FROM THE EDITORS - Margaret McMillan and Jane Conway

USING RESEARCH AND EDUCATION TO CHANGE PRACTICE

All the papers in this *AJAN* focus on research and education as mechanisms for changing practice and improving the quality of health care.

In recent times there has been renewed emphasis on concepts of quality, efficiency and effectiveness in health services. However, the rhetoric has changed from one which focuses on the performance of individual professions, to that which has been considered a more patient-centred orientation in determining quality of health care.

A recurring theme in the discussion of improved patient-centred outcomes is the concept of the effective multiprofessional health care team. It has been argued that the increasingly complex world of health service delivery is dependent upon effective functioning of teams involving a range of professionals. In this editorial we wish to challenge nurses to consider the implications of this for the nursing profession. The assumption that health care delivery is enhanced by meaningful interaction among members of a multiprofessional team raises a number of issues:

How patient-focused are measures of multiprofessional team effectiveness?

What governance structures best support the implementation of multiprofessional health service delivery?

To what extent do existing structures limit the capacity for nurses' contribution to decision making, planning and organisational development to be recognised and acknowledged?

A number of strategies have been proposed to facilitate the delivery of patient-focused health care that is reliant on enhanced integration of the health care team. These include:

- creating environments conducive to change,
- ensuring effective communication among structural components,
- extending the evidence base across education, management and practice,
- using formal authority appropriately,
- responding to complexity by making decisions in a timely fashion,
- including clinical leaders in decision making processes,
- capitalising on technology to integrate systems and gathering information to inform clinical and management processes,
- showcasing excellence in micro and macro level activities, and,
- ensuring education is inclusive of patient centred service delivery and models multi-professionalism.

Clearly these have a number of implications for all facets of nursing. Nursing is moving from its reliance on hierarchical structures to potentially becoming a leader in networked health service delivery. Evidence from case studies written by nurses tell us that 'the advanced nurse instigates, maintains and uses collegial networks in a mature, confident and assertive manner to achieve positive client outcomes' (ANF Competency Standards 2000). However, we question the extent to which nurses are adequately prepared for or supported in undertaking this and suggest that structures and processes in health service delivery may constrain nurses operating in a way which meets this competency standard.

A number of authors identify that leaders can be both highly visible or as Henney suggests 'a bit offstage' (1999, p.85). The current emphasis on multiprofessional practice will necessitate nurses moving closer to centre stage. Inherent in this movement are a number of responsibilities. There is a need to develop a capacity for 'citizenship' within the contemporary health care team. This requires a level of responsibility and participation that is focused on political integration (Scott 1999, pp. 135-136). Too often, nurses have been included in multiprofessional teams, at all levels, through tokenism or imposition.

The challenge for the nursing profession is to establish practices which reflect a valuing of the strategies outlined above, along within nursing, while simultaneously committing to being a 'good citizen' within the multiprofessional team. The indicators of good citizenship in nursing are well articulated within the ANF *Competency Standards for the Advanced Nurse* which acknowledge that the element of collaboration is complex and involved 'and requires' using maturity and political astuteness to deal effectively with issues.

There is a substantial body of evidence of good management and examples of leadership in nursing. However, there is a need to broaden the focus of social movement towards professionalism in nursing to explicate what 'good citizenship' means to nurses working in the multiprofessional team. Publication of papers in journals such as *AJAN* provide examples of the capacity of nurses to engage in the debate around developments in pursuit of quality health care. The last critical step for nurses as leading citizens is the provision of evidence of actions that centre on the broad implementation of what is found in pockets of excellence.

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GUEST EDITORIAL - Dr Stephanie Chee, PhD, MA, BN, RN, RM, Dip (TM)

General Manager, Parkway Health Care Foundation, Singapore

THE OLDER PERSON WITHIN A CHANGING SOCIETY

With the increasing numbers of older people in societies across the world, there is always the potential burden of ill health and co-morbidity which often accompanies ageing. There is also potentially increased susceptibility for impaired functions and decreased quality of life. It is important that design and implementation strategies for programs, services and schemes take into account the express informed wishes of client groups. In Singapore there is also a need to focus on issues of cultural sensitivity, given the diversity of the population and the long history of family support for older people. With the numbers of working women and smaller family groups there is a need for alternative sources of support for older people in Asian countries in particular. These sources of support are increasingly coming from government and non government sources.

The changing social demands on families have placed extra demands on policy makers to devise alternative models of care.

Singapore, like other nations across the world is coming to terms with how to cope with providing a suite of comprehensive services to its ageing population.

Singapore's Geylang and Toa Payoh Senior Citizens' Health Care Centres provide day care, rehabilitation and post acute community care services to stroke patients and frail older people between 7am and 7pm on weekdays. By January 2003, these two centers will have provided services for 1000 older patients in need. Services provided at the centres are heavily subsidised through public donation. The annual operating cost for both centres is estimated at $1 million Singapore a year.

Limited resources demand exceedingly careful allocation and accountability for professional action. It is important for professionals and decision makers to constantly review their current directives on allocation of resources including funding redistribution. There is a need to consider the potential for the transfer of an emphasis on health and social services provision to primary health care in the community - that is - away from hospital units. At a time of constraints on resources it is only by such a shift that the necessary increased provisions for the increasing numbers of older people can be made.

In Singapore, as elsewhere, there is often an emphasis on more acute patient care with health promotion skills and the long-term needs of the frail older people receiving comparatively less attention. This is exacerbated by the fact that the nation is a hub for other Asian societies demanding acute care. Any avenue that accommodates activities that could lead to a healthier, more vibrant, old age for all local people demands exploration. Preventive work is beneficial, not only in terms of the individual's comfort and happiness, but also very much in cost-effective terms when considering the longer perspective.

Health and social issues are inextricably linked for older people, with those in the poorest social circumstances faring considerably worse than the more privileged. Different professionals come from very different social backgrounds, have different emphases in their training, and often approach care situations very differently. They have dissimilar financial systems to support their practice and the various professional groups are not subject to any central coordination of their care efforts. Unless all those working with older people recognise that they are partners in caring, with no one group having the monopoly on all the answers, the fragmented approach which has dogged progress to date will simply continue.

The following are the five major foci the Singapore centres will be undertaking for the next two years:

1. Improving the availability and utilisation of rehabilitation community aged care and post acute community care services needed by patients and older people with complex and chronic health conditions.
2. Assuring that all older patients have access to affordable community rehabilitative, geriatric and post acute community care.
3. Promoting the importance of good physical, mental and social health, and, healthy lifestyles and preventing and detecting diseases.
4. Networking with various community groups and schools to provide better outreach to encourage older people and the community to take part in the centre's activities.
5. Increasing and improving partnerships between volunteers and professionals in community health initiatives and fund raising efforts.
6. Last but not least, providing training, education and consultancy services for other health and social care providers.

For the well being of the frail aged, the public, private and non-governmental sectors must work together in a spirit of true cooperation combining the best each has to give.

NURSING RESEARCH IN VICTORIA: A SNAPSHOT OF CURRENT POLICY

Brenda Happell, RN, PhD, is Associate Professor/Director, Centre for Psychiatric Nursing Research and Practice, The University of Melbourne, Australia

Linda Johnston, RN, PhD, is Associate Professor/Associate Director, Centre for Nursing Practice Research, The University of Melbourne, Australia

Jaya Pinikahana, BA Hons, MSc, PhD, is a Research Fellow, Centre for Psychiatric Nursing Research and Practice, The University of Melbourne, Australia

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Key words: nursing research, nurses' attitudes, research utilisation, survey design

ABSTRACT

The primary aim of this study was to determine the current profile of nursing research in the acute and psychiatric domains of hospitals/health services in Victoria. A self-administered questionnaire was developed by the authors to obtain information on the individual, environmental and organisational characteristics influencing nursing research activity within these settings. The questionnaire was distributed to 422 health services in Victoria. Eighty-eight responses were received representing a return rate of 20.9%. The respondents indicated a high level of interest in research and research utilisation, with a preparedness to provide organisational support. However, relatively few reported the articulation of nursing research into the organisations' mission statement or employing nurses in dedicated research positions. The results suggest that organisations continue to be hampered by a number of barriers to increasing research activity and utilisation by nurses.

INTRODUCTION

Research must become an important aspect of nursing in terms of education, but most importantly in terms of clinical practice, to build up a body of knowledge to enhance the professional status and scholarship within the context of a health sciences discipline and to ensure that optimal care is provided to patients (Sellick et al 1996; Hicks 1997). Interestingly, there has been little scientific investigation of the degree to which the implementation of research findings improves the quality of patient care. However, the findings of a study by Heater et al (1988) suggest that patients who receive research based nursing care can generally expect better outcomes than patients who receive routine nursing care.

Despite this finding, a large proportion of nursing practices do not have a sound scientific basis (Hicks 1997). An audit of clinical nursing research conducted in Victoria, Australia, in the early 1990s suggests that the importance of nursing research has not infiltrated hospital policy. Less than half (45%) of the hospitals surveyed expected nurses to be involved in research activities. Even fewer (25%) had established nursing research policies, with only 31% of hospitals having nursing positions with a primary research function. Fifty percent provided research education for nurses but the amount and type was not defined (Sellick et al 1996). It would appear, therefore, that no systematic and widespread approach to developing a nursing research culture within the practice domain was present in this State at the time of the study.

A growing body of literature from Australia and overseas suggests that the findings of Sellick et al (1996) do not reflect the attitudes of nurses (Wells and Baggs 1994; Sellick et al 1996; Wright et al 1996; Deans and Lea 1997; Tisdale et al 1997). From a survey of nurses' attitudes, the authors found that the potential value of research to nursing practice is appreciated. A relationship between level of education and a positive view of research was identified in some studies (Sellick et al 1996; Tisdale et al 1997) yet found not to be an influence in the study by Wright et al (1996).

Evidence highlights a number of barriers to the use of research findings in practice including nurses' lack of autonomy, insufficient time, poor cooperation from other health professionals, nurses' attitudes, lack of interest, poor research evaluative skills, and the accessibility of research findings (Funk et al 1991; Caroll et al 1997; Hicks 1996; Dunn et al 1998; Parahoo 2000). Any increase in nursing research predominantly reflects the activity of nurse academics (Hicks 1996). While this activity is highly valuable in contributing to the development of a body of knowledge, its lack of impact on the clinical field is cause for concern. Not only do nurses consider themselves insufficiently equipped to conduct research, but research results suggest they are not implementing research findings into the practice situation (Wright et al 1996).

The utilisation of research for the improvement of nursing practice has not yet been well demonstrated. For example, Pearson et al (1992) demonstrated that nurse-managed beds for patients requiring acute nursing care are cost-effective and contribute to improved health outcomes but these findings have not been widely adopted. Veeramah (1995) reported that few nurses working in mental health care settings applied research findings in clinical practice. Similarly, Camiah (1997) found very few clinical areas where research-based evidence is applied. As McSherry's (1997) results indicate, while nurses agree with the introduction of research based practices, the fundamental barriers of 'pressure', 'support', 'confidence', and, 'understanding' continue to exist.

The purpose of this study was (a) to develop and validate an instrument to evaluate the profile of nursing research, which can be used in other nursing settings to collect base-line data, and measure changes over time, and, (b) to determine the current profile of nursing research in the acute and psychiatric domains of public and private hospitals in Victoria. While the results of the Sellick et al (1996) study have provided a useful basis for understanding the Victorian situation, the results presented are not clearly defined. Nursing positions with a primary research function is not further elaborated and the reader is not able to ascertain the level of this appointment (eg professor, research nurse) or the amount of their work time that is devoted to research. A more detailed analysis of nursing research activity in Victorian hospitals is required to provide an accurate perspective of the position of nursing research within the clinical domain.

METHOD

A list of hospitals and health services in Victoria was compiled from health services databases. A nursing research in Victoria audit tool, accompanied by a letter inviting participation, was distributed by mail to all 422 hospitals and health services on the list. The information was sent to the directors of nursing of hospitals and to the area managers of mental health services. Eighty-eight questionnaires were returned (response rate = 20.8%). The majority of respondents were directors or assistant directors of nursing (n=59, 67%). Three area mental health managers, two senior psychiatric nurses and 23 others were among the respondents to this survey.

Questionnaire

The nursing research in Victoria audit tool was designed by the researchers to obtain detailed information on the individual, environmental and organisational characteristics influencing nursing research activity in the clinical areas of the institutions. A thorough review of the literature was conducted in order to identify the major issues for inclusion in the questionnaire.

The instrument developed was a self-administered, anonymous questionnaire, designed to seek detailed information on the individual and organisational characteristics influencing the conduct of research and research utilisation based on the work of Funk et al (1991). Individual characteristics include education, and area of speciality and seniority. Organisational characteristics include available resources, functional differentiation, culture, internal and external communication channels and decision making processes. Participants were asked to respond to statements in a five point Likert-type format (1 = strongly agree; 2 = disagree; 3 = neither agree nor disagree; 4 = agree; 5 = strongly agree).

A pilot study was undertaken prior to data collection to ensure the validity of the instrument, with 20 senior registered nurses. These people were chosen on the basis that they would have a knowledge of the issues concerned but would not be the people likely to complete the final questionnaire. Face and content validity of the instrument were confimed by an expert panel consisting of four nursing academics and two experts in survey design. All nurses felt that as the survey was confidential, non-threatening, and user-friendly colleagues would respond, but asked that minor changes be made.

Data analysis

Data analysis was undertaken using SPSS (Statistical Package for Social Sciences). Comparisons of respondents' views on nurses' involvement in research were made using paired t-tests and statistical significance was assumed at $p<0.05$. Pearson's chi-square statistical test was performed in order to examine whether there was a difference between metropolitan and rural, private and public hospitals in the articulation of a research mission statement. Similarly, possible differences in level of research support by organisational type: public versus private; in-patient versus community versus combined; specialist versus general; and, rural versus metropolitan hospitals/organisations were examined.

RESULTS

Organisational characteristics

The majority of the organisations that responded to the questionnaire were hospitals (62.5%), 29.5% were health services and 8% were other organisations. Approximately two thirds were public and one-third private. Just over half provided general health services, 20% provided specialist services including aged care, palliative care, neurology, obstetrics and gynaecology and orthopaedics and 16% provided psychiatric services. The majority of organisations were located in metropolitan areas with one-third located in rural areas. A little over 50% of organisations provided combined in-patient and community health services. The degree to which these responses represent Victoria as a whole was considered by comparison to the health sector in Victoria. Hospitals in Victoria are 60% public and 40% private. Approximately 58% are located in the metropolitan area and 42% are rural. The responses to this questionnaire therefore appear to provide a cross section of public and private but demonstrate a slight over-representation of metropolitan services.

Articulation of nursing research in the organisations' mission statement

Thirty-four percent of the organisations surveyed (n=30) indicated that nursing research was clearly stated in the mission statement of the organisation. Twenty-two percent (n=19) employed nurses in dedicated research positions. A total of 27 nurses were employed at various levels of appointment including: associate professor (n=8), research fellow (n=3), research nurse (n=11), research assistant (n=2) and project officer (n=3) who worked in a combination of full time and half time positions. A further 18% (n=16) of organisations employed nurses in combined research and clinical positions. They employed a total of 18 members of staff including: associate professors (n=2); resource nurses (n=3); educator (n=1); research nurse (n=6); research midwife (n=2); quality manager (n=1); infectious control nurse (n=2) and 1 project officer.

Staff development was reported to be provided by 90% (n=79) of the organisations, and 58% (n=51) included staff development activities related to research topics. An overview of the research topics provided includes: the utilisation of research into nursing practice (31.8%): the presentation of research findings (n=19, 22%); the design and implementation of research projects (20%); nursing research methods (20%); and applying for research funding (7%).

Collaborative research links were investigated to ascertain the existence of research collaborations with major national and international research and health service organisations. Only 2% of respondents indicated that they had no research links, while 34% (n=30) had existing collaborations with more than one organisation. University nursing departments accounted for the highest number of identified collaborations (51.1%), followed by hospital departments (39.7%). Twenty-two percent had research links with state or national hospital-based research centres, 15% with state or national research centers external to their organisation, and 14% had collaborative links with state based research centers other than hospital-based. Eight percent of respondents reported links with international research centres and 3% (n=3) with international hospital based research centres.

The respondents were asked to indicate whether their organisations include research activities in position descriptions as selection criteria. The majority of organisations (n=56; 63%) indicated that they do so. The 36% (n=32) of organisations who do include research in position descriptions tended to do so only for nurses employed at Grade 3 and above.

