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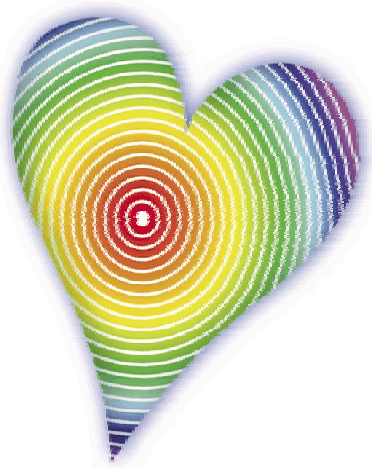

BUILDING THE EVIDENCE BASE OF THE NURSING AND MIDWIFERY CONTRIBUTION TO HEALTH

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BUILDING THE EVIDENCE BASE OF THE NURSING AND MIDWIFERY CONTRIBUTION TO HEALTH

The World Health Organization (WHO) recognises that nurses and midwives contribute to the health of individuals and populations by working with people across the life span, in a range of settings and in a variety of roles. The provision of cost effective, evidence-based healthcare is becoming a priority for all in most countries. A major proportion of healthcare funding is invested in the provision of nursing and midwifery services. However, the nursing and midwifery contribution often appears to be virtually invisible to policy makers and 3rd party payers, and to be undervalued by medical colleagues and managers.

The evidence base of nursing and midwifery is still at an early stage of development, although it is growing steadily in a number of countries in the Region, notably those where nursing and midwifery research has been established for two or three decades. However, even in these countries, there is not as yet a critical mass of nurse or midwife researchers, nor is there a fully developed research infrastructure, and access to research funding is often difficult. In spite of these challenges, it is very encouraging to see the steady growth in the body of evidence about the contribution, which nursing and midwifery can make to health.

This website, entitled 'Building the Evidence Base of the Nursing and Midwifery Contribution to Health has been prepared in order to disseminate available evidence throughout the Region and beyond. It is intended that the Website will be developed steadily as more information becomes available. It is also acknowledged, and this is a very positive aspect, that it will never be complete, because research into nursing and midwifery, and the contributions of these professions to improving the health of people of the Region and caring for those who are ill, will continue. This is a vital element in enabling nurses and midwives to contribute in the most efficient and cost-effective way to the health agenda of the Region.

In presenting this picture of available evidence, it is acknowledged that much more research into the contribution of nurses and midwives has been done than is reported here. In addition, only published research, which is in the English language, has been cited. However, what follows provides what it is hoped will be a useful resource, which will grow steadily, as contributions to it are received by the WHO Europe Nursing and Midwifery Unit.

The evidence included here was provided by a range of people engaged in nursing and midwifery practice and research. The initial part of this database was build in 1999, with permission of Professor Jane Robinson, on the University of Nottingham report for the NHS Research and Development Coordinating Centre for Health Technology Assessment. This Report is entitled 'The effectiveness of domiciliary health visiting: a systematic review of international studies and a selective review of the British literature' – authored by Elkan R, Kendrick D, Hewitt M, Robinson J, Tolley K, Blair M, Dewey M, Williams D, and Brummell K. Dr Nikki Cullum, NHS Centre for Reviews and Dissemination, University of York, England also contributed to that work.

In year 2001 the existing WHO Nursing and Midwifery Database was expanded, work done by Miklos Zrinyi The primary search engines used to identify relevant publications cited in the expansion was Medline PubMed, the Cochrane Database for Systematic Reviews, and CINAHL.

HEALTHY START IN LIFE

Women who had continuity of care by a team of midwives were less likely than omen who had non-continuity of care, given by a combination of midwives and physicians, to be admitted to hospital in the antenatal period; and were more likely to attend ante-natal education programmes (Hodnett 2000).

Women who had continuity of care by a team of midwives were less likely than omen who had non-continuity of care, given by a combination of midwives and physicians, to have drugs for pain relief during labour; and their new born infants were less likely to require resuscitation Hodnett 2000).

Home visits by nurses throughout the first two years of a child's life resulted in fewer admissions to Accident & Emergency Departments (Olds et al 1994).

