SHARP) and emotionality (MIDAS) indicate that the majority of residents are neither completely depressed nor happy. The mean Mood RAP score (i.e. number of Mood RAP items triggered) indicates that most residents are at least at risk of experiencing some problems related to sad or anxious mood. Residents across all of the facilities had a moderate level of cognitive impairment and ADL dependence, but did not experience many overall declines in these areas. In addition, they experienced approximately 1.4 (SE = 0.1) stressful events within the six months prior to the start of the study, and did not experience a significant amount of negative interaction with staff, family, and friends. Their level of social engagement was low, with a mean score of 1.9 (SE = 0.1) on a six point scale where higher scores indicate greater engagement.

Table 2 shows the final multiple linear regression model for the SHARP. A more positive disposition (happiness) was associated with higher scores on the Index of Social Engagement, a lower number of functional declines, lower levels of pain, and a longer length of stay. In addition, residing in one of the facilities was associated with more positive SHARP scores (facility names are not reported in the results for confidentiality reasons).

Table 3 provides the final multiple linear regression model for the MIDAS scores. Variables significantly related to more positive emotionality (MIDAS) scores were higher levels of social engagement, an interaction

Table 3
Final multiple linear regression model for MIDAS scores

Variable	Beta	SE	p-Value
Index of Social Engagement	0.455	0.27	0.0001
Deterioration Index	-0.038	0.70	0.53
Deterioration x Social Engagement	-0.131	0.25	0.04
Intensity of Pain	-0.190	1.02	0.0001
Quality of Relationship With Key Contact	0.102	1.13	0.03
Institution			
Facility A	0.216	1.30	0.0001
Facility B	0.111	1.51	0.04
Facility C	0.004	1.27	0.94

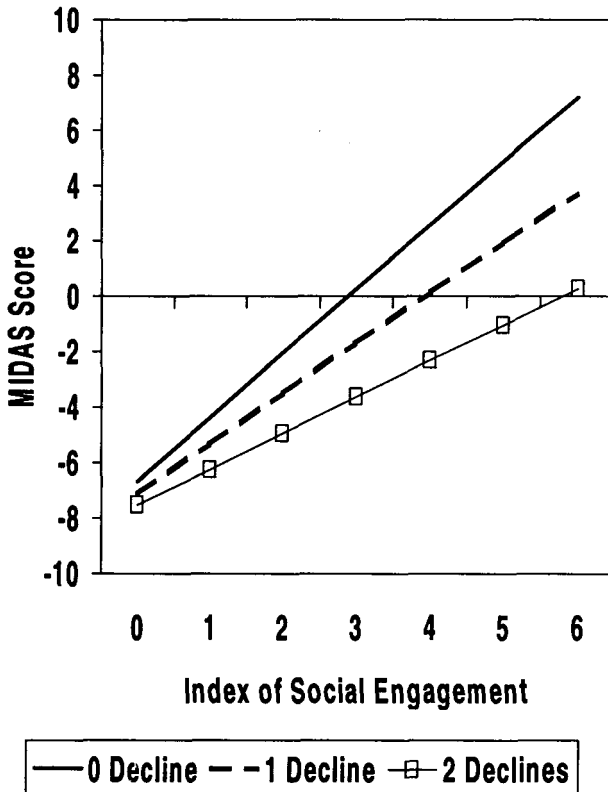| R-Square	F-Value	df	Prob>F
0.23	13.4	8	0.0001

Figure 1 Predicted MIDAS values based on interaction of social engagement and number of areas of declining functional ability