Respondents' views on nursing research and utilisation

Table 1 presents participants' responses to questions regarding supports the organisation is able to provide for nursing research. A number of organisational barriers to the conduct of nursing research and implementation of research findings were identified. The required resources, particularly sufficient time and finances, were not considered readily available to support research. On the more positive side participants indicated strong organisational encouragement for nurses to become involved in research and considered that medical staff would be likely to work cooperatively with nurses to implement research into practice. The view was expressed however that a wider organisational strategy is required to create a culture shift towards research-based practice.

Table 1: Organisational support for nursing research (mean scores).

Organisational factors	$\bar{x}$ (SD)
Medical staff would not cooperate with nurses to implement research into practice	2.2 (1.0)
Resources in my organisation/clinical service are adequate to implement research into practice	2.6 (1.2)
Financial resources are available for nurses who are interested in undertaking research	2.6 (1.3)
There is simply not enough time and resources to support nursing research	3.3 (1.1)
The policies and regulations in my organisation do not require any changes based on research evidence	2.0 (1.0)
My organisation actively encourages nurses to be involved in undertaking research	3.0 (1.1)
A wider organisational strategy is required to make a culture shift to research based practice	3.9 (0.9)

The responses indicated a high level of personal interest in research, the utilisation of research into practice, and the relevance of research to nursing practice. Most organisations encourage nurses to be involved in collaborative research with other health professionals. There was broad agreement among respondents that the implications for practice are not always made clear in research publications; research is not reported in a clear and readable fashion; and, research reports and articles are not readily available to clinicians. This information is presented in Table 2.

Table 2: Respondents' views on nursing research and utilisation (mean scores).

Respondents' views	$\bar{X}$ (SD)
I have a personal interest in research	3.9 (0.9)
I have a personal interest in utilising research	4.3 (0.6)
I believe that research is relevant to a nurse's practice	4.5 (0.6)
I encourage nurses to be involved in collaborative research with other health professionals	4.2 (0.6)
The implications for practice are not always made clear in research publications	3.6 (0.7)
Research is not reported in a clear and readable fashion	3.5 (0.8)
Research reports and articles are not readily available	3.0 (1.0)

Respondents' views on nurses' research skills and interest

The responses to these questions suggest some concerns with nurses' ability to access research findings and information, and to appraise research results particularly where statistical analyses are involved. Nurses' appreciation of the value of research to practice was, however, regarded as quite high, with a general sense that nurses would have the opportunity to, the interest in, and feel sufficiently empowered to change practice on the basis of research evidence. More detailed information is presented in Table 3.

The degree of support for nursing research was compared between those organisations with, and those without, nursing research policies articulated into their mission statement. Means and standard deviations for the two groups are presented in Table 4. The t-tests results show that there is a statistically significant difference between whether research is within the organisational mission and the availability of financial resources for nurses who are interested in undertaking research (t=0.009, $p<0.05$). Similarly, a statistically significant association was found between views on encouraging nurses to be involved in undertaking research (t=0.001, $p<0.05$) and the inclusion of research within the mission statement.

Table 4: Comparison of mean scores of respondents' by integration and non-integration of nursing research into the organisation's mission statement.

Organisational factor	Presence of research in mission statement (n=30) $\bar{X}$ (SD)	Absence of research in mission statement (n=58) $\bar{X}$ (SD)	t-value
Medical staff would not cooperate with nurses to implement research into practice	2.2 (1.0)	2.2 (1.0)	0.90
Resources in my organisation/clinical service are adequate to implement research into practice	2.9 (1.1)	2.5 (1.2)	0.15
Financial resources are available for nurses who are interested in undertaking research	3.2 (1.1)	2.4 (1.3)	0.01*
There is simply not enough time and resources to support nursing research	3.5 (1.0)	3.1 (1.2)	0.16
The policies and regulations in my organisation do not require any changes based on research evidence	1.9 (1.0)	2.1 (1.0)	0.55
My organisation actively encourages nurses to be involved in undertaking research	3.6 (1.0)	2.7 (1.0)	0.001*
A wider organisational strategy is required to make a culture shift to research based practice	3.7 (1.0)	4.0 (0.9)	0.89

* p value <0.05

Table 3: Respondents' views on nurses' involvement in research (mean scores)

Respondents' views	$\bar{X}$ (SD)
Nurses in my organisation are encouraged to gain research related qualifications at a higher degree level	3.2 (1.0)
Most nurses in this organisation would not support changes based on research evidence	2.1 (0.7)
Nurses are unaware of research findings	3.1 (1.0)
Nurses do not feel they have enough authority to change patient care procedures	2.7 (1.0)
There is not enough time on the job for nurses to implement new ideas	2.7 (1.0)
Nurses are isolated from colleagues with research knowledge with whom to discuss the research	3.4 (1.0)
Nurses do not feel they are capable of evaluating the quality of research	3.5 (1.0)
Nurses do not consider that research is relevant to practise	2.2 (0.8)
Nurses are generally not willing to change or try new ideas	2.5 (0.9)
Nurses feel the benefits of changing practice will be minimal	2.6 (0.9)
Nurses are uncertain whether to believe the results of research	2.8 (0.9)
Statistical analyses are not understood by most nurses	3.9 (0.7)

Respondents' views on research and research utilisation were compared between those organisations with, and those without, research clearly articulated within their mission statement. It demonstrates that there is no statistically significant difference between any of the items and the presence or absence of research within the mission statement (p>.05).

Table 5: Comparison of mean scores of respondents' views on research and research utilisation by integration and non-integration of nursing research into the organisation's mission statement.

	Presence of research in mission statement (n=30) $\bar{x}$ (SD)	Absence of research in mission statement (n=58) $\bar{x}$ (SD)	t-value
I have a personal interest in research	4.0 (1.0)	3.9 (0.8)	0.54
I have a personal interest in utilising research	4.4 (0.6)	4.2 (0.6)	0.26
I believe that research is relevant to a nurse's practice	4.3 (0.6)	4.5 (0.5)	0.11
I encourage nurses to be involved in collaborative research with other health professionals	4.2 (0.6)	4.2 (0.7)	0.86
The implications for practice are not always made clear in research publications	3.6 (0.6)	3.6 (0.7)	0.97
Research is not reported in a clear and readable fashion	3.6 (0.8)	3.5 (0.9)	0.87
Research reports and articles are not readily available	3.0 (1.1)	3.1 (1.0)	0.57

The mean scores for respondents' views on nurses' involvement in research by organisations with, and organisations without, nursing research as part of the organisational mission statement are presented in Table 6. Those organisations that include nursing research within the mission statement are less likely to agree with the statements 'nurses do not consider that research is relevant to practice' and 'statistical analyses are not understood by most nurses' than those who do not.

Examination of possible differences in level of research support by organisational type: public versus private; in-patient versus community versus combined; specialist versus general; and, rural versus metropolitan, was undertaken through a series of chi-squared tests. There was no statistically significant relationship between organisations with or without nursing research articulated within the mission statement and the organisational type, ownership, whether general or specialist and or metropolitan, rural or regional. However, a statistically significant association was found between private and public hospitals in relation to the inclusion of research activities in the selection criteria for position descriptions. It was found that publicly funded organisations are more likely to include research activities in selection criteria (p<0.05).

Table 6: Comparison of mean scores of respondents' views on nurses' involvement in research by integration and non-integration of nursing research into the organisation's mission.

	Presence of research in mission statement (n=30) $\bar{x}$ (SD)	Absence of research in mission statement (n=58) $\bar{x}$ (SD)	t-value
Nurses in my organisation are encouraged to gain research related qualifications at a higher degree level	3.2 (1.0)	3.2 (1.0)	0.79
Most nurses in this organisation would not support changes based on research evidence	2.0 (0.7)	2.2 (0.7)	0.20
Nurses are unaware of research findings	3.0 (1.1)	3.1 (1.0)	0.57
Nurses do not feel they have enough authority to change patient care procedures	2.7 (1.0)	2.7 (1.0)	0.75
There is not enough time on the job for nurses to implement new ideas	2.6 (0.9)	2.7 (1.1)	0.80
Nurses are isolated from colleagues with research knowledge with whom to discuss the research	3.3 (1.0)	3.5 (1.0)	0.30
Nurses do not feel they are capable of evaluating the quality of research	3.2 (1.0)	3.6 (0.9)	0.06
Nurses do not consider that research is relevant to practice	2.0 (0.6)	2.3 (0.8)	0.04
Nurses are generally not willing to change or try new ideas	2.3 (1.0)	2.5 (0.9)	0.93
Nurses feel the benefits of changing practice will be minimal	2.5 (0.8)	2.6 (0.9)	0.61
Nurses are uncertain whether to believe the results of research	2.8 (0.9)	2.9 (1.0)	0.86
Statistical analyses are not understood by most nurses	3.7 (0.7)	4.1 (0.6)	0.03*

* p value <0.05

A statistically significant association was found between the size of the organisation (eg number of beds, number of community patients) and a number of the responses given. In summary, it appears that the larger the size of the organisation, the greater the opportunities for nurses to become involved in research, to gain access to research reports and articles, to gain access to colleagues with research knowledge and to receive encouragement to gain research related qualifications.

DISCUSSION

The findings of this study suggest some development in nursing research activity has occurred in Victoria since the conduct of Sellick et al's study (1996) in the early to mid

1990s. At that time only seven (24%) organisations had a formal nursing research policy.

The proportion of organisations that have articulated nursing research into their mission statement has grown to 34% (n=30) in the current study indicating an increase of 10% within a decade. Conversely, the number of research positions specifically designed for nursing research in organisations has declined from 38% (Sellick et al 1996) to 21% during this period.

On closer analysis, however, if the figures for organisations with joint academic-clinical positions are included, the figure in the current study rises to 40% (not withstanding the difficulty in estimating what proportion of time the incumbents of these positions allocate to research activity). Comparisons with the Sellick et al (1996) study are, however, difficult due to the smaller sample size (n=29) and the fact that only hospitals were surveyed in the Sellick et al study. The findings of the current study are based on a higher number of respondents and have included specialist mental health services in addition to general hospitals.

The results of the current study are encouraging particularly with respect to the inclusion of research in staff development programs. Importantly, collaborative research links with outside organisations appear to be expanding. A little over half of the organisations had research links with university nursing departments and about 40% had links with hospital departments. Clearly, there is scope to substantially improve the collaborative research links with national and international research organisations if both parties are committed to the same goal of expanding their research activity. It appears, however, that almost half of the organisations have no nursing research links with either hospital departments or university nursing departments. This is a strong indication of a need to establish further collaborative research links with academic and hospital departments in order to improve nursing research activity.

The attitudes of respondents to the value of nursing research were very encouraging. The findings reflected a strong commitment, interest and preparedness to become involved in nursing research and to collaborate with research centres. Almost all organisations surveyed recognised the importance of research and the utilisation of research findings into practice. Similarly, they acknowledged the relevance of research to nursing practice and encouraged nurses to be involved in collaborative research with other health professionals.

On the less positive side, the findings support the available literature in identifying that significant barriers exist to the establishment of a research culture for nursing. The majority of respondents indicated that lack of time, lack of infrastructure, lack of management support and a lack of resources prevented them from developing further research activity. Most respondents considered nurses to be relatively isolated from knowledgeable colleagues, and to experience difficulties in accessing and appraising research. This would seem to reflect a wider issue that spans across nursing education curricula and the organisational structure and culture. Although the nursing curricula can potentially be changed to accommodate more research, evaluation and statistical skills, it may not be tempting to overcome all the organisational barriers identified. Isolation from research knowledgeable colleagues, adequate time and resource allocation, for example cannot be altered in the absence of a significant change to organisational culture.

The findings of this study also support the broader research literature in suggesting that the value of nursing research is appreciated within the field (Wells and Baggs 1994; Wright et al 1996; Sellick et al 1996; Deans and Lea 1997; Tisdale et al 1997) and in identifying the barriers to further research involvement (both conduct and utilisation) by nurses within the clinical domain (Funk et al 1991; Carroll et al 1997; Hicks 1996; Dunn et al 1998; Parahoo 2000). The barriers are well documented and the challenge for the nursing profession must now become that of identifying, implementing and developing strategies to support the conduct of clinical nursing research and the utilisation of relevant research findings.

LIMITATIONS

The limitations for this study relate to the very low response rate. The researchers anticipated a low response and planned for it in our method. Sending two reminder letters, one near the deadline, did not make a high difference. As this study was conducted in Victoria it is also difficult to ascertain its generalisability beyond the State. Furthermore, the small sample size limits the extent to which these results can be considered representative of Victorian health care organisations.

CONCLUSION

Although the findings of this study must be interpreted cautiously, there is some evidence to suggest a gradual increase in nursing research and related activity since the conduct of the Sellick et al (1996) study during the early to mid 1990s. The level of research interest, research utilisation, collaborative research links, and preparedness from the organisations surveyed is positive and favourable, indicating a move toward more emphasis on nursing research within hospitals and health services. However, nursing research activity remains low with a number of barriers identified to its further development.

Nursing research needs to be collaboratively located, critically evaluated and organisationally assisted if a research culture is to develop. Most critically, nursing research needs to be articulated into the mission statement of every hospital and health service. Innovative approaches to increasing the relevance and applicability of research findings are required as a matter of urgency to address the current situation. Providing the skills to understand and implement research findings may be a positive step towards empowering nurses. The results of this study clearly provide the basis for establishing education workshops to enhance the development of research utilisation skills among clinically-based nurses and inform the manner in which research is taught in curricula at undergraduate, postgraduate and higher degree levels.

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DIFFERENCES IN ACCESS TO EVIDENCE BASED PRACTICE TRAINING AMONG HEALTH PROFESSIONALS

Andrew W. Miller, BA (Hons), is a Research Assistant, Division of Surgery, Repatriation General Hospital and Flinders University, South Australia, Australia

Craig E. Jones, BSc (Hons), Dip IT, is a Development Officer, Division of Surgery, Repatriation General Hospital and Flinders University, South Australia, Australia

Carole B. Pinnock, PhD, is a Principal Research Scientist, Division of Surgery, Repatriation General Hospital and Flinders University, South Australia, Australia

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Key words: evidence based practice, education

ABSTRACT

Research aims: To determine the availability of externally delivered awards and topics in evidence based practice to health professionals.

Method: Cross-sectional survey of health related awards offered externally within the Australian tertiary education system.

Major findings: Of the awards found to have content matter in evidence based practice which are offered externally, partially externally, or via the Internet, 76.1% are accessible by nurses, 23.9% midwives, 17.4% other health, 6.5% physiotherapists, and only 8.7% are accessible to general or medical practitioners.

Conclusions: Students of nursing and midwifery have greater access to externally delivered evidence based practice awards and topics at the graduate level than students in other health professions. This may correspond to greater advocacy and adoption of evidence based practice within these groups.

INTRODUCTION

The adoption of the techniques of evidence based practice (EBP) to improve the quality of health care is currently being promoted in nursing (Carnwell 2000; Closs and Cheater 1999), medicine (Del Mar and Glasziou 2001; Silagy 1999) and allied health care. An evidence based clinical practitioner is able to consult the research literature to generate new clinically focused knowledge for health care decision making. This involves a structured process, from the formulation of a clinically focused question, to identifying appropriate research literature, interpreting the literature, and finally applying this newly acquired clinically focused and research based knowledge to the specific clinical case being considered.

EBP requires a set of skills not typically obtained through training in clinical practice. An initial stage in the process requires the finding of evidence based clinical guidelines, systematic reviews, and original research articles that are likely to be useful in addressing a specific clinical problem. This stage requires a high degree of familiarity with research literature and electronic databases.

Once an appropriate piece of research literature is discovered, its validity and consequence must then be determined. This involves applying a framework of critical analyses to the study design to determine the rigor, significance and scope of the results. Consequently, to effectively implement EBP, clinicians also require some skills in epidemiology and biostatistics.

Lastly, and most importantly, the evidence based practitioner must have the clinical experience and research skills to be able to ensure that the knowledge generated from analysing research findings meets clinical information needs. At the beginning and end of the EBP process this is particularly important. If the initial clinically focused question is not generalised enough it will not be possible to be able to find a research based answer, however if this question is not specific enough it will not be useful for clinical decision making.

As such, in order for clinicians to use EBP they must first overcome a number of barriers, one of the most important of which is obtaining access to training in EBP (Glanville et al 2000; Kneale 2000; Retsas 2000; Thomson et al 2000; Rosswurm and Larrabee 1999). This training should provide clinicians with the skills described above, as well as the ability to use the tools of EBP, such as clinical practice guidelines and critically appraised topics. Educational material catering to meet this new demand for training should include information on how to locate, critique and apply current 'best' evidence for the purposes of improving practice.