A follow up study revealed that when visits by the nurse stopped positive impact in terms of numbers of injuries and ingestions and IQ levels (Olds et al 1986).

A mother–child home programme of verbal interactions project involving a home visiting programme demonstrated a positive impact on verbal and cognitive development (Levenstein 1992).

In a pre school mental health promotion programme in which home visiting was seen to be a crucial part, positive impact was still detected after 19 years. (Schweinhart et al 1992).

A study, made by Barker and Andderson (1988)demonstrates how maternal knowledge and self esteem werepromoted to new mothers by health visitors using structured interviews.

An evidence on the benefits of home visits is provided in two studies by Wolfe 1991 and 1993. Results indicate home visiting over a period of one to three years resulted in fewer child injuries, less admissions to Accident and Emergency and fewer reports to protective agencies.

These three papers Olds et al (1994), Olds et al (1997) and Kitzman et al (1997) provide evidence of the benefits of home visiting of families by nurses. Results showed significant financial savings for the government in relation to disadvantaged families in both the short and long term. Advantages observed included less child abuse and neglect, fewer births after the first child for unmarried women, less family aid received, fewer problems with alcohol and drugs and fewer arrests by the police. The studies identified benefits of home visiting for mothers and children and that the benefits lasted for up to fifteen years after the birth of the child.

Browne et al (2000) explored of literature relating to the identification of families at risk of child abuse and of the benefits of home visiting by nurses/health visitors.

Barkauskas (1983), Combs-Orme et al (1985) and Stanwick et al (1982) provide evidence of the effectiveness of Public Health Nursing in meeting the information needs of high-risk mothers.

Shyne et al (1963) and Hall (1980) demonstrate the contribution of public health nurses to bringing about positive changes in mothers' attitudes.

Work by Gutelius et al (1977) demonstrates how nurses could bring about changes in parenting practices, and these changes were associated in one study with improvements in the health and

development of infants. Gutelius et al (1977) reported significantly increased use of story books and crayons in the intervention group and that home visited mothers were better able to provide the kind of stimulation which promotes future success at school.

The studies described by Hall (1980) and Law-Harrison et al (1986) found mothers in the intervention group had more positive perceptions and expectations of their child.

Beckwith (1988) reported that home-visited mothers had significantly more realistic developmental expectations of their children than mothers in the control group.

Grantham-McGregor and Desai (1975) showed that mothers in the intervention group were significantly more aware of their child's level of development.

Field et al (1980) demonstrated that home-visited mothers had a better knowledge of developmental milestones in children and more realistic expectations of their children.

Beckwith (1988) found that the home-visited mothers had more observed involvement and reciprocal interaction with their child.

Larson (1980) reported significant differences favouring the intervention group with respect to mother's positive emotional involvement with her baby, her responsiveness to her child's behaviour, and the amount and kind of contact between mother and child.

Gutelius et al(1977) reported more observed conversations between mother and child among the home-visited mothers.

Olds et al (1994) found that home visited mothers were significantly more involved with their children than mothers in the comparison group.

Seeley et al (1996) found significant improvements, after a health visitor training programme, in rates of reported difficulties in the mother-infant relationship (e.g. infant demands for attention, separation problems, affection).

Field et al (1980) found significant differences favouring the home-visited mothers with respect to measures of mother-child interaction.

Madden et al (1984) found a significant difference among two cohorts of homevisited mothers in non-verbal expressions of warmth and verbal praise.

Resnick et al (1988) reported that observed parent-child positive interactions (both verbal and non-verbal) were significantly higher in the home-visited group; and that there were significantly fewer observed parent-child, non-verbal, negative interactions.

Scarr et al (1973) reported that home-visited mothers engaged in significantly more shared activities with their children than control mothers.

Johnson et al (1993) found significantly increased frequency of reading to the child, playing cognitive games and using nursery rhymes in the intervention group.

Studies by Gutelius et al (1977), Field et al (1980) and Huxley and Warner (1993) reported significantly less punitive or negative attitudes towards childrearing, as indicated by a diminished belief in the value of corporal punishment, less punitive child-rearing attitudes, and

more "appropriate" answers to questions regarding their handling of their child's kicking or hitting; frequency of the use of praise; and management of fear of the dark.