Table 4
Final multiple linear regression model for sum of mood RAP items

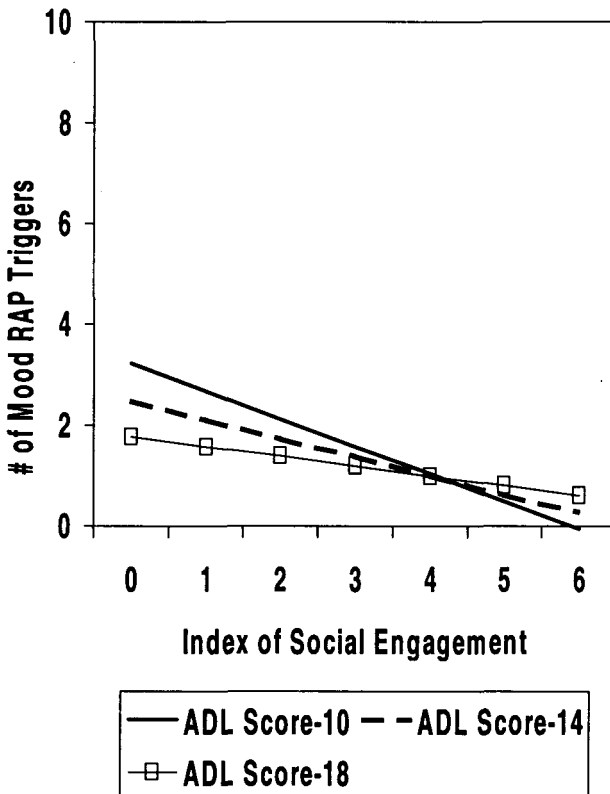| Variable	Beta	SE	p-Value
Index of Social Engagement	-0.553	0.26	0.0002
Activities of Daily Living (ADL)	-0.232	0.06	0.003
Social Engagement x ADL	0.340	0.02	0.02
Negative Interaction	0.342	0.22	0.0001
Stressful Events	0.126	0.15	0.01
Intensity of Pain	0.178	0.41	0.001
Frequency of Pain	0.110	0.50	0.04
R-Square	*F-Value*	*df*	*Prob>F*
0.26	16.30	7	0.0001

Figure 2 Predicted number of mood RAP triggers present based on the interaction between social engagement and RUG-III ADL score

term constructed between the Index of Social Engagement and the Deterioration Index, a good or excellent relationship with the key contact

person, and lower levels of pain. In addition, the summary variables for specific facilities were again asociated with positive MIDAS scores. Figure 1 presents the predicted values of MIDAS based on the interaction term constructed between the Index of Social Engagement and the Deterioration Index. Residents with a low score on the Deterioration Index do best overall with respect to positive affect. All three groups do better with higher levels of social engagement. What is most striking is that at low levels of social engagement (i.e. 0), there is little differentiation across the three levels of the Deterioration Index – all three groups remain at low emotionality levels.

Table 4 presents the final multiple linear regression model for the Mood State RAP. Variables significantly related to more mood state problems were low levels of social engagement, low scores on the Activities of Daily Living Scale (indicating more independence in ADLs), a high frequency of pain, moderate to severe intensity of pain, an increased number of stressful events, and high levels of negative interaction. In addition, there was a significant interaction term for the Index of Social Engagement and the ADL Scale.

Figure 2 shows the predicted values for the Mood RAP based on the interaction between the Index of Social Engagement and the ADL Scale. Those residents with lower levels of ADL impairment (i.e. an ADL score of 10, which indicates lower levels of disability) trigger the most Mood RAP items at low levels of social engagement (i.e. 0). All residents have fewer triggers with higher levels of social engagement, but the differences are most pronounced for residents with greater ADL independence. At a moderately high level of social engagement (i.e. 4), residents are predicted to have approximately the same number of Mood RAP triggers regardless of ADL levels.

Discussion

A number of interesting findings have emerged as a result of this study. Among the variety of social variables considered (e.g., volume of support, types of social support, recency of visiting, quality of relationships, negative interaction), social engagement appears most consistently as a predictor of psychosocial well-being. No clear evidence was found for the buffering effects of social support, but the effects of several social and stress variables were statistically significant. For example, it is clear that the intensity with which residents experienced pain had a substantial effect on their levels of disposition (happiness), affect (emotionality), and number of Mood RAP triggers. Improved pain management must therefore be of high priority in any long-term care setting. In addition, higher levels of social engagement were consistently shown to be associated with more positive outcomes in the well-being measures. Negative interactions were strongly associated with mood items being triggered on the Mood State RAP.