Much training in EBP is provided through continuing professional education short courses. However, in addition, one would also expect to find flexibly delivered graduate awards for those health care professionals hoping to both obtain an academic qualification and improved technical skills in EBP. Flexibly delivered awards are accessible to a wider variety of clinicians and health care professionals than face-to-face awards, because they can be studied after hours, at home, or in the workplace. They are also more accessible to rural and remote professionals.

We surveyed Australian universities to see which professional groups can access flexible education at the graduate level in EBP skills. We wanted to find which institutions offer EBP awards and topics through external delivery, which non EBP awards have topics in EBP, which professional groups these awards and topics target, and which awards advocate EBP to their prospective external audience. The search strategies we adopted reflect those available to prospective students.

METHODOLOGY

The survey was undertaken from 5 March 2001 until 26 April 2001. An award is defined as a program of study, such as a master of nursing or a graduate diploma in primary health care, and a topic is a subject offered within an award, such as 'research and evaluation for practice'.

Externally delivered awards catering to health care professionals were surveyed using a multi-step process. Initially, educational directories were used to identify awards with content relevant to EBP. Education directories included in the survey were *The Directory of Higher Education Courses 2001, The Good Universities Guide to Postgraduate and Career Upgrade Courses 2001*, and *The Distance Education Directory 2001*. Students use these directories to locate externally delivered postgraduate awards for study. This approach has led to a cross-sectional view of the nature and number of awards available to students seeking access to training in EBP.

Awards were reviewed in detail if there was reference to any of a set of keywords chosen that imply a focus towards EBP (Table 1). We searched for awards containing EBP in both an 'explicit' (Level 1) and 'implicit' (Level 2) sense. To be classed as a 'Level 1' award, topics offered within the award had to use the words 'EBP' or 'evidence based' in their descriptions. Level 2 awards were those with descriptions reflecting the principles of EBP but not using these terms. Without using these terms, an award remained 'Level 2' (implicit focus) regardless of whether it was probable that the overriding concern of the award and/or topic was that of EBP.

Table 1: List of phrases used in identifying awards and topics.
(evidence AND based AND practice) OR EBP OR (evidence AND based AND medicine) OR EBM
research AND practice
clinical AND (applied science OR research OR theory)
clinical AND epidemiology
(appraisal OR critiquing) AND research
critically AND appraised AND topic
application AND research
(clinical OR practice) AND research AND (techniques OR dissemination)
investigative AND approaches AND practice

Search terms and phrases that formed inclusion criteria for web and paper-based searching. The keywords are related through logical operators (capitalised). In cases of multiple logical operators brackets specify precedence.

In a second phase, identified awards were examined to the topic level for material oriented towards EBP. Topic information was accessed on the institution's web site, from paper-based promotional material, and through electronic correspondence with program and award coordinators. Following this, awards that could not be conservatively said to contain externally delivered topics with EBP oriented material were excluded from the study. The final list of awards represents the subset of the total number of distance delivered awards containing EBP oriented topics.

RESULTS

Table 2 shows the awards that were identified that contained EBP oriented content. In total 45 unique awards were identified that contained EBP oriented content. Awards are listed as being Level 1, containing topics that refer explicitly to EBP content, or Level 2, topics containing material with an implicit EBP focus. Fifty eight percent of awards identified contained Level 1 topics, 42% contained Level 2. In total, 45 unique EBP awards were found, and only 29 EBP topics. This is due to several awards giving access to the same topic, and topic information being less accessible or available than award information.

Table 2: Externally delivered postgraduate awards with EBP content as determined by survey.

State	Award	Level
New South Wales	Grad Cert of Anaesthetics & Recovery Room Nursing	1
	Grad Cert of Gastroentological Nursing	1
	Grad Cert of Perioperative Nursing	1
	Grad Dip in Health Science (Drug & Alcohol)	2
	Grad Dip of Clinical Practice (Acute Care)	1
	Master of Health Science	2
	Master of Applied Management (Nursing)	2
	Master of Health Science (Drug & Alcohol)	2
Queensland	Grad Cert of Clinical Nursing	2
	Grad Cert of Independent Midwifery	1
	Grad Dip of Clinical Nursing	2
	Grad Dip of Nursing (Mental Health)	1
	Grad Dip of Occupational Health & Safety Nursing	1
	Grad Dip of Public Health	1
	Master of Advanced Nursing Practice	2
	Master of Advanced Nursing Practice (RR)	1
	Master of Clinical Nursing	2
	Master of Midwifery (Post-Endorsement)	1
	Master of Midwifery (Pre-Endorsement)	1
	Master of Nursing	1
	Master of Nursing Studies	2
	Master of Occupational Health & Safety Nursing	1
	Master of Public Health	1
	Post Grad Dip of Midwifery	2
South Australia	Grad Cert in Health (Midwifery)	2
	Grad Dip of Clinical Nursing	1
	Grad Dip of Nursing Science	1
	Master of Clinical Nursing	1
	Master of Midwifery	1
	Master of Nursing	2
	Master of Surgery	2
Victoria	Grad Dip of Case Management	1
	Master of Clinical Medicine	1
	Master of Nursing (Coursework)	1
	Master of Public Health	1
	Post Grad Dip of Advanced Clinical Nursing	1
Western Australia	Grad Cert of Perioperative Nursing	1
	Grad Dip of Health Science (Diabetes)	2
	Master of Clinical Nursing	2
	Master of Midwifery	1
	Master of Nursing	2
	Master of Sports Physiotherapy	1
	Post Grad Cert of Nursing (Clinical Nursing)	2
	Post Grad Dip of Midwifery	2
	Post Grad Dip of Nursing (Clinical Nursing)	2

The awards were further examined according to the professional group(s) they targeted in terms of providing educational services. Table 3 shows the number of awards available to each professional group. (Note that a given award can be accessed by more than one professional group. Nursing and midwifery professionals have the largest number of awards that contain EBP oriented content available to them out of all professional groups.

Table 3: Number and percentage of unique externally delivered postgraduate EBP oriented topics and awards that are available to different professional groups.

Professional group	Available EBP topics (1)	Percentage of available EBP topics (2)	Available EBP awards (1)	Percentage of available EBP awards (2)
Medicine	2	6.9	4	8.7
Midwifery	12	41.4	11	23.9
Nursing	22	75.9	35	76.1
Physiotherapy	2	6.9	3	6.5
Other health	3	10.3	8	17.4

1. Available EBP topics and awards are that number of the identified unique EBP topics (29) and awards (45) that were available to the professional group.

2. Note that a given unique EBP topic or award could be available to multiple professional groups.

It would be anticipated that professional groups with more external awards would also have a greater proportion of EBP oriented awards accessible to them when compared to other professional groups. However, further examination showed that while nursing and midwifery professionals had more externally delivered postgraduate awards available to them, in total there were disproportionately more EBP awards available for these professionals.

DISCUSSION

The survey method was chosen to reflect the award/topic selection process undertaken by students looking for coursework in EBP. Difficulties experienced by us in locating courses were likely to reflect those faced by intending students, and are also indicative of barriers to access to EBP educational programs.

Frequently, award descriptions were little more than titles. This fact or simply not being listed within educational directories, may have led to the omission of some awards offering EBP. Web sites often proved uninformative for the same reasons. Accessibility varied greatly from site to site and institution to institution. Awards not discovered in directories were sometimes found on web sites. Some awards, although advertised, no longer existed. Course coordinators and other staff members contacted by email or telephone to confirm findings often did not respond despite repeated requests. Those who did respond were usually very helpful and more than thorough in confirming findings and/or providing additional data. Information obtained this way often led to the discovery of new awards. Some of these may have failed earlier selection criteria or simply had not been located previously. It is undoubtedly true that the quality of directory information, Internet access, or staff aid influenced accessibility to students and also our findings.

It should be noted that we did not systematically investigate internal awards such as those offered in medicine and epidemiology at the University of Sydney. Other degrees not surveyed, such as those offered to undergraduates or those outside of the categories we searched, may also have contained EBP topics. The categories we surveyed included: community health (16 awards), health (54), health administration (19), health education (11), health science (29), medical aid (6), medicine (16), nursing (41), physiotherapy (2), and psychology (19).

Nevertheless, more awards with either an implicit (Level 2) or explicit (Level 1) EBP content were found to accommodate nurses and midwives than other groups: 74% target these two groups alone. The survey findings support the conclusion that nurses and midwives have greater access to education in EBP than students or professionals from other health disciplines. It could be argued that this trend is due to there being a greater number of externally delivered awards available to nurses and midwives. Our analysis shows, however, that the observed proportion of EBP oriented awards available to nurses and midwives significantly exceeds the proportion expected, based on differences in the total number of (external) awards available to each professional group. Further, a comparison of the relative proportions of topics and awards available to each professional group found them to show a similar pattern.

There could be several reasons why nurses and midwives have greater access to externally-delivered EBP courses. Firstly, there may be an increased need and a greater market for externally delivered EBP oriented awards for these groups. Secondly, nursing and midwifery departments may be greater advocates of EBP than other disciplines.

The techniques of EBP are promoted as both useful and applicable in the literature. Greater accessibility to EBP training may result in greater adoption of EBP. In addition, EBP provides a model for self-directed learning and development applicable to all health professionals worldwide (Sackett et al 2000). Whether this model is being taken up by all areas of health care remains to be seen, but in the domains of nursing and midwifery it is certainly being encouraged.

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TELL ME WHAT WE DO. USING WORK SAMPLING TO FIND THE ANSWER

Christine Duffield, RN, PhD, is Director, Centre for Health Services Management, University of Technology, Sydney, Australia

Wendy Wise, RN, BSocSci, GradDipNsg, is a Senior Research Officer, Centre for Health Services Management, University of Technology, Sydney, Australia

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Key words: work sampling, skill mix, management tool

ABSTRACT

As Australian hospitals have restructured and work patterns have changed 'multi-skilling' has become a necessary component for health care professionals, especially nurses. To date, there has been little empirical evidence to assess these changes and their effects on nurses and nursing work. This paper will discuss work sampling as a research method to assess what nurses do and how they spend their working day. The results examine nursing activities carried out in a private, not for profit hospital in metropolitan Sydney, Australia, and will be used to highlight the uses of this type of data. Work sampling can, in conjunction with other management tools, prove invaluable for managers.

INTRODUCTION

The Australian health care sector has experienced a decade of constant change to organisational structures and patient care delivery systems within hospitals. In an increasingly competitive market place, health care facilities are no longer being measured as quality service providers based solely on reputation and resource allocation and consumption. Overseas, particularly in North America, great attention has been paid to the workplace and working conditions for nurses in an acknowledgement that the quality of worklife is a significant factor in determining whether nurses stay or leave their positions (Duffield and O'Brien-Pallas 2002). A very important component of a nurse's worklife is what that work actually comprises.

What nurses do in the course of their working day has changed dramatically since Florence Nightingale's time. While the underlying 'essence' of nursing remains, the landscape has changed markedly as a result of new technologies, new roles, new diseases and different patient expectations (Duffield and O'Brien-Pallas 2002). These changes have also seen patient acuity increase and the length of patient stay in hospital decrease. In real terms, this has seen nursing workloads increase and a growing need to re-assess the skill mix of nursing staff required to meet these changing demands. Exacerbating this situation are staff shortages (Aiken et al 2001). Against this developmental background of change it is timely to evaluate what nurses do, using a technique such as work sampling to measure these activities (O'Brien-Pallas et al 2001).

Little recent work has been undertaken in Australia to examine the activities nurses perform during the course of their working day and the time involved in pursuing these activities. Work sampling is an ideal management tool as it is participatory in the sense that it relies on the active involvement of all members of the organisation and provides all managers and staff with useful information on which to base staffing decisions, to argue for the holistic nature of nursing or more importantly, to provide a platform for further research.

This paper will describe the type of information which can be provided from a work sampling study and its uses. Some results will be presented from a study conducted in a large metropolitan hospital in Sydney, but merely to indicate how use of this technique and its results may be effective in the organisational decision-making process.

WORK SAMPLING

The antecedents of work sampling originated within the field of industrial engineering and management. A statistician realised that given the routine nature of the work being undertaken, outcomes similar to those obtained from time and motion studies could be obtained by taking randomly spaced observations of workers' activities during their shift (Abdellah and Levine 1954). However, work sampling differs from time and motion studies in that it provides randomised and regular observations of work, without the account of these activities being skewed or underestimated by more mundane or repetitive activities (Urden and Roode 1997). The technique involves observations of multiple workers at random intervals by independent observers and then recording their observed work activities into predetermined categories during a sample of hours, shifts or days (Prescott et al 1991).

Work sampling is premised on the laws of probability using the assumption that 'a smaller number of occurrences will follow the same distribution as over a longer time period' (Hagerty, Chang and Spengler 1985, p.10). A sample of observations of staff activities can be generalised into a larger snapshot of how staff spend their working days over much longer spans of time (weekly or monthly). However, as Urden and Roode (1997, p.37) note, unlike time and motion studies, 'the exact activity is recorded; actual time spent in activities is not'. Work sampling as a research method is considered by many overseas scholars to be a reliable management tool because it provides the clearest snapshot of staff/ skill mix, quality patient outcomes and cost-effectiveness (Bernreuter and Cardona 1997; McNiven et al 1992; McNiven et al 1993; Guarisco et al 1994).

The requirements for undertaking work sampling

The most important requirement for undertaking work sampling is a suitable data collection tool. The tool used in this study was adapted with permission from Urden and Roode (1997) with some modifications for the Australian audience. To undertake a study of this magnitude a project director, well-trained data collectors, and, statistical support are also critical. Almost as critical is support from the organisation (financially and in spirit), a willingness to 'know' the findings and staff consent to participate.

The success of this study was directly related to commitment on the part of the hospital's management to a process of developmental evaluation, a willingness to work towards resolving the issues raised as the study began and a continued desire to involve all staff in the process. The university provided a project director and the hospital provided 19 data collectors for the four weeks of the study (two weeks of data collection randomised over eight weeks). University staff provided training and determined inter-rater reliability.

The study

The tool has been described elsewhere. However, in summary there are four major categories in which 25 activities are measured. The 'direct care' category has 10 activities: admission/assessment; administration of medications/IV therapy; hygiene; specialised procedures; specimen collecting/testing; transporting patients; patient /family interaction; patient nutrition/elimination; patient mobility; and, assisting with procedures. The 'indirect care' category has eight activities: verbal report and handover; room/equipment set-up; medication/IV preparation; progress/discharge notes; rounds and team meetings; communication of information; data entry and retrieval; and, interaction with other internal and external departments or agencies. The 'unit-related' category has six activities: teaching and inservice; checking and restocking of supplies; errands off unit; meetings and administration; clerical duties; and, environmental cleaning. The final category is 'personal time', meal breaks and unclassified time off unit. A schedule outlining all the specific tasks included under each of these 25 activities was provided to data collectors.

All wards and units were used including intensive care and operating theatres. Most staff consented to participate, including agency and casual staff, working between 7am and 7pm from Monday to Friday. These days and times were selected as they were the busiest and would provide the most useful data. The costs of undertaking this study 24 hours over seven days were prohibitive and were unlikely to be justified in terms of providing information sought by this particular healthcare organisation. The categories of staff observed consisted of clinical nurse specialists (CNSs), registered nurses (RNs) and ward assistants (WAs). During the time that this work sampling study was conducted, there were no enrolled nurses employed within the hospital. Data were collected at 10-minute intervals and data collectors usually undertook this collection in two to four hour blocks. There were 53,240 observations across the entire hospital which provided a robust sample for data analysis.

As indicated earlier, the purpose of this paper is to provide some results from a work sampling study merely as a vehicle to highlight the potential uses of such information in decision-making. A great deal of data can be obtained from a study such as this which is particularly useful for managing at the hospital and unit levels. The discussion in the paper is shaped around four major domains, aggregated information provided about the whole hospital, information by staff classification, information at the ward level and information at the activity level. The latter (by activity level) actually provides information at the ward level by staff classification as well, and is thus most useful.

Hospital-wide information

Data provided at the institutional level consisted of an overview of the amount of time spent by all staff in each of the four major categories of activities [direct, indirect, unit related and personal] (see Figure 1) and in each of the 25 individual activities for all staff in the 'direct care' category (see Figure 2). It is important when assessing the findings from work sampling studies relating to nursing work, that health care managers take into consideration the observations recorded are only those which took the nurse to the patient bedside, not activities undertaken at the same time.