Larson (1980) found significant differences favoring the home-visited mothers with respect to the mothers' skill in care taking.

Studies, by Brooks et al (1994), Brown (1997), Casey et al (1994), Davis (1998), Gross (1993) and Gutelius et al (1977) using a variety of outcome measures demonstrated the contribution of nurses in the management of child behaviour problems.

Two intervention programmes described by Madden et al. (1984) and Seitz et al (1985) both had as their aim the prevention of educational disadvantage. Madden found no difference in school teachers' ratings of the severity of school problems such as reading or discipline. Seitz, in assessing teachers' ratings of the child's positive and negative behaviour, reported that there were no significant differences in teachers' ratings for girls. However, control boys were rated significantly more negatively by teachers. Seitz also reported that control boys were significantly more likely to be receiving school remedial or psychological services. Seitz further found significantly less absenteeism among the home-visited children, and better school adjustment among the home-visited children.

Marcenko's study (Marcenko et al 1994) showed that home visited women, in contrast to a control group, experienced a significant decrease in five types of psychological distress: depression, phobic anxiety, interpersonal sensitivity, psychoticism and somatization.

Davis et al (1998) reported a significant reduction in anxiety and depression among home-visited mothers, as well as a significant reduction in parenting stress and a significantly greater likelihood of rating their problems as less severe and as causing less distress post-intervention than the control group.

Barnes-Boyd et al. (1996) demonstrated that repeated home visits with ongoing infant health monitoring plus individualized and culturally sensitive teaching helped mothers maintain good health practices and identify illnesses early.

A randomised clinical trial reported positive effects of a lactation nurse on breastfeeding practices (Jones & West, 1986). Lactation nurses significantly extended the duration of breast-feeding, particularly during the first four weeks among women of lower social class.

A recent study Kitzman and colleagues (2000) documented prolonged effects of home visiting. After 3 years follow up, women who received home visits by nurses had fewer subsequent pregnancies, fewer closely spaced subsequent pregnancies, longer intervals between the birth of the first and second child, and fewer months of using financial aids and food stamps. While these results were smaller in magnitude than those achieved in a previous trial with white women living in a semirural setting, the direction of the effects was consistent across the 2 studies.

A systematic overview of the effectiveness of home visiting found no negative effects associated with nurse visits but reported improvement in children's mental development and physical growth, reduction in mother's anxiety, depression, and tobacco use, improvement in maternal employment, nutrition and other health habits, and government cost saving (Ciliska et al., 1996).

A meta-analysis of three randomized controlled trials that included 9 maternity units and 1420 women in France found that home visiting did not affect the hospital admission rate (Blondel & Breart, 1992).

The Rural Health Outreach Program described by Boettcher (1993) is a community level promotion of maternal infant health. This nurse-managed community-based program used a variety of methods to reduce infant mortality and improve maternal child health combining university and community resources.

Early intervention is believed a key to establishing successful maternal infant health. Koniak-Griffin et al. (2000) reported a public health nursing early intervention program for adolescent mothers and indicated reduced premature birth and low-birth-weight rates for young mothers receiving both traditional and more intense nursing care. However, infants in the more intense group had significantly fewer total days of birth-related hospitalization and rehospitalization than those in the traditional care group during the first 6 weeks of life.

The positive effect of home visiting by nurse-midwives was also observed to reduce the risk of low weight births among indigent women. (Visitanier et al., 2000).

Kearney and associates (2000) reviewed 20 experimental and quasi-experimental studies conducted in the US and Canada about nurse-delivered interventions to young families of preterm and full-term infants. Results supported that maternal well-being and life course development, maternal-infant interaction, and parenting were improved. However, child development gains were limited to preterm infants and nurse home visiting did not improve use of well-child health care.

Effective nurse home visiting included nurses with advanced education, frequent visits over a long period of time, and were focused more on building a relationship with the mother and providing her with coaching in maternal-infant interaction and cognitive development (Kearney et al., 2000).