The relationship between stressful events, social relationships and health is most clearly observed by the interaction between the Index of Social Engagement and the Deterioration Index in the MIDAS model. The literature on buffering effects would have led one to predict a convergence of well-being scores at the higher levels of social engagement and greater disparity among groups with differing degrees at lower levels of engagement. Instead, these data suggest that social engagement *magnifies* the positive effects of lower levels of deterioration. Residents with fewer declines had more positive affect scores overall; however, all residents had significantly higher affect scores with higher levels of social engagement. At low levels of social engagement, residents tended to have low affect scores regardless of whether or not they had declines in ADL, hearing and communication, cognitive performance, urinary continence, and changes in overall care needs. The Index of Social Engagement has the most significant effect in all models, suggesting that it is the most important variable for explaining variation in well-being among residents. The individual items in the Index of Social Engagement deal with a number of issues related to social competence, participating in activities and involvement in the facility.

A good or excellent relationship with the key contact person was also associated with higher affect scores. However, the sum of support from all sources was not significant in all models, and restricting analyses to specific types of support (e.g., confiding) did not improve explained variance (results available on request). This does not suggest that the amount and type of support does not matter, because nurse's ratings of the overall quality of the relationship tended to include consideration of how supportive ties were.

Even though the explained variance for each of these models was similar (14%, 23% and 26%, respectively), they have only a few variables in common. Clearly, there are similar main and interaction effects of the Index of Social Engagement with the health related variables (i.e. ADL Scale, Deterioration Index). In addition, the intensity with which residents experienced pain contributed significantly to each of the final models. However, the measure of negative interaction, and the sum of stressful events were associated with more Mood RAP triggers, but were not significant in the final MIDAS model.

There were a number of differences that emerged between the various facilities with respect to the outcome variables under study. One facility in particular had more positive happiness (SHARP) and affect (MIDAS) scores than the other sites. There may be some differences in the composition of the populations at these facilities not measured in this study that could account for the observed differences. Alternatively, there may have been systematic differences in nurses' tendency to rate patient well-being across the different sites. It would be useful to have longitudinal data to explore more fully the observed facility differences in happiness and affect

scores. That is, baseline level may differ but changes in well-being scores may be more consistent across facilities.

The adequacy of proxy measures for assessing resident quality of life is one area of possible contention. Research on the use of proxy responses in long-term care settings has shown that they can provide an accurate source of information for demographic and disease characteristics in instances where residents cannot be interviewed directly (Magaziner et al., 1987). However, family proxies have been found to be less able to accurately report on more subjective information, such as symptoms (Magaziner, Hebel, & Warren, 1987). In this study, nursing staff were used as proxies for all residents. So, the nursing staff member who knew the resident the best and who had worked with that resident for a significant length of time completed the supplementary questionnaire. These staff members were therefore likely to have had knowledge of the resident's typical activities and level of control in a number of areas. However, the possibility of under-reporting on such items as level of negative interaction could have occurred. Research on the use of nurses as proxy respondents for residents is an area for future development, especially with respect to the more subjective aspects of care and social relationships.

The multivariate models reported here suggest that multifaceted interventions are needed to improve quality of life. The largest gains in improving quality of life may be realized when physical decline is slowed, pain is reduced and social engagement is maximized. In this sense, chronic and long-term care facilities should not be seen only as a venue for medical intervention to improve physical health. The quality of life of residents is a multidimensional construct that can only be truly maximized when health is addressed through a more holistic approach dealing with the physical, mental, social and emotional components of well-being. Herein lies the potential utility of the MDS as an assessment instrument. A number of studies have shown that one of the important benefits of implementation of the MDS as a care planning system is improved attention to psychosocial needs (see, for example, Ikegami, Igarashi, Takagi, Kato, & Mor, 1998). The MDS includes a series of measures of social engagement, negative interaction, pain, disability, functional decline and family contact, all of which have been demonstrated here to be important factors related to psychosocial well-being, including the measures of mood in the MDS.

Note

1   Home for the Aged residents are for the most part older, less clinically complex, and more mobile.

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