Figure 1: Pie chart of all staff activity in four categories.

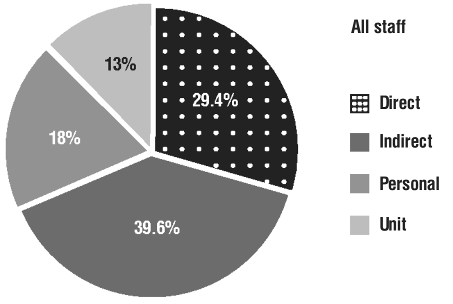
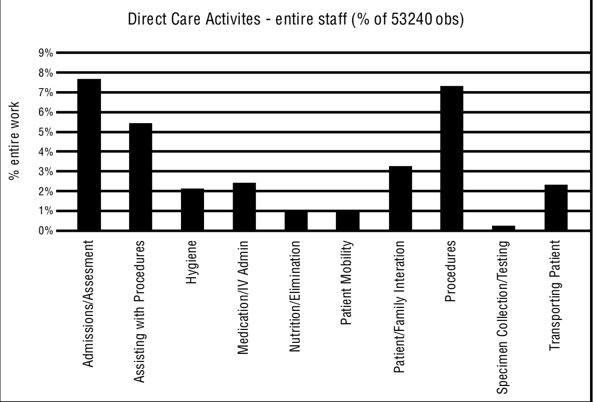


Figure 2: All staff by individual activity in direct care category.

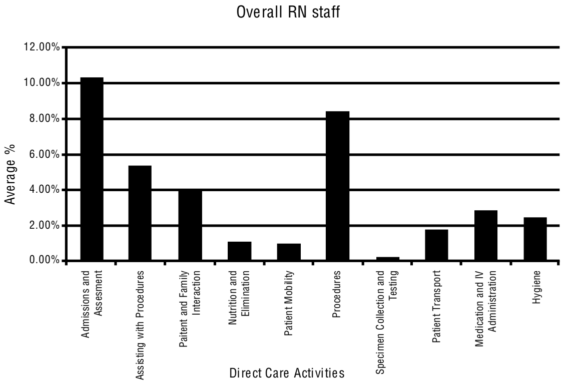


Data of this nature are useful for directors of nursing or other nurse and non-nurse executives. It provides a snapshot of the total type and amount of nursing activity undertaken in the institution. This information may facilitate benchmarking with other institutions (comparing the amount of time spent with families in a private institution versus the amount of time spent by nurses in the public sector in the same activity). It provides information which may be useful for marketing purposes (for example the amount of time spent in teaching and inservice activities for staff); information which may facilitate changes to support staff provision (the amount of clerical work being undertaken by nursing staff). Importantly, it also provides information on the 'totality' of the range of activities undertaken by nurses in their workday.

Results presented by skill level

The second cluster of hospital-wide data which can be provided is by staff classification, in this case the time spent by RNs, CNSs and WAs in each of the four major categories of activities and in each of the 25 individual activities (see Figure 3 as an example of results for RNs).

Figure 3: All RNs by individual activity in direct care category.



Again this is information which is very useful at the institutional level as it provides data on which to make a determination of the appropriateness of staff deployment across the hospital. The results may validate perceptions of what is known but may also provide insight into what is not. For example, if CNSs were found to be spending large amounts of time transporting patients or attending meetings and very little time in coordinating care, questions might be raised about their cost-effectiveness. If a WA was observed setting up sterile procedure trolleys or attempting medication administration, professional and legal issues may be raised.

Unit level information

Results can also be analysed at the individual ward or unit level. First of all, information can be provided about the totality of work observed for each unit (the amount of time all staff in the ward spend on each of the four categories of activity) or for a single classification of staff such as RN (see Figure 4). As the time each activity is undertaken is recorded this information can also be provided across the observed time - although aggregated to an 'average' day (see Figure 5).

Figure 4: Ward X percentage of RN staff activity by major category.

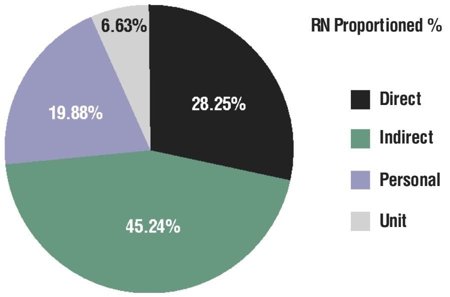
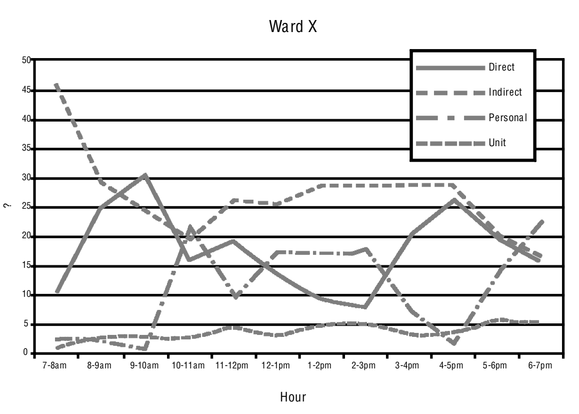
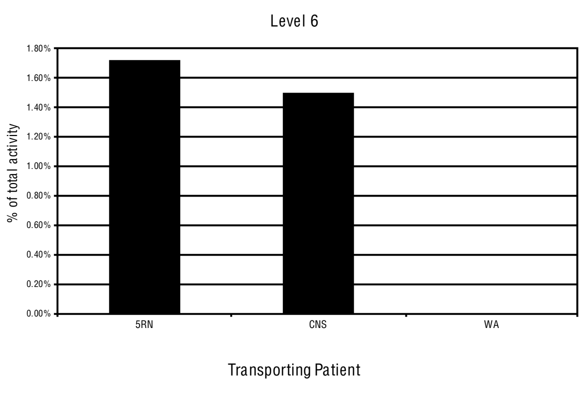


Figure 5: Hourly activity by major category for RNs by ward.



This information is useful for both the director of nursing and nursing unit manager and allows comparisons to be made between staff activities throughout the day. The data on hourly peaks and troughs may for example, validate perceptions which are well 'known' but not supported with data - for example, that CNSs are much busier in 'indirect care' activities from 6-7pm than RNs who are more involved in 'direct care' activities in those hours. Alternatively, this sort of information may provide new insight. For example, WAs may have extended 'troughs' with large amounts of 'personal time' at the beginning and end of the day. This information may facilitate rostering, staff employment and deployment decisions.

Figure 6: RNs by individual activity by ward.

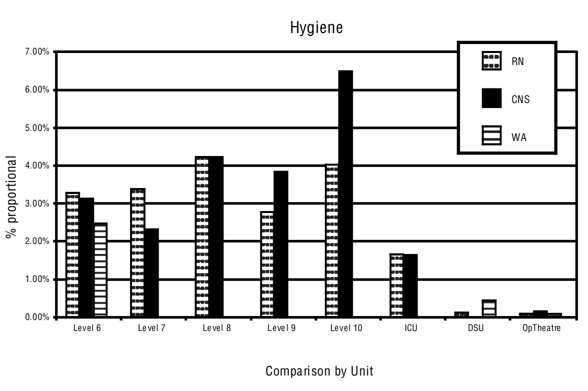


Comparative information for each staff classification for each of the 25 individual activities (see Figure 6) again is useful information for the NUM and indeed all staff on the unit. It allows staff to ask questions about how they spend their day. Is this what they should be doing? Is this the best use of staff expertise? The NUM will have data on which to assess role responsibilities and skillmix and to realign or reallocate duties on the basis of the data provided.

Results by activity

The last cluster of data which are useful is to compare all staff classifications for each of the 25 activities for each ward or unit (Figure 7).

Figure 7: Comparison of individual activity for all staff on numbered wards.



This information is most useful for nursing unit managers and directors of nursing. Units can be benchmarked against each other and staffing decisions can then be made on the basis of type and amount of activity rather than historical methods. There may be an indication that inter-hospital movement of staff is warranted if, for example, RNs are spending a great deal of time in errands off the unit on one ward when compared to the rest of the hospital. Further exploration may reveal that they are spending large amounts of time collecting medications from the pharmacy and more cost-effective solutions could be sought. Alternatively, a nursing unit manager may, when comparing their unit's profile of activities with another, discover that on other wards WAs perform the majority of 'unit-related' activities thus freeing up the time for CNSs and RNs to provide more direct patient care.

The uses of work sampling for managers and staff

The data provided by work sampling assists managers to make decisions. It determines what staff are doing, but not how the work is done, and this must be remembered when using the technique. Information on working patterns and the proportion of time spent on individual activities by different categories of staff at different times of the day would be invaluable in predicting work activity and staff resource utilisation and deployment. Importantly it provides baseline data for change, facilitates an assessment and determination of an appropriate skillmix given patient needs (and this includes the need for more clerical or support staff). It is also possible to determine cost analyses of interventions using this technique.

Some of the advantages of work sampling techniques are that they are cheaper to use than time and motion (Finkler et al 1993), they accommodate nursing's less repetitive work schedule, observations can be undertaken over an extended period of time capturing the full range of work, it provides comparative data for skillmix use and provides managers with data from which to argue their position.

Despite the advantages, there are some disadvantages which must be remembered. This technique is not useful for large spaces as too much time is spent locating individuals to determine their activities; percentages of time spent in activities are estimates and not precise measures; it does not measure the quality of work; training observers is time consuming. Of particular note is the caution that this technique does not provide any assessment of the quality of the work undertaken. Also, it does not provide data on activities which are not undertaken, only those which are. Thus, if a manager wanted to know whether aspects of care were being omitted, work sampling will not provide this information.

It is also important that everyone using the information understands the data and method. In particular, interpretation of the data is best undertaken by knowledgeable practitioners, those who know and understand the work of the unit, otherwise data could easily be misinterpreted or misrepresented. For example, RNs on a particular unit might have been observed spending a great deal of their workday on hygiene activities which a non-nurse might argue is best done by a less skilled employee. However, knowing that this was a palliative care unit where the primary activity recorded was hygiene (because that is what took the nurse to the patient's bedside), but that much of the counselling of patient and family occurred during hygiene activities, changes the perspective as to who should be providing the hygiene.

CONCLUSION

Work sampling facilitates an analysis of what work activity is being undertaken, when, and, in what proportions. It provides a vehicle for staff to discuss and verify their views on how to manage staff and patient care at an organisational level. It is most useful for those who know and understand the contexts in which activities are performed.

It is now paramount for health care organisations to have accurate information systems which allow managers within an organisation to quantify the key performance indicators which govern employee activities. This information must provide a clear picture of work throughputs, areas of deficiency and insight into how to improve the overall organisational productivity. Work sampling as an information and management tool provides the types of data which will place health care managers within complex organisational settings at the cutting edge of resource management. However, it is but one tool providing only a 'snapshot' of the activity undertaken. Understanding the practice patterns and 'drilling down' more deeply into what it is nurses do and why, requires the use of different methodologies than that undertaken for this study. Nevertheless, provision of baseline data such as is found in this study provides a benchmark against which to measure future changes.

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CLINICAL PATHWAYS FOR FRACTURED NECK OF FEMUR: A COHORT STUDY OF HEALTH RELATED QUALITY OF LIFE, PATIENT SATISFACTION AND CLINICAL OUTCOME

Nick Santamaria, RN, RPN, BAppSc(AdvNsg), MEdSt, GradDipHlthEd, PhD, MRCNA, is Principal Research Scientist, The Alfred Hospital and Associate Professor, University of Melbourne, Australia

Liza Houghton, RN, BAppSc(Nsg), GradCertCritCare, is Integration of Care Manager, Peter MacCallum Cancer Institute, Australia

Lara Kimmel, BPhysio, is Senior Musculo-skeletal Physiotherapist, The Alfred Hospital, Australia

Alisa Graham, BHSc(OT), is Occupational Therapist, The Alfred Hospital, Australia

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Key words: fractured neck of femur, clinical pathway, health-related quality of life, patient satisfaction

ABSTRACT

The aim of this study was to compare the health related quality of life (HRQoL), satisfaction and functional outcomes of patients with fractured neck of femur treated with standard care to those treated with a clinical pathway at a major Melbourne university teaching hospital. A 12-month prospective cohort study was conducted comprising 57 patients admitted via the emergency department with a primary diagnosis of fractured neck of femur. Of these, 28 were treated with standard care and 29 using a coordinated multidisciplinary clinical pathway for fractured neck of femur. Outcome measures included; Medical Outcomes Study Short Form (SF-36), Modified Barthels Index (MBI), Timed Up and Go (TU&G), Patient Satisfaction and Perception Form (PSPF) and clinical indicators including; length of stay, time to mobilise, and, complication rates.

Results indicated that there was no significant difference between the groups on clinical and functional outcome, quality of life and satisfaction. Pathway patients had a 3.3 day shorter length of stay and less complications than standard care patients. We conclude that patients cared for under a clinical pathway for fractured neck of femur in this study did not experience decreased health related quality of life or satisfaction with care.

INTRODUCTION AND BACKGROUND

Nurses have traditionally focused on the restoration of health in its broadest sense. Clinical outcome is often interpreted by nurses to include the quality of life of the individual as well as the functional and physiological outcomes. This is not to suggest that other health care disciplinary groups do not hold similar beliefs about the importance of quality of life and patient satisfaction, however, nurses have long regarded quality of life as an essential element of the assessment of clinical outcome. The increasingly common use of multidisciplinary clinical pathways for the management of a wide range of surgical conditions has been credited with improved clinical outcomes, reduced complications and improved cost effectiveness. There is, however, very little evidence on the effects of using clinical pathways on patient quality of life and satisfaction with care delivery. As a consequence we undertook a study to explore the effects on quality of life and satisfaction with care of patients who underwent treatment of a fractured neck of femur which was guided by a multidisciplinary clinical pathway.

LITERATURE REVIEW

Fractures of the proximal femur (hip fracture) represent one of the most important causes of morbidity and mortality worldwide (Lyons 1997; Pitto 1994; Keene et al 1993). In the United States there are more than 250,000 hip fractures per year and over 60,000 annually in the United Kingdom. Mortality in the 12 months following hip fracture has been reported at 25% with a large proportion of survivors not returning to their premorbid functional level (Cooper 1997; Baudoin et al 1996). The incidence of hip fractures in Australia in 1996 was 15,206 and the rate is projected to double in the next 25 years as the Australian population continues to age (Sanders et al 1999).

The continuing increase in demand for acute hospital beds combined with an overall reduction in the Victorian acute bed availability from 4.4 to 3.2 per 1000 population has been noted by MacIntyre et al (1997) as having resulted in an increase in elective surgical waiting lists. Hip fractures contribute to this problem as a result of the relatively long length of acute treatment which has been reported to range from 6.6 to 32 days (Choong et al 2000; Schurch et al 1996; Lavernia 1998; Swanson et al 1998; Tallis and Balla 1995). The total annual health care expenditure on hip fractures in the United States has been estimated at over US$8.7 billion (Keene et al 1993). The current average cost of acute treatment in Australia per hip fracture, reported by Randell et al (1995) as $16,000, combined with the previously noted increased incidence has resulted in many hospitals investigating methods of improving the quality and efficiency of the treatment of hip fractures.

One approach to improving the quality and efficiency of the acute treatment of hip fractures has been the use of clinical pathways that aim to standardise and streamline treatment whilst improving quality and cost effectiveness (Antioch et al 2001; Wigfield and Boon 1996; Grudich 1991). The success of clinical pathways in elective joint arthroplasty has been documented by Dowsey et al (1999) and in hip fracture by Choong et al 2000, Tallis and Balla 1995; and, Ogilvie-Harris et al 1993. A number of studies report health related quality of life (HRQoL) in elective arthroplasty or following hip fracture (Hozak et al 1997; Leiberman et al 1997; March et al 1999). However, there is no evidence to date of the effects of the use of clinical pathways for hip fractures on HRQoL or patient satisfaction. It is not possible therefore, to state whether pathways have a positive, negative or neutral influence on HRQoL or patient satisfaction.

As part of a quality improvement program at the Alfred Hospital, Melbourne, Australia, the orthopaedic department developed and implemented a multidisciplinary clinical pathway for hip fracture.