Nurse home visiting was seen less effective to alter specific parenting behaviors in families with problems of alcohol and substance abuse (Kearney et al., 2000).

Evidence for instrumentation developed for nurses to help identify prenatal alcohol use is also available (Budd, 2000).

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Randomized Controlled Trials and Meta analyses

Corwin, M.J., Mou, S.M., Sunderji, S.G. et al. (1996). *Multicenter randomized clinical trial of home uterine activity monitoring: pregnancy outcomes for all women randomized.* American Journal of Obstetrics and Gynecology, 175(5), 1281-1285.

The purpose of the research was to evaluate the impact of home uterine activity monitoring on pregnancy outcomes among women at high risk for preterm labor and delivery. Results showed, among women with singleton gestations at high risk for preterm delivery, that the use of home uterine activity monitoring alone, without additional intensive nursing care, results in improved pregnancy outcomes, including prolonged gestation, decreased risk for preterm delivery, larger-birth-weight infants, and a decreased need for neonatal intensive care.

Olds, D.L., Eckenrode, J., Henderson, C.R. Jr. et al. (1997). *Long-term effects of home visitation on maternal life course and child abuse and neglect. Fifteen-year follow-up of a randomized trial*. JAMA, 278(8), 637-643.

This research examined the long-term effects of a program of prenatal and early childhood home visitation by nurses on women's life course and child abuse and neglect. Results of the 15-year follow-up showed the program of prenatal and early childhood home visitation by nurses reduce the number of subsequent pregnancies, the use of welfare, child abuse and neglect, and criminal behavior on the part of low-income, unmarried mothers for up to 15 years after the birth of the first child.

Kitzman, H., Olds, D.L., Henderson, C.R. Jr. et al. (1997). *Effect of prenatal and infancy home visitation by nurses on pregnancy outcomes, childhood injuries, and repeated childbearing*. A randomized controlled trial. JAMA, 278(8), 644-652.

The aim of this study was to test the effect of prenatal and infancy home visits by nurses on pregnancy-induced hypertension, preterm delivery, and low birth weight; on children's injuries,

immunizations, mental development, and behavioral problems; and on maternal life course. Results showed that fewer women visited by nurses during pregnancy had pregnancy-induced hypertension. During the first 2 years after delivery, women visited by nurses during pregnancy had fewer health care encounters for children in which injuries or ingestions were detected; days that children were hospitalized with injuries or ingestions; and second pregnancies. There were no program effects on preterm delivery or low birth weight; children's immunization rates, mental development, or behavioral problems; or mothers' education and employment. This program of home visitation by nurses reduced pregnancy-induced hypertension, childhood injuries, and subsequent pregnancies among low-income women with no previous live births.

York, R., Brown, L.P., Samuels, P. et al. (1997). *A randomized trial of early discharge and nurse specialist transitional follow-up care of high-risk childbearing women*. Nursing Research, 46(5), 254-261.

In this randomized clinical trial patient outcomes and cost of health care was compared between two groups of high-risk childbearing women: women diagnosed with diabetes or hypertension in pregnancy. During pregnancy, the intervention group had significantly fewer rehospitalizations than the control group. For infants of diabetic women during their pregnancy, low birth weight (< or = 2,500 g) was three times more prevalent in the control group than in the intervention group . The postpartum hospital charges for the intervention group were also significantly less than for the control group. The mean total hospital charges for the intervention group were 44% less than for the control group. The mean cost of the clinical specialist follow-up care was 2% of the total hospital charges for the control group. A net savings of $13,327 was realized for each mother-infant dyad discharged early from the hospital.

Thome, M., Alder, B. (1999). *A telephone intervention to reduce fatigue and symptom distress in mothers with difficult infants in the community*. Journal of Advanced Nursing, 29(1), 128-137.

This study tested the effectiveness of a telephone intervention to reduce fatigue and the resulting symptom distress of mothers in Iceland who reported having a behaviourally difficult infant of 2-3 months of age. Results indicated a significant intervention effect on fatigue and its side-effects. It is concluded that intervention by telephone can be effective with fatigued mothers caring for a difficult infant.