The pathway was developed by a group comprising clinicians from nursing, medicine, physiotherapy, nutrition, social work and occupational therapy. The pathway specifies responsibilities by discipline and the timeframe for their completion. Should a specific timeframe be exceeded there is provision for recording the event as a variance from the pathway and remedial action to be instituted. The principal aim of the pathway was to maximise the effective use of resources and minimise negative patient outcomes, thereby improving patient care. As previously noted, the absence of evidence relating to the effects of clinical pathways on patient HRQoL and satisfaction led us to pose the following research questions:

When compared to standard care do patients treated under a multidisciplinary clinical pathway for fractured neck of femur:

1. Experience similar clinical outcome?
2. Achieve similar functional outcome?
3. Report reduced health related quality of life?
4. Report lower satisfaction with care?

METHODS

Design

We used a prospective cohort group design to compare the HRQoL, satisfaction, functional status and clinical outcome of patients who underwent surgical treatment for acute fractures of the femoral neck. This design was chosen because clinical pathways were to be introduced to the hospital for all patients with a proximal femoral fracture. Because we could not randomise patients to either a pathway or control group, we conducted a cohort study that examined the changes that resulted following the introduction of a clinical pathway for this condition on the HRQoL, satisfaction, functional status and clinical outcome of patients treated with standard care to those treated following the introduction of the clinical pathway.

Subjects

A total of 57 patients (28 standard care and 29 pathway) were enrolled in the study. We calculated that a sample size of 52 patients would be required to detect a 20% change in the Patient Satisfaction and Perception Form (PSPF) measure with a power of 80% at a significance level of 0.05.

Sampling

Following institutional ethics approval, patients were enrolled in the study between October 1999 and September 2000. A purposeful sampling approach was used with subjects being matched for age and comorbidity status. Patients were excluded if the fracture was caused by a malignancy, if clinically assessed as suffering from dementia or if their comprehension of English was such that they were unable to understand the questions required in the data collection instruments. A total of 101 patients were admitted to the hospital with a diagnosis of fractured neck of femur during the study period. Two patients were excluded as a result of a pathological fracture, 21 patients were excluded because of dementia. Twenty patients were not included due to unwillingness to participate or having been admitted to the hospital and subsequently having surgery during the weekend. Consequently, the final sample size of 57 subjects represents 56.4% of all potential subjects during the study period.

Outcome measures

Health Related Quality of Life

Health related quality of life (HRQoL) was measured using the Medical Outcomes Trust Health Survey Short Form 36 (SF36). The SF-36 is an internationally accepted measure of health related quality of life that has been extensively tested and validated. SF-36 normative age adjusted data are available for the Australian population. This age adjusted data set was used to compare the results from our subject population. The SF-36 was administered at three months following discharge.

Patient satisfaction

The Patient Satisfaction and Perception Form (PSPF) is an instrument that was developed by the authors based on a scale reported by Williams (1994). The PSPF is comprised of four main sub-scales; 1. Information provision. 2. Involvement in decision-making. 3. Communication processes, and, 4. Treatment processes. Respondents are asked to indicate their level of satisfaction to each component on a 100mm visual analog scale with the anchor points of 0 = very dissatisfied and 100 = completely satisfied. A trial of the PSPF was conducted with a number of patients prior to this study to gain a sense of the performance of the instrument in the clinical environment. Following some modification to the PSPF to enhance its clarity it underwent further testing and validation prior to its use in this study. The PSPF reliability testing produced a Cronbach Alpha of 0.80 (n=142, $p<0.01$). The PSPF was administered at admission, discharge and three months following discharge.

Functional status

The Modified Barthels Index (MBI) was developed by Shah et al (1989), it has been extensively validated and is designed to provide a rating of functional independence. The MBI is particularly useful in documenting change over time in independence or change between pre and post treatment. The MBI was measured at discharge and three months following discharge.

The Timed Up and Go (TU&G) was developed by Podsiadlo and Richardson (1991) to provide a rapid, valid and reliable measure of functional mobility in the frail elderly with comorbidities. The TU&G was recorded at discharge and three months following discharge.

Clinical outcome

Clinical outcome was determined by medical record review and comprised the complications rate and type during in-patient stay and within 28 days of discharge.

Data collection

Data collection was carried out in the period spanning September 1999 and October 2000. All functional measurements were conducted by two of the team (LK and AG) during the patient's stay in hospital and at the patient's place of residence three months following discharge. PSPF and SF36 data was primarily collected by NS and LH.

Statistical analysis

All statistical analyses were performed with the SPSS V.9 computer program. Continuous, normally distributed data were compared using t tests for independent groups. Scores for each dimension of the SF-36 were transformed according to the SF-36 user's guide to a scale of 0-100 (100 = best possible score). These values were then compared to the Australian population norms derived by the Australian Bureau of Statistics from the 1995 National Health Survey. Where data were not normally distributed, logarithmic transformations were performed prior to analysis. Comparisons of proportions were undertaken using the z test. In all cases p values <0.05 were regarded as significant.

RESULTS

Table 1 presents the demographic and clinical characteristics of the groups. Of note was the broader range of ages in the pathway group.

Table 1: Demographic characteristics of patients.

	Standard care n=28	Pathway n=29
Median age (range)	80 (66-89)	79 (30-96)
Gender (male:female)	8:20	9:20
Comorbidities[1]	2.3	1.7
Fracture type		
Sub-capital	11	11
Trans-cervical	2	1
Other	15	17
Prosthesis		
Dynamic Hip Screw	16	20
Moore's	12	7
Other	0	2

1. Number of clinically documented comorbidities

Clinical and functional outcomes

Table 2 reveals that pathway patients sat out of bed and ambulated sooner and had a 3.3 day shorter length of stay (LOS) than standard care patients. The differences in the mean scores on these variables were not statistically significant at the 0.05 level. The rate of patients who developed complications during their hospitalisation was similar between the groups, although the standard care group had a higher number of complications per patient than the pathway group (2.33 versus 1.71). There was one death in each group during the study period. Both deaths were associated with other pre-existing comorbidities. No significant difference was found between the groups in functional outcome as measured by the MBI or the timed up and go (TU&G) at discharge or at three months.

Table 2: Functional outcomes at discharge and three months.

	Standard care (n=28)	Pathway (n=29)	p
Length of stay (days)	14.4	11.1	0.15
SOOB[1]	74.2	61.9	0.09
AMB[2]	116.2	88.9	0.23
Complications (no of pts)	15	14	0.90
Confusion	7	5	0.67
Respiratory infection	6	2	0.20
UTI	5	6	0.96
Pressure area	6	3	0.43
Wound infection	3	0	0.25
DVT	1	1	0.48
Death	1	1	0.48
Other	6	6	0.81
Total complications	35	24	0.26
MBI (discharge)	58.1	67.4	0.12
MBI (3 months)	81.3	81.1	0.97
TU&G (discharge)	76.2	93.6	0.40
TU&G (3 months)	35.8	34.1	0.86

1. Time to sit out of bed (hrs), 2. Time to ambulate (hrs)

Table 3: Patient satisfaction at admission, discharge and at three months.

	Standard care (n=28)	Pathway (n=29)	p
Information			
Admission	186.2	172.2	0.57
Discharge	232.9	249.9	0.30
3 months	212.4	175.4	0.23
Involvement in decision making			
Admission	51.6	48.8	0.87
Discharge	66.1	72.4	0.53
3 months	65.7	34.6	0.01
Communication			
Admission	210.1	190.6	0.40
Discharge	241.1	245.6	0.81
3 months	283.0	173.9	0.003
Treatment			
Admission	346.0	385.2	0.06
Discharge	444.6	568.6	0.13
3 months	455.0	370.4	0.12
PSPF sub-totals			
Admission	792.4	803.8	0.85
Discharge	975.8	1133.4	0.12
3 months	1012.4	744.0	0.01
Total satisfaction	2379.8	2466.5	0.67

Patient satisfaction

There was no difference in the overall patient satisfaction between the groups (Table 3). When the groups were compared for each satisfaction dimension at the three measurement times, pathway patients were less satisfied at the three-month time point.

Patients' Health Related Quality of Life

Table 4 demonstrates that HRQoL was lower than the Australian population norms for each SF-36 scale apart from the Role Limit Emotional scale in the standard care group. This scale was also significantly higher in the standard care group compared to the pathway group.

Table 4: Patient health related quality of life (SF-36) at three months following discharge.

Dimension	Population norm[1]	Standard care	Pathway	p
Physical function	53.0	19.3	23.8	0.49
Role limit physical	54.4	23.8	15.4	0.29
Bodily pain	64.4	39.0	40.0	0.90
General health	62.1	55.4	61.1	0.45
Vitality	57.5	40.4	41.9	0.84
Social function	76.7	65.9	54.7	0.24
Role limit emotional	72.2	81.7	28.3	0.001
Mental health	77.1	70.0	58.1	0.13

1. Australian population norm values for age 75 and over 1995.

DISCUSSION

Clinical and functional outcomes

Pathway patients sat out of bed and ambulated sooner and had a 3.3 day shorter LOS than standard care patients which was consistent with findings reported by Choong et al (2000) even though the differences in the mean scores on these variables were not statistically significant. However, we believe this result demonstrates a trend that may prove beneficial from the perspective of bed availability and cost. At an approximate cost of Aus$600 per in-patient day, a reduction of 3.3 days in LOS would represent a saving of $1,800 per patient episode. The reduced LOS in this group of patients would also increase the availability of beds for emergency and elective waiting list patients.

Complications

The rate of patients who developed complications during their hospitalisation was similar between the groups, although the standard care group had a higher number of complications per patient than the pathway group (2.33 vs 1.71). The cause of this difference was not clear and we believe the finding warrants further investigation. There was one death in each group during the study period. However, both deaths were associated with pre-existing comorbidities.

Functional outcome

No significant difference was found between the groups in functional outcome as measured by the MBI or the TU&G at discharge or at three months. This finding may be a consequence of both measures being sensitive at a relatively gross level. We note that at discharge pathway patients demonstrated a trend to a higher MBI score than standard care patients even though the pathway group had a 3.3 day shorter LOS.

Patient satisfaction

There was no difference in the overall patient satisfaction between the groups. When the groups were compared for each satisfaction dimension at the three measurement times, pathway patients were less satisfied at the three-month time point. This result was a consequence of lower ratings by the pathway group regarding their involvement in the decision making process about their care and in the communication processes. The standard care group scores at the three measurement points demonstrated a gradual increase, whereas the pathway group recorded an increase between admission and discharge followed by a fall at three months. It is not clear why these scores had decreased in the pathway group between their discharge and the three-month point. Possible reasons for this finding include that there may have been a memory effect influencing the scores. However, if this was the case then it could be expected to be affecting both groups given their demographic similarity. Alternatively, the pathway group may have had negative experiences in the post discharge period or a slower than expected rate of recovery which may account for their lower satisfaction levels at the three month end point.

Patients' Health Related Quality of Life

HRQoL was lower than the Australian population norms for each SF-36 scale apart from the Role Limit Emotional scale in the standard care group. This scale was also significantly higher in the standard care group compared to the pathway group. We note that there may be a link between the lower 'role limit emotional, scores for the pathway group and their lower satisfaction scores at three months. However, further research would be required to adequately explore the possible relationships. The HRQoL values for both groups were similar to those reported by March et al (1999) in pre-operative hip and knee arthroplasty patients. However, there is no evidence at present to suggest if the HRQoL of patients with a proximal femoral fracture will continue to improve over a period of 12 months, as did the HRQoL of patients in the March study. Overall, we conclude that whilst both groups of patients had relatively poor HRQoL there was no difference between the groups.

LIMITATIONS

Our study was limited by a number of factors. Ideally, a randomised controlled trial design would have strengthened the study. However, this was not possible on two counts. Firstly, the clinical pathway had not been introduced and secondly, the hospital had determined that all suitable patients with a hip fracture would be treated under the clinical pathway following its introduction. The fact that we purposely omitted patients who were cognitively impaired or could not speak English introduced a degree of bias in the study.

CONCLUSION

Based on our results, we conclude that the use of multidisciplinary clinical pathways for fractured neck of femur does not appear to adversely effect functional outcome, patient satisfaction or HRQoL. Our clinical pathway group demonstrated a decreased LOS compared to the standard care group that was not significant, yet may indicate a trend that could be important from a resource utilisation and bed availability perspective.

This is the first study that we are aware of that has investigated both patient satisfaction and quality of life as a function of treatment guided by a multidisciplinary clinical pathway for fractured neck of femur. Consequently, there is no reference point for comparison of our results or conclusions. Whilst this presents difficulties for interpretation, we believe that this study is a useful first step in the process of developing an understanding of the possible associations between the increasingly popular use of clinical pathways in the acute healthcare setting and patient satisfaction and health related quality of life.

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MOTHERING AND WOMEN'S HEALTH: I LOVE BEING A MOTHER BUT… THERE IS ALWAYS SOMETHING NEW TO WORRY ABOUT

Debra Jackson, RN, BHSc(Nsg), MN(Ed), PhD, is Coordinator Research Degrees (MHons and PhD), School of Nursing, University of Western Sydney, Australia

Judy Mannix, RN, BEd(Nsg), MN(Hons), is a Lecturer, School of Nursing, Family and Community Health, University of Western Sydney, Australia

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ABSTRACT

Little about experiential aspects of motherhood and its consequences to the health of women appears in the nursing literature. Rather, the discourses on motherhood in the health literature tend to focus on bio-medical and scientific aspects, pregnancy and the perinatal period. Using a feminist story-telling approach, this paper draws on the experiences of 20 mothers of adolescent and adult children. Findings are grouped into the following themes: On being a mother: 'unconditional love, and how love can really hurt'; adolescence: 'a whole lot more to worry about'; 'easy' children and 'hard' children: 'it's been rear guard action the whole time'; mothers' health: 'just getting through each day'; and, seeking support: 'does anyone really care?'. Findings provide new insights into the nature of mothering, and its perceived long term effects on women's health and well being. Implications for women's health and the provision of women's health services are drawn from the findings.

INTRODUCTION

The maternal role is the defining and central role in life for many women and although not all women are mothers, motherhood lies at the very heart of what it is to be a woman (Maushart 1997). Much research has the reproductive capacity of women as its central theme, but women's experiences of mothering remain relatively unexplored (Bernal and Meleis 1995; Barclay et al 1997). A search of nursing literature raises more questions than it answers. It reveals a discourse that constructs motherhood quite narrowly, with a concentration on the perinatal period and early motherhood (Raftos, Mannix and Jackson 1997). Experiential aspects of motherhood are addressed by surprisingly few authors and researchers, and though there are some exceptions (for example: Barclay et al 1997; Rogan et al 1997), these focus on very early motherhood only. Other discourses such as social work also contribute to what is known about the lived aspects of motherhood, though again, most often the focus is on early mothering (see for example: Lupton 2000).

Little is known about the experience of mothering children in middle childhood and adolescence, or of mothering adult children. Little is known about how mothering affects women and their health over the course of their lifetime, or how women themselves perceive the association between their mothering and their own health.

AIM OF THE STUDY

This study aimed to raise awareness of experiential aspects of motherhood. Specific objectives of the study were to:

- Develop holistic understandings of women's perceptions of the influence of their mothering role on their own lives and health;
- Explore those aspects of motherhood that are experienced by women as being particularly challenging and stressful;

- Develop knowledge to help inform the development of appropriate health and support services for women who are mothers; and,
- Provide directions for further research.

METHODS

Feminism has a central concern with recognising the inherent value of women's ways of being, thinking and doing (Tong 1998), and because of its focus on the concerns and experiences of a group of women, this exploratory-descriptive study was informed by feminist insights (Reinharz 1992). Feminist research principles identified by Cook and Fonow (1986) helped to guide the project. These incorporate: the need for continuous recognition of gender as basic to all social life, (including the conduct of research); recognition of consciousness-raising as an integral aspect of methodology; acceptance of intersubjectivity and personal knowing as legitimate sources of knowledge; acknowledgement of ethical responsibilities in research; and, understanding of the transformative and empowering aspects of feminist research (Cook and Fonow 1986).

The study aimed to develop understandings of experiential aspects of motherhood over a long period, and so experienced mothers were sought. Experienced mothers were considered to be those who had raised children from infancy to teen years or adulthood, so had a minimum of 17 years experience as mothers. This meant that participants had experienced caring for children as babies, toddlers, young children, school aged children, adolescents and teenagers. Most (n=19) also had experience of children as young adults and adults. Inclusion criteria therefore, were that women be:

- mothers of children aged 17 years and over, and,
- able to freely converse and interact in English.

Women were recruited using a snowball approach. Several women who met the inclusion criteria were approached and asked to participate in the study. If agreeable, they were then provided with written information about the study to circulate to others they knew who met the entry criteria. Interested women meeting the selection criteria who made contact with the chief investigator as a result of this information were then invited to participate in the study.

Most participants were Australian born and Caucasian. However, there were some migrants from Western countries (NZ n=1; Britain n=2; Canada n=1; North America n=1) in the sample. The participants were well-educated, with most women (n=18) holding either a trade certificate, such as hairdressing (n=4), a diploma or bachelors degree (n=7), a masters degree (n=6) or PhD (n=1) as their highest qualification. The remaining two participants had not completed high school and had employment histories in clerical or service work. At the time of the study most of the women (n=19) were engaged in either part time or full time employment outside the home, and the remaining participant was engaged in full time household duties.

Participants were aged in their late 30s through to their mid 50s. Some (n=4) of the women were sole parents at the time of data collection. However, all were currently, or had at one time, been married to the father of their children. The participant women were mothers of between one to four children, who ranged in age from 15-31 years, with at least one child of at least 17 years. All except three participants still had at least one child living with them. All women were resident in Australia, and stories were gathered from women living in metropolitan areas in two Australian States.

Following procedures of informed consent, and the collection of basic demographic data, women were given a triggering statement: '*Can you think back over your years as a mother and tell me some stories about the most challenging, as well as the most positive aspects of your mothering journey?*' This statement proved to be effective in generating discussion, and though a series of additional triggers were prepared, these were not generally necessary.

Each of the conversational style interviews lasted for between two to four hours, with the majority being 150-180 minutes in duration. The interviews were audiotaped and transcribed verbatim. Following transcription, tapes were listened to again, while closely reading the transcripts, thus ensuring narrative-transcription accuracy. Interview data was supported by a researcher journal in which entries were made after each conversation, and as ideas and patterns became evident. Data saturation was achieved after interviews with 18 women, however, two additional women were recruited, to ensure that a full range of insights was obtained. Thus, the final sample consisted of 20 women. All women were given a pseudonym to protect their identities

Ethics clearance

Ethics approval was granted by the University of Western Sydney Human Research Ethics Committee.

Analysis of data

Among other things, feminist research aims to illuminate, substantiate and authenticate women's experiences, concerns and ways of being. Therefore, it is important that analysis of data does not impair the very thing it is seeking to elucidate. Listening is the first step in the analysis of narrative data. Analysis was guided by the work of Anderson and Jack (1991), who warn against listening superficially, because doing so diminishes the likelihood of seeing things in new ways, and limits the interpretive possibilities. Rather, they suggest three ways of listening that can guide the analytical process. These are:

- Attention to moral self-evaluative statements, which make visible the relationships between self-concept and accepted cultural norms.
- Attention to meta-statements, or points in the interview where the participant stops and makes some sort of reflective statement.
- Attention to the logic of the narrative, which refers to the internal consistency and the inter-relationship of themes in the narrative (Anderson and Jack 1991).

FINDINGS

Detailed findings have been grouped into the following themes:

- On being a mother: ‘unconditional love, and how love can really hurt’
- Adolescence: ‘a whole lot more to worry about’
- ‘Easy’ children and ‘hard’ children: ‘it’s been rear guard action the whole time’
- Mother’s health: ‘just getting through each day’
- Seeking support: ‘does anyone really care?’

On being a mother: ***‘unconditional love, and how love can really hurt’***

Though mothering was acknowledged as being ultimately rewarding, at times it was experienced as all-encompassing, guilt provoking, unrelenting, labour intensive, and emotionally charged. Mothering is revealed as a taken-for-granted aspect of life - an aspect that is ‘just lived’, and rarely problematised or considered in its entirety. One of the participants, a mother with 25 years experience, opened the conversation with:

The first thing I want to say is that I’ve never really thought what it means to be a mother. I’ve just done it, but not really thought about it. I’ve thought about how I can be a good mother, a better mother, but never thought about what mothering really is. This is the first time I’ve ever thought it through like this, and tried to understand it. (Heather)

Many participants indicated that their inclusion in the study, which gave an opportunity for reflection on the rewards and challenges associated with their mothering, was enriching, legitimating and validating. For example, at the conclusion of the conversation with a woman who had experienced long term stress with one of her children, Melissa stated:

Melissa: *I don’t even think I’ve spoken like this to anybody I don’t think I’ve ever disclosed all of that. I have never spilled my guts like this before. Not the whole story anyway. You know there’s been little snippets here and there but for the first time it’s a whole picture. This is the first time I’ve gotten it all out as one story.*

Debra (researcher): *Do you feel all right about telling it… about telling this story?*

Melissa: *Yeah it’s good. Actually it feels great (laughing).*

Above all and despite everything, motherhood is an exceptional journey of growth and discovery.

Being a mother has helped me to grow as a person. It teaches you things about yourself, and has even shown me some horrible things about myself. I have had to learn to cope with all sorts of things, and have had to learn to compromise and negotiate, I’ve had to learn to accept things I don’t like. I’ve learned about unconditional love, and how love can really hurt. I’ve had to learn how to be patient, even though I’m an impatient person. Getting there is so hard. But now they are grown, isn’t it wonderful to be able to look at your children and think, they are fine people, and I’ve had something to do with that. (Heather)

Heather says that ‘getting there is so hard’, and of the 20 participants, 17 reported experiencing significant amounts of stress and distress over a number of years that they attributed to mothering. This stress touched all aspects of their lives and relationships. Participants could not imagine life without their children, and most (n=19) overwhelmingly felt the experience was a life enriching one, even with the unrelenting hard work of mothering. Only one participant said that for her, there was nothing positive to come to her through her mothering experiences.

Adolescence: ‘a whole lot more to worry about’

Though two mothers felt that infants and young children were most challenging, other participants (n=18) overwhelmingly identified adolescence and young adulthood as being the most difficult and challenging of their mothering experiences.

The teenage years were the most stressful. I have two children and from the age of about 14 or 15 we had this changed person living in the house, and I found that extremely hard to cope with. I guess part of it was I felt like I was losing control of them, like when they are young you can say, ‘can you go and do this now’ or whatever. You can get them into a pattern but once they reach those teenage years you have to learn overnight how to re-negotiate with a non-negotiator. (Caroline)

Participants identified a number of areas of difficulty associated with children at this stage. These related to factors such as children’s increased demands for autonomy and freedom, and the escalating influence of peer pressure, as well as increased difficulties with exerting effective parental control. These factors culminated in maternal concern and anxiety:

I thought things would get easier as the kids grew up but there’s a whole lot more to worry about. I worried about them getting in trouble, getting hurt… about them using drugs and drinking. Then when I wasn’t worried *about those things, I'd be worried about how they were going at school or if they'd be able to hold down jobs.* (Tania)

Another area of stress for the participants was their children making life choices that they as parents found difficult to live with. These choices most often pertained to substance use/misuse, choice of romantic partners, issues associated with personal freedom, and decisions involving career or education. Participants also had great concerns about the general health, mental health and emotional well being of their children during this time. They raised issues such as low self esteem, disturbed body image, depression, anxiety, lack of social confidence and potential for suicide as being areas of concern to them during their children's adolescent years. Substance use and abuse also caused participants to have concerns over their children's emotional well being.

We had trouble at school, suspensions, violent outbursts, truanting. Over the next few years he lost interest in all the things he'd always enjoyed... he was sullen and moody and irritable most of the time. Eventually we started to suspect he was using drugs, but he denied it and it took quite a while before we could actually prove it. Then came the day we caught him red-handed. It was only dope (cannabis), but boy can that be lethal. He was just out of control when he was on it. The sad or bad thing is that we knew he was on a downhill spiral but there was nothing we could do to stop it. Everything we tried didn't work. We tried to change schools, get tough, be softer and more understanding, we put him on contracts for his behaviour, rewards, punishment. We sought professional help. Nothing worked. (Brenda)

There were concerns about assisting their children to deal with feelings of sadness and despondency. However, this was not easy because participants generally had great difficulty establishing good communication with their children at this stage of development, especially when children were unhappy or miserable. This was felt to be because there is more of a tendency for children at this stage to be secretive or reluctant to discuss certain issues with parents, perhaps for fear of parental disapproval. Participants felt it was sometimes difficult to offer emotional guidance, and this was particularly so for participants whose children were young men.

My eldest son had a close friend who killed himself at 17 and that really knocked my son around and even now, when he gets down I still worry that he thinks suicide might be an option. I think boys have a hard time with feelings, especially expressing sadness and stuff. It's hard to try to guide them through emotional stuff when they won't talk about their feelings. (Tania)

Participants knew that they had to relinquish responsibility for their children's health and welfare as the children became independent adults, and this was perceived as being difficult, in light of the fact that the young people were felt to have varying degrees of insight into their health status and health needs. In addition, participants grappled with how much help to give older teen and young adult children - especially financial help. When children were younger parental responsibility was felt to be more clearly defined. However, while participants wanted (and were willing) to provide financial help to their older teen and adult children, there was also a concern that they not 'spoil' the young person, or in some way impede the young person's passage to independence. Participants disclosed making regular financial contributions to young adult children living overseas, contributions of lump sums to assist with major purchases, assistance with expenses associated with medical and dental services, and regular weekly contributions to children who were students, or who were dependent on social security.

'Easy' children and 'hard' children: ***'it's been rear guard action the whole time'***

Raising some children was easier than raising others. Indeed two of the participants reported very few troublesome issues occurring during their children's teen, adolescent and young adult years. However, even when participants did experience great difficulty with one or other of their children during those years, they found that other children were much easier and didn't cause the same amount of stress.

My daughter is... I guess she's an ideal child... she's a normal child. I mean they all do things that you don't approve of but she was the sort of child where I could say 'I don't want you to do that because of this', and she'd accept that, whereas my son would be just the opposite. He'd say 'yes mum' and the moment he was out the door he would do what ever it was he wanted to do and having him as a teenager was incredibly stressful. Incredibly so. I had some life experiences I could well have done without - he grew marijuana, he drank too much, he nicked off from school. You know, he did everything that you could imagine that would cause you grief, and he was very difficult. (Janice)

There was no pattern noted that related to the place in the family of the children who were perceived as being more difficult, but use of drugs and other substances were identified by 12 participants as being very disruptive to their children and also to family life. Generally, children who were described as being very challenging and difficult to rear were involved in some sort of drug usage.

Debra (researcher): *You describe your son's behaviour as extremely disruptive. What do you attribute that to?*

Janice: *Umm... probably I would say mostly drugs. I think he would have pushed boundaries anyway, but the drugs certainly made it a lot more difficult because they gave him a certain amount of bravado that he wouldn't have had without them.*

There was recognition of their children as individuals with individual needs. Participants also described having to adjust their parenting styles to respond to the different needs of their children.

With my daughter most of the mothering has been supporting and nurturing. With my son it's been rear guard action the whole time. (Diana)

Participants had an awareness that sometimes the children suffered as a result of their individuality, or because they were different in some way. Margot found her children's schooling to be very stressful, with constant conflicts with the school, finally leading to her choosing to enrol her children in another school. Margot attributed a lot of these problems to the fact that her children were all true individuals. Explaining some of the problems she had experienced with the first high school she noted:

If you were a normal, everyday kid that plays sport they [the school] were fine. My kids are all very different, all a bit whacko, all individuals and they're not the norm, which makes them unique in one way, but I would have liked the boys to play tennis and play football. It would have been easier…. (Margot)

Mother's health: ***'just getting through each day'***

The stress and labour associated with motherhood lasts for many years and is unrelenting in nature. The participants talked of chronic tiredness that was linked to the work of mothering, while simultaneously working outside the home.

It is unrelenting. Every day, every week, there are the things that have to be done, that you just have to find the energy for, no matter how tired you might get. Like doing the shopping, making sure there is food, cleaning, washing, just the work of it. And usually you can just plod along with it until something happens, like one of the family gets sick, or there is some sort of trouble with the police or school, and then you have to find more energy to deal with the new crisis. But sometimes you find you haven't got any more energy. What happens is you neglect yourself and just keep on trying. I love being a mother but, God, it's hard work. And it goes on and on and on… there is always something new to worry about. (Margot)

Participants whose children were very challenging described almost continuous disruption and extreme stress that lasted up to six years per child. One of the participants, when talking about issues related to her 20-year-old son who was still causing her considerable anxiety stated:

I have to acknowledge that I can cope with enormous amounts of distress because I live under it every day. I don't sleep very well and most of the time I'm depressed… one day it will finish [the stress caused by her son]. I only hope it's not the day I die. (Diana)

Participants living with unrelenting stress identified it as a factor that negatively affected their health. They described experiencing headaches, depression, severe emotional upsets, anxiety, sleep disturbances, eating disorders, gastro-intestinal upsets and elevated blood pressure at times.

I don't know how I didn't have a stroke or something, I was so stressed. I was wrecked. I shook all the time. I wasn't sleeping. I cried every single day for at least a year. My blood pressure went through the roof. I got bad headaches and I always had a sore stomach. I always felt on edge and nervous. I felt inadequate and sad all the time. Other times I'd feel like I was going to explode with the pressure of holding it all in. (Tania)

In addition to the negative health effects that participants attributed to stress, several also linked the extreme stress to traumatic incidents such as accidents and poor performance in work and other areas.

I was extremely stressed and anxious. One day I had quite a bad car accident just because I was so stressed and not concentrating on my driving. (Caroline)

It's impacted on me is so many ways. I am just so totally physically and emotionally and mentally drained by the whole experience. I'm a lot more anxious than I used to be and it takes all my energy just to get through each day... you know, to cope, just getting through each day. (Sarah)

As the narrative above suggests, the business of surviving, of coping with the demands of every day can be exhausting and overwhelming. The text also suggests that the negative effects of the anxiety and stress can persist for periods of time.

I couldn't sleep. It breaks into everything. You don't enjoy things because you're always worried about where he is and what he's doing... it can be really quite detrimental to your health. I don't think I was functioning very well at work. The stress and anxiety makes you think you'll explode with it and yet you still have to somehow stay calm, keep going to work, keep on holding the family together, not overreact to anything…. (Melissa)

Seeking support: ***'does anyone really care'?***

Participants discussed their needs for support and their attempts to get it. For some participants in partnered relationships, their partners provided the greatest support. One other participant stated that she gained a lot of support from a small group of longstanding friends. However, participants indicated that there were problems associated with seeking support. Some of this difficulty pertained to a belief that there wasn't really anywhere to go for help. Most participants stated that they felt unable to draw on their usual support network of family and friends. When gently probed as to why they felt they couldn't access support from usual sources participants gave different reasons, but all related to a reluctance to disclose the nature and extent of the problems they were having with their children. Marilyn said:

He was my son who you want to be proud of (sic)... I wasn't proud of my son in lots of ways and I didn't want other people to know that. (Marilyn)

Some participants had more complex reasons for non-disclosure to their friends. When giving her reasons for not confiding her difficulties with her son in her very close friend of many years standing:

I could never tell her and I don't know why. I guess it was such a trauma for me that I probably wanted part of my life free of it. I just needed to have a little break in my life that was free of that trauma. (Diana)

But later in the conversation when talking about criminal charges against her son, Diana raised the issue of mothers remaining silent and denying themselves the support of friends in order to protect the child from the disapproval of others.

I do damage control. I didn't want my son to have to deal with this in later life. I wanted it to be over. If everybody knew about it they would ask what was happening and I didn't want that. (Diana)

There was also an issue of mothers feeling they themselves would be judged and blamed by their friends and family.

My husband and I had a good relationship. We used to chat about it a lot, you know, and try to work out what was going on and think back to when we were teenagers. Other people are going to make judgements because I have always worked and I actually had people saying to me 'well it's because you work': 'if you were home to control the children that would never happen'. That always sent me on a guilt trip. (Caroline)

Diana sought specialist counselling for her son, and this also gave her a source of support. It was interesting that in describing her meeting with the counsellor, Diana said:

I got my son in to a counsellor who was wonderful and she said 'I'm not into mother bashing. You know, a lot of this stuff has been your son's behaviour and what we have to do now is work it out and there's no point in blaming people. Let's figure out how we can deal with it'. And she was wonderful, she was very good. (Diana)

Diana valued the counsellor stating clearly that she (Diana) was not going to be blamed for her son's predicament; that blame was futile; and the task they had was to look ahead. Several other participants (n=6, including Diana) also actively sought professional help but generally found these to be unhelpful, with participants describing so-called therapeutic environments as hostile to women and mothers. Brenda describes her feelings following a counselling session:

I could tell the counsellor thought everything was my fault. I felt blamed. He asked me a lot of questions that were... [long pause] critical of me and he seemed to look at me with contempt. He did more harm than good. I can honestly say I have tried to be a good mum and when I went to that place I went there with the intentions of learning new skills and strategies to help us, but I felt so uncomfortable there... it was a disaster going there. (Brenda)

Margot and Tania recounted similar, unsatisfactory encounters with counselling.

We started to have some family counselling and the counsellor wanted us to do all these things that were not conducive to our family anyway. In the end there was far more anger between me and my husband and son. I wanted my family back. It wasn't worth it. And the counsellor was very hostile to me. She was condescending and patronising. (Margot)

At one point I went to a youth and family crisis centre place. It was awful. The guy I saw had a real blame attitude and he didn't like women at all. He said it was all to do with inferior parenting... I felt humiliated and as though I'd been abused after seeing him so I never went back. (Tania)

Having such unsuccessful encounters with professional helpers only made these women feel more marginalised and alone. Following the encounter with the counsellor, Tania then went to see her family doctor, and she found his responses a lot more helpful. The text below suggests that the doctor's actions of giving his time, showing concern, and listening to her distress were experienced as being healing.

Then I went to the doctor and tried to tell him, but I was so upset that when I started talking I just broke down and couldn't talk. But he was so nice, he just let me sit there in his room and cry for a while... It was very emotional for me because it was the first time I felt anyone really cared enough to see my hurt and pain. It felt like everyone else who knew about my troubles judged me as a bad mother and judged my son as a bad person, so I never felt I could tell them anything. But that day with the doctor I felt I could let my guard down and cry it out. He suggested counselling but I felt too fragile to go through with it. So he said I could come back and see him anytime I wanted. (Tania)

DISCUSSION

Periods of family conflict and impaired communication are features of adolescence, and though these issues are recognised as being part of the developmental journey for many young people (Henricson and Roker 2000), the findings of this current study suggest that mothers may not expect the degree or duration of upheaval that can accompany adolescence. Shek and Ma (2001) suggest that parent-adolescent conflict differs between fathers and mothers, with mothers generally avoiding overt conflict more than fathers. However, Edwards et al (2001) found that mothers reported a higher level of anger intensity when in conflict with their adolescent children than fathers.

Parenting adolescent and adult children can challenge maternal feelings of competence. Participants described feeling inadequate at times, and feeling exhausted by the demands of mothering. Nicholson (1983) clearly captures the mixed emotions, guilt, sacrifices and physical labours associated with mothering, when years after her four children had grown to independent adulthood, she reflected:

> *Perhaps I loved them too much, yet I look back and see all the things I did not do for them, the many times I failed them, and I feel I did not love them enough. But how could I have done more? For years they occupied most of every day. They gave me sleepless nights, an aching back, pricked sewing fingers, sore feet, cheap clothes, neglected teeth. My patience was exhausted on them, my freedom taken away, the bloom of my young womanhood vanished while I cared for them, when my mind was at its best I was helping with their homework, and the time of my greatest physical ability went to give them strength... my main impression is one of never-ending work, tiredness, sacrifice, frustration, monotony, continued doubts, smiling forced patience, loneliness, but no time for myself* (Nicholson 1983, pp.4-5).

As Nicholson suggests, and as the women in this study confirm, the responsibility embedded in the mothering role can cause considerable and on-going stress. Tensions and conflict occur as women struggle to simultaneously meet the many demands upon them, and the expectations of those around them. Despite the difficulties associated with mothering at this time, all participants in this study still invested a lot of time and energy in fostering relationships that were as positive as possible. Discussing the practice of mothering, Leonard (1996, p.129) states that children have a connectedness with their mothers that takes priority over other concerns or commitments. This was true for the mothers in this study. They all prioritised issues related to their children above all else. This proved to be exhausting, especially given that most mothers had more than one child, and all had other pressures on their time. For some participants, this meant taking time out from work to assist their children with problems associated with schooling, the justice system, or other personal problems.

The role of parents is ill defined in this period (Henricson and Roker 2000) and the degree of control parents should exercise over their adolescent children is not clear. According to Leonard (1996, p.129), in framing mothering as a practice, 'the mother does not view her child as an autonomous equal deserving of care by virtue of his or her rights. Rather, the child's helplessness and need and relationship to her solicit her care'. Developmentally and socially the child is poised between childhood and adulthood and is prone to demand increased autonomy. This challenges mothers to reconstruct their relationships with their children, so as to meet the changing needs of their children.

When experiencing problems associated with mothering, avenues of support were hard to find and though various approaches to support parents have been developed, such as parent effectiveness training for example, these are not accessible to all families. In this particular study, were specialist services were approached (n=6 participants), all but one of the participants reported feeling hostility and blame from therapists. This caused the affected women to cease use of the service. Subsequent to this, one participant approached her family doctor and reported this as helpful.

The stigma that many participants in this current study felt in reaching out to friends and family for support during very difficult times has been previously noted by Nelms (2000), who found that mothers caring for adult sons with HIV/AIDS felt stigmatised, and marginalised from many of their usual supports because of their sons' homosexuality, drug use and disease. These mothers reported having to keep secrets about the nature of their son's illness from employers, from many friends and relatives and even from clergy (Nelms 2000). Nurses are ideally positioned to provide support for mothers under stress. However, as Fenwick, Barclay and Schmied (2001) note, research on parent and nurse relationships is limited. Nelms (2000) calls on nurses to reflect upon their own values and attitudes, so as to better meet the needs of women as mothers.

In a study of early mothering Fenwick et al (2001) identify chatting between mothers and nurses as an important clinical tool that has the power to influence a woman's confidence, her sense of control and her feelings about herself as a mother. Similarly, one of the reasons that women participated in this current study was that it gave them the opportunity to talk about their experiences and perhaps develop new understandings of mothering. Participation in the study gave them the opportunity for reflection and the women enjoyed being given the opportunity to share their experiences (similarly Nelms 2000). Nelms (2000, p.57) suggests nurses include 'inquiries about mothers' relationships with their children into all women's health assessments as part of evaluations of women's well being'. Thus, nurses could create a space for women to tell the stories of their mothering. The potential value of this is reflected in Tania's narrative in which she recounted the story of her visit to the family doctor. In giving her a safe space to speak her pain and distress, and in allowing her voice without making her feel judged, Tania experienced her encounter with the doctor as helpful and caring, and one that moved her towards healing. While this was the experience of only one of the women, it does raise the importance of providing a safe space for women to speak. It also highlights the healing potential of story telling, especially for people in situations of extreme stress and anxiety such as many of these participants had been in at times, and who simultaneously felt that their usual supportive networks were not available to them. Health professionals may not necessarily be able to provide material assistance to women experiencing family difficulties associated with mothering, in that we may not have the resources to reduce the demands on women who are mothers. However, health workers do have a role in providing the support and the safe spaces for women to give voice to their pain and distress, and this could make the difference between coping and not coping with very difficult circumstances.

IMPLICATIONS FOR FURTHER RESEARCH

Additional research is needed to further explore the experiential aspects of motherhood. In addition, further research is needed to:

- develop supportive strategies to assist women throughout their mothering years, such as facilitated discussion groups, or other interventions utilising a peer support framework;
- gain understandings into parent/nurse, parent/therapist relationships;
- explore the experiences of women from social and cultural minority groups; and,
- gain the perspectives of women whose children have a history of no contact with their fathers.

LIMITATIONS TO THE STUDY

The main limitation of this study is that it is of Western Caucasian middle class women. It needs to be acknowledged that experiences around motherhood may be different for women of other cultural or minority groups. The women who participated in this study were well-educated, and the majority were overwhelmingly in partnered relationships. Where women were sole parents, the children knew and had contact with their fathers. Therefore, perspectives of women who are mothers of children who have no contact with their children's fathers may not be fully captured in this study. In addition, none of the women in this study were affected by extreme poverty. Poverty limits the options available to people when they are trying to problem solve, and therefore would almost certainly complicate aspects of the mothering experience.

CONCLUDING COMMENTS

Surprisingly, little about experiential aspects of motherhood and its consequences to the health of women appears in the nursing literature. This paper makes clear links between women's health and motherhood, and casts light on the life-long nature of mothering. Though all but one of the participants did enjoy their mothering and considered it an enriching and overall positive aspect of their lives, many experienced considerable stress associated with their mothering, and that in itself carries implications for women's health and makes it of interest to nurses. Findings of this study provide new insights into mothering as it is lived, and its perceived long term effects on women's health and well being.

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POOLE'S ALGORITHM: NURSING MANAGEMENT OF DISTURBED BEHAVIOUR IN OLDER PEOPLE - THE EVIDENCE

Julia Poole, RN, RM, Grad Dip HlthSci(Geront),
MPubMment(Health), Cert Psychiatry of Old Age, ACHSE,
is a Clinical Nurse Consultant in aged care, Royal North
Shore Hospital, Sydney, Australia

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ABSTRACT

Disturbed behaviour in older people is a challenging and complex clinical problem. Accurate nursing assessment and management are key elements for good outcomes. The literature shows that nurses do not consistently understand this clinical syndrome and appropriate education is needed. In recognition of limited time frames and of theories of learning, an algorithm has been developed detailing, in order of priority, the management of aggression, delirium, depression or other mental disorders and dementia, plus an outline of supportive communication and care techniques. Three separate packages, each comprising a booklet of lecture notes and resources plus a matching poster are available. Each of these relates particularly to the needs of older people in aged care facilities, acute care or the community.

INTRODUCTION

The care of older people can be particularly difficult if it is complicated by behaviour that is considered abnormal. Whilst anxiety in relation to illness or treatment is easily understood, if that behaviour turns into outright aggression or interferes with the most basic social interactions, then the degree of difficulty in caring for that person is amplified by that aspect alone.

Tappen and Beckerman (1992, pp.149, 151) claim that there is a 'subtle' form of age discrimination, related to behavioural changes in older patients. Through case studies they described what appeared to be a '*cascade of indifference*'. This term was coined by a family member who observed the labelling and acceptance of common behavioural symptoms such as confusion and incontinence, as being inevitable for older people and therefore not worthy of active investigation. This phenomenon is known to lead to further deterioration and eventual dependence or death.

Nevertheless, the tendency towards a combination of multiple co-morbidities and atypical symptom presentation in older age, provides a difficult diagnostic and management milieu. Therefore, the aim of this paper is to justify the establishment of specific guidelines for clinical decision making and optimal management, that will take into consideration the knowledge of the specialties of geriatric medicine and nursing and thus provide a system for education in best practice.

DEMOGRAPHY

It is a well known fact that people are living longer. Countless studies in political, economic and health fields have highlighted the coming boom in the number of older people (those over 65) and debated the resource implications. Not only did this group make up 12% of the population of Australia in 1998 but those numbers are expected to swell to 24% by the year 2051 (McLennan 1999). In addition, it was found that in 1995, 90% of older people had experienced a recent illness and 99% reported at least one long-term health condition. Kane et al (1999) report that 5-10% of community-dwelling older people over 65 also exhibit some degree of cognitive impairment (not necessarily dementia) and this rises to approximately

20% in those over 75. The literature provides recognition of the increased predisposition for disturbed behaviour in older people with diminished cognition and illness (Maher and Almeida 2002). Specifically, 6% of people over 65 are thought to have a diagnosed dementia with that figure doubling every five years. Hence, the likelihood of increasing numbers of older people exhibiting some form of behavioural disturbance.

WHAT IS DISTURBED BEHAVIOUR?

Any behaviour that causes concern or stress for the person or other people could be considered disturbed. The most common disturbances are related to confusion, memory disorders, and abnormalities in thinking and reasoning (Fauci et al 1998). Particular concern has traditionally been focussed on behaviour that is considered challenging, such as, aggression, agitation or inappropriate sexual acts.

Aggression is a most distressing form of disturbed behaviour because it presents the possibility for serious outcomes for the older person and their carers. In a random sample survey of 400 nurses' experience of aggression in one Australian hospital, it was indicated that nine out of 10 nurses on the wards surveyed, had experienced some form of aggression in the last 12 months (O'Connell et al 2000). Quite apart from the obvious risk for injury for an older person committing an aggressive act, nurses in this study were found to have experienced anger, anxiety, helplessness, fear and resentment as well as feelings of inadequacy. With the current nursing shortage this must be a mitigating factor for job dissatisfaction. Aggression must, therefore, always be a marker for clinical investigation.

However, there are other behaviours that are abnormal, such as withdrawal or apathy, that might not be as obvious but should also be investigated. Many different names have been used to denote abnormal behaviour including, confused, disruptive, disturbed, altered mental state, altered cognition, troublesome behaviour or behaviours of concern. For the sake of this paper, and to make sure that all aspects are included, the definition of the verb '*disturb',* meaning *'trouble, agitate, unsettle, derange*' (Webster 1988, p.125) seems appropriate. For clarity this is then broken down into the most commonly observed behaviours of aggression, confusion, or inappropriate behaviour.

CAUSES OF DISTURBED BEHAVIOUR

One of the most widely recognised causes of disturbed behaviour in older people is dementia. Dementia is a clinical syndrome of organic origin, characterised by a slow onset of decline in multiple cognitive functions, particularly intellect and memory, which occurs in clear consciousness and causes dysfunction in daily living (Burns and Hope 1997; Jorm and Henderson 1993). Deterioration is common in orientation, judgement, problem solving, financial management and personal care. Alzheimer's Disease and vascular dementia are the most common causes but there are many others including Lewy Body Disease and Pick's Disease. In Alzheimer's disease, for example, an older person may gradually stop maintaining their previously immaculate appearance or withdraw from usual activities but also appear quite unconcerned. Despite the encouraging results of recent drug trials, it has been recognised that successful treatment of the primary cause of the dementia with the aim of eliminating the disease, is mostly not possible (Jorm 2002).

Recognition of delirium as a cause for disturbed behaviour in older people, is growing (Maher and Almeida 2002; Moran and Dorevitch 2001; Inouye 1998; Creasey 1996). There are predisposing and precipitating factors, such as hypoxia, infections, toxicity (particularly drugs), metabolic disturbances, sensory deprivation and overload, diffuse and local central nervous system disorders, epileptic plus physical or environmental causes (Mulligan and Fairweather 1997). Since older people are predisposed to nonspecific manifestations of illness, the first sign of such illnesses as pneumonia or urinary tract infection might be a behavioural disturbance signifying a delirium. Furthermore, delirium is a common '*precipitant of hospitalisation in the elderly*' and affects up to 50% of patients in acute surgical and medical wards (Creasey 1996, pp.21-22). Maher and Almeida (2002) claim that delirium should be considered a medical emergency. Therefore, the routine investigation of all cases of disturbed behaviour in older people, with a view to ruling out delirium, is imperative.

A number of diagnostic terms have in the past been applied to the symptoms of delirium, including, acute confusion, reversible dementia, transient cognitive impairment, acute brain failure, toxic psychosis and pseudosenility (McCabe 1990; Lipowski 1994). Discussion arises in the American Psychiatric Association DSM-1V classification (1994, p.3) over the categorisation of delirium under '*mental disorders due to a general medical condition*' and '*primary mental disorders*', in recognition that aetiology is not always certain. Nevertheless, delirium is recognised as being a change in consciousness and cognition (particularly a memory deficit, disorientation or language disturbance) or a perceptual deficit, that occurs over a short period of time (usually hours to days), tending to fluctuate during the day and is either substance induced or caused by a general medical condition.

Depression is also a common, but poorly recognised cause of behavioural disturbance in older people (Baldwin 1997; Lovestone and Howard 1997). In an examination of the literature on depression in older people, Baldwin (1997) found general agreement that there was more likelihood for behaviour disorders, minimal expression of sadness, overlap of obvious physical symptoms with those that cannot be demonstrated, such as accentuation of abnormal personality traits and late onset alcohol dependency syndrome. In addition to the known link between depression and other illnesses in older people, the increasing evidence for a relationship between depression and dementia (Roose and Devanand 1999; Katona and Livingston 1997) highlights the need to examine behavioural disturbances in older people in a broad context.

Other mental disorders that may affect the behaviour of older people include schizophrenia, paraphrenia, and personality and neurotic disorders. In a review of the prevalence of mental disorders in older people in nursing homes, Snowdon (2001) reported on clinical studies that found that about 80% of residents had dementia, 30-50% had depression, 6-7% had delirium whilst 3.5% had anxiety or panic disorders and possibly 2.4% had schizophrenia.

BARRIERS TO ASSESSMENT AND MANAGEMENT

The difficulties presented by disturbed behaviour in older people are evident across the continuum of care in acute care, aged care facilities and the community. A number of useful manuals have been written about the management of dementia offering solutions to care problems, mostly focussing on behaviours that are said to be challenging or difficult (Keane and Dixon 1999; Kratiuk-Wall et al 1996; Robinson et al 1989). However, the urgency for medical assessment is not immediately obvious and illness indicators are often mixed in with environmental considerations.

There are also numerous books and journal articles available that focus on ways to understand and manage disturbed behaviour specifically related to the effects of dementia (for example, Garrett and Hamilton-Smith 1995; Millen 1984; Mace and Rabins 1981; Acton et al 1999; Packer 1999; Taylor 1998). However, the overall emphasis is related to a presumption of dementia.

Lindesay (1997) points out that the increasing imperative to discharge people as early as possible from acute care also increases the pressure on community and aged care facility services to deal with disturbed behaviour in older people. In addition, the vulnerability of older people to developing dementia and depression increases their likelihood for medication prescription and therefore drug induced delirium. Disturbed behaviour may in fact be a result of some aspect of dementia, delirium, depression, or some other mental disorder, all at the same time. Consequently, the problem of correct diagnosis and management expands to one of diagnostic prioritisation.

At the same time, there seems to be a general lack of appreciation in nursing education and practice of the importance of recognising behavioural problems as symptoms of possibly treatable illnesses. A study by Inouye et al (2001) showed that although nurses have the closest contact with patients, they do not consistently recognise delirium. This was particularly problematic if the patient was hypoactive, older than 80, had a vision impairment or had dementia.

In a case study by Eden and Foreman (1996), the tragic outcomes for a 69-year-old patient with undiagnosed delirium associated with a straightforward surgical procedure, illustrated the need for improved recognition and treatment. Inouye et al (1998) examined the implications of an episode of delirium on discharge and long term outcomes for older hospitalised people and concluded they were generally poor. In reporting the results of this large scale, three centre, epidemiological study, it was stated that whilst it was not totally clear whether the delirious episode was part of the severe illness continuum or a separate contributor to that illness, it was likely that the delirium did add to the severity of the illness and symptoms often persisted for a long time. This, therefore, has implications for service providers and the ethics of aged care assessment team review of older people in acute care.

The problem, highlighted by the literature, is that the main causes of disturbed behaviour in older people can be grouped under the headings of delirium, depression or other mental disorder, and/or dementia. When the major presenting symptom is disturbed behaviour, older people are at risk of inadequate assessment, diagnosis and treatment. This can lead not only to inappropriate use of scarce health resources, but disintegration of that person's entire existence.

RECOMMENDATIONS FOR EDUCATION

An increasing number of authors are recommending the development of new procedures to enhance education for nurses about the assessment and management of delirium and depression, in addition to dementia (Maher and Almeida 2002; Snowdon 2001; Moran and Dorevitch 2001; Inouye et al 2001; Eden and Foremen 1996). In Australia, in particular, this is supported by Arie (2001, p.113) in a call for '*more appropriate education and training for staff*' as part of his response to Snowden's (2001) claim for increased funding for psychiatric care in nursing homes. This is further supported by the results of a survey of carers' perceptions of the care provided for their relatives with dementia who had been admitted to an acute care unit (Taylor 1998). In response to their observations of sub optimal care, the leading recommendation was for more inservice education.

However, staff education requirements are many but time is limited due to the pressures of increasing nursing workloads caused by the expanding complexity of care plus dwindling staff numbers and inadequate staff acuity combinations. Macri and Onley (2001) also responded to Snowdon's (2001) call for increased mental health education in nursing homes but pointed out that education and training are often the first casualty of budget revisions in response to inadequate funding legislation. In a survey of the perceived educational needs of providers of care for people with dementia in the community, this author found that sessions which were short and presented often, were agreed to be most acceptable and accessible for this rapidly changing workforce (Poole 1992).

Theories of learning show that staff need opportunities to perceive and process information. This may be related to empathy and actual experience, or through a more abstract, logical approach, using analytical interpretation (McCarthy 1987). We need then, to search for enlightened educational methods to meet the needs of all nurses. However, as time is of the essence, the information must be simple, able to be presented quickly, easily assimilated plus, then, easily recalled.

The idea of latent learning or the acquisition of broad non specific knowledge which can later be applied to specific incidents, was asserted by the psychologist Tolman in 1948 and reported by Laszlo et al (1996, p.3). They presented the notion of '*cognitive maps*' as an explanation of how humans build up internal representations of their environment and interactions. An understanding of these concepts could lead to enhanced ways to assist the comprehension of problems and their possible solutions. For example, Tolman described the way his rats were more able to find food in the centre of a maze after they had had a chance to examine the maze without the stimulus or distraction of the food. Those rats who were placed into the maze with food, without having a chance to firstly examine the layout, where consistently slower to find the food than those with prior understanding of the maze pathways.

Buzan created the concept of mind maps as a way of categorising and retrieving information rather than writing down vast amounts in note form (Buzan and Buzan 1996). The idea was that information should be recorded in a personally created code using '*words, lines, shapes, colours and pictures to represent ideas and information*' (Braithwaite 1996, p.140). This is said to maximise attention by involving both right and left brain activity at the one time.

Using these concepts, a map or model for providing general guidelines for the management of disturbed behaviour in older people has been created. A good model is said to help us to see more clearly, creates a simple language for complicated processes, presents the whole and all of the parts, is stable and is generalisable (McCarthy 1996). Therefore, an algorithm, which is defined as 'a*n explicit protocol with well-defined rules to be followed in solving a health care problem*' (Glanze et al 1990, p.41) or a flow chart with questions and answers, is proposed as an appropriate format.

THE ALGORITHM LOGIC

The major components, in order of priority, of an algorithm for the management of disturbed behaviour in older people are as follows:

Aggressive, confused or inappropriate behaviour?

1. Is the person aggressive?: Aggression is one of three psychiatric emergencies which require urgent action (Gelder et al 1999). As it may pose a serious threat to the safety of both the person and others, it is placed first in the algorithm to enable timely intervention. The other emergencies are, wandering and suicide or self harm attempts and will be duly addressed. General information is provided to address safety, a non-confrontational approach, communication skills, back-up assistance, restraint principles and assessment. A template for a behaviour chart for antecedent, behaviour and consequence descriptions for analysis, is essential.

2. Could the person have a delirium?: Reversible causes of disturbed behaviour need immediate attention, because management issues will change if a medical cause can be treated promptly (Kane et al 1999). Therefore, the nurse should **assume** that there might be a delirium present and so instigate assessment and referral or treatment of possible medical problems (Maher and Almeida 2002; Moran and Dorevitch 2001; Gelder et al 1999; Inouye 1998). Information needed includes the common clinical signs, potential causes and an overview of assessment principles. References for recommended assessment tools are helpful.

3. Could the person have depression or other mental disorders?: Depression or other mental disorders must be the next consideration as there is evidence that older people can be helped just as effectively as younger people (Baldwin 1997). An overview of assessment components plus templates for three depression assessment scales is relevant.

4. Could the person have dementia?: This is the final consideration because a diagnosis of dementia requires careful assessment to exclude all other causes of cognitive decline (Burns and Hope 1997). Delirium, depression (and a small number of other mental disorders) plus a small group of potentially 'reversible dementias' (such as Vitamin B 12 and folate deficiencies, normal pressure hydocephalus, hypothyroidism etc) must always be ruled out prior to finalising a plan of care for people with dementia. A brief overview of the most common types of dementia and behavioural deficits is advantageous.

5. Plan ongoing 'supportive communication and care': Whilst assessment and treatment is the initial priority, interactive management must be simultaneous. Creasey (1996, p.21) states '*minimising predisposing and iatrogenic precipitants, combined with early detection and treatment of all reversible factors in a therapeutic nursing environment, provides the best outcome*'. Accordingly, methods of supportive communication and care need to be instigated through cooperation with the family and general practitioner, careful communication, consideration of functional and social history, adaptation of the environment, judicious use of medications and support for independence, mobility and sleep hygiene (Maher and

Almeida 2002; Lindesay 1997; Creasey 1996). Tables offering a referenced expansion of these headings, are useful with the aim to provide a consistent, appropriate plan of care.

THE EDUCATION PROGRAMME

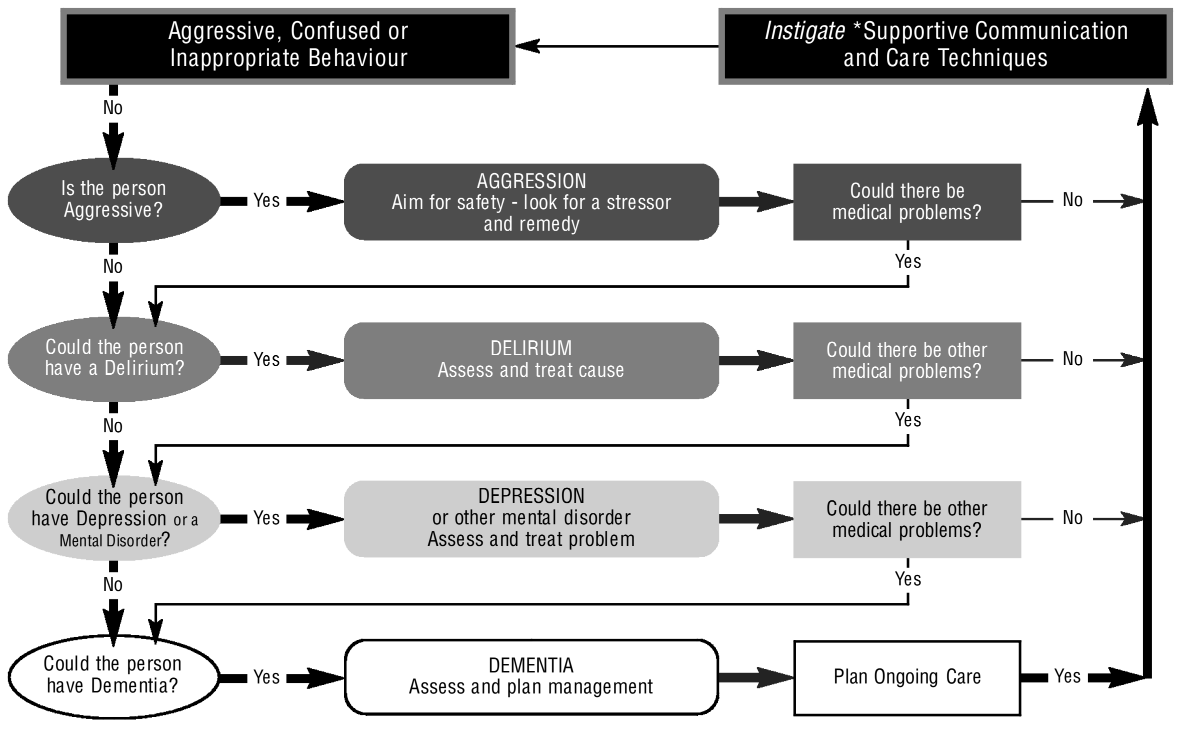
An algorithm incorporating lines, colours and shapes to denote components and prioritisation (see Figure 1), has therefore been developed. This has then been expanded to reflect the different requirements in acute care, aged care facilities and the community, in the form of three booklets of explanatory lecture notes and resource kits with matching A1 sized posters. This enables the presentation of short inservice sessions that provide maximum visual and auditory input (Poole 2000a; Poole 2000b; Poole 2001). The provision of a reference list supports the components in best practice and clinical governance endeavours.

Projects to evaluate the acceptability and effectiveness of these programmes are underway. Unpublished early results of the first project by Poole and McMahon (2001) show that staff in 67 out of 130 nursing homes and hostels across a large Sydney health area, attended train-the-trainer sessions and of those, 37 returned three months later for focus group debriefing. Responses showed that staff were more confident, more aware of the causes of disturbed behaviour, able to retain the knowledge and exhibited enhanced practice. Plans are presently being made to expand this evaluation to a rural area and the acute sector.

CONCLUSION

The essence of this education programme is to highlight the imperative for immediate, careful management of aggression, then to promote prioritisation of diagnostic components to enable appropriate management of disturbed behaviour in older people. Since symptoms of delirium and depression can mimic those of dementia, as well as being complications and precursors to a diagnosis of dementia, then all aspects of these conditions must be considered. Early priority must be given to assessing for those conditions that may be reversible, so that appropriate care can be instigated to give optimum outcomes for all involved. In addition, it must be recognised that a milieu of supportive communication and care must surround all efforts to manage older people exhibiting disturbed behaviour to enable mitigation of common ageing changes, environmental stressors and the long term effects of life events.

Figure 1: Poole’s Algorithm: Nursing management of disturbed behaviour in older people.



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RESEARCH ROUNDUP A summary of research reports from nursing and medical journals

LOCAL WARMING IMPROVES CANNULATION

Local warming of the lower arm facilitates the insertion of peripheral venous cannulae, and reduces both time and the number of attempts required, according to joint US and Austrian research. Researchers compared the insertion of cannulae into the arms of 100 neurosurgical patients and 40 leukaemia patients who required chemotherapy. The neurosurgical patients' hands were covered for 15 minutes using a carbon fibre warming mitten and the patients were randomly assigned to active warming at 52ºC or passive insulation. The same system was used for 10 minutes in the patients with leukaemia. The results showed it took 36 seconds to insert an 18 gauge cannula into a vein on the back of the hand in the 'active warming' neurosurgical group, compared with 62 seconds in the passive group. In the leukaemia patients, the insertion time was reduced by 20 seconds. Warming also improved the first attempt insertion success rate. Three (6%) first attempt failures in the active warming neurosurgical group compared with 28% in the passive insulation group; while 6% compared with 30% in the leukaemia group. The authors suggest warming of the lower arm could improve patient satisfaction, decrease the time staff spend inserting cannulas, and reduce supply costs.

Reference

Lenhardt, R. et al. 2002. Local warming and insertion of peripheral venous cannulas: Single blinded prospective randomised controlled trial and single blinded randomised crossover trial. *British Medical Journal.* 325:409.

NEW SHIFT PATTERNS REDUCE SICK LEAVE

A recent study found that four-day working weeks with two long shifts and two short significantly cut nurses' sickness absence and were more employee friendly. The study found this saved £7,000 (Aus$21,000) in agency fees on one ward during the one-year trial with 292 requests for agency nurses during the trial year compared with 452 requests the previous year. Nurses found they had more time to spend with their families, less stress and reduced need to stay late after a shift. The researchers found sporadic sickness among 24 nurses at the Queen's Medical Centre in Nottingham almost halved to 1,072 hours under the new system. Staff worked two 12-hour shits and two of six hours.

Reference

Lea, A. and Bloodworth, C. 2003. Modernising the 12-hour shift. *Nursing Standard.* 17(19):33-36.

URINALYSIS POOR PREDICTOR OF PRE-ECLAMPSIA

Routine urinalysis during pregnancy is a poor predictor of pre-eclampsia in the absence of hypertension, and could be eliminated from antenatal care after initial screening without adverse outcomes for women. This is the recommendation of Australian researchers who studied 913 women attending antenatal clinics in Sydney in 1999. The study found 35 women had dipstick proteinuria at their first antenatal visit. In 25 (71%) of these, further dipstick proteinuria was detected during pregnancy, and two (6%) were diagnosed with pre-eclampsia. Of the 867 women without initial dipstick proteinuria, 338 (39%) had subsequent positive readings at some time during pregnancy. Only six women developed proteinuria before the onset of hypertension. The authors say the study shows routine urinalysis during pregnancy is a poor predictor of the development of pre-eclampsia and suggest that after the initial screening urinalysis, routine urine testing could be eliminated for low-risk women unless they develop hypertension or clinical signs and/or symptoms of urinary tract infection.

Reference

Murray, N. et al. 2002. The clinical utility of routine urinalysis in pregnancy: A prospective study. *Medical Journal of Australia.* 177(9):477-480.

MORE PEOPLE VISIT A&E ON A MONDAY

The highest proportion of people attend accident and emergency departments on a Monday and there are more attendances in children aged one to 14 years in the summer, according to recent UK research. Researchers explored the demographics of people who attended A&E departments at certain times in the West Midlands region of the National Health Service. Data was obtained from a sample of 13 hospitals. Arrival dates and times, age and sex of all patients attending A&E from 1 April 1999 to 31 March 2000 were analysed. No differences were found in attendance in gender. Attendance by children under 15 years peaked between 6pm and 7.59pm. Peak attendance by those aged over 15 was between 9am and 11.59am. In those aged under one and over 65 there was a December winter peak. The variations that exist in attendance between the different age groups are of great importance in planning services, the researchers say.

Reference

Downing, A. and Wilson, R. 2002. Temporal and demographic variations in attendance at accident and emergency departments. *Emergency Medicine Journal.* 19(6):531-535