Gagnon, A.J., Edgar, L., Kramer, M.S. et al. (1997). *A randomized trial of a program of early postpartum discharge with nurse visitation.* American Journal of Obstetrics and Gynecology, 176(1 Pt 1), 205-211.

The of the study purpose was to compare an early postpartum discharge program versus standard postpartum care. Authors concluded that early postpartum discharge coupled with prenatal, postnatal, and home contacts leads to no apparent disadvantage and yields benefits for some mothers and infants.

Anderson, N.L., Koniak-Griffin, D., Keenan, C.K. et al. (1999). *Evaluating the outcomes of parent-child family life education.* Scholarly Inquiry into Nursing Practice, 13(3), 211-234.

The current study implemented and evaluated a family life education program designed to prevent the negative outcomes of risky sexual behavior. The evaluation demonstrated significant improvements in communication between parents and children immediately following the intervention; however, these improvements were no longer present 12 months postintervention. However, this experience can provide the basis for suggested strategies that nurse clinicians and

researchers can use in their work with early adolescents and their parents in clinical-, school-, and community-based settings.

Kowash, M.B., Pinfield, A., Smith, J. (2000). *Effectiveness on oral health of a long-term health education programme for mothers with young children*. British Dental Journal, 188(4), 201-205.

This study determined the effect of dental health education (DHE) on caries incidence in infants, through regular home visits by trained DH Educators over a period of 3 years. The differences in caries levels and caries risk factors between study and control groups were statistically significant. Mothers of the study groups also showed an improvement in their own levels of gingivitis, debris and calculus scores by the second and third examinations. Regular home visits to mothers with infants, commencing at or soon after the time of the eruption of the first deciduous teeth, were shown to be effective in preventing the occurrence of nursing caries.

Beck, C.T. (1995). *The effects of postpartum depression on maternal-infant interaction: a meta-analysis*. Nursing Research, 44(5), 298-304.

A meta-analysis of 19 studies was conducted to determine the magnitude of the effect of postpartum depression on maternal-infant interaction during the first year after delivery. Results of the meta-analysis indicate that postpartum depression has a moderate to large effect on maternal-infant interaction. Nursing interventions for depressed mother-infant dyads during the first year after delivery effectively address mothers' needs and help mothers develop bonds with their newborns.

Colton, T., Kayne, H.L., Zhang, Y., Heeren, T. (1995). *A metaanalysis of home uterine activity monitoring.* American Journal of Obstetrics and Gynecology, 173(5), 1499-1505.

The purpose of the review was to assess by metaanalysis the evidence from randomized clinical trials regarding home uterine activity monitoring. Meta-analysis of existing clinical trials evidence regarding home uterine activity monitoring reveals statistically significant benefits of home uterine activity monitoring. Of the outcomes investigated, home uterine activity monitoring is associated with reductions in risks of preterm birth (in singleton pregnancies only) and preterm labor combined with cervical dilatation > 2 cm, as well as with increased mean birth weight (in singleton pregnancies only).

Klaus, M.H., Kennell, J.H. (1997). *The doula: an essential ingredient of childbirth rediscovered.* Acta Paediatrica, 86(10), 1034-1036.

Eleven randomized control trials examined whether additional support by a trained lay person (called a doula), student midwife or midwife, who provides continuous support consisting of praise, encouragement, reassurance, comfort measures, physical contact and explanations about progress during labor, will affect obstetrical and neonatal outcomes. Meta-analysis of these studies showed a reduction in the duration of labor, the use of medications for pain relief, operative vaginal delivery, and in many studies a reduction in caesarian deliveries. At 6 weeks after delivery in one study a greater proportion of doula-supported women were breastfeeding, reported greater self-esteem, less depression, a higher regard for their babies and their ability to care for them compared to the control mothers. When the doula was present with the couple during labor the father offered more personal support. It was concluded that the father-to-be' s presence during labor and delivery is important to the mother and father, but it is the presence of the doula that results in significant benefits in outcome.

HEALTH OF YOUNG PEOPLE

Randomized Controlled Trials and Meta analyses

Madge, P., McColl, J., Paton, J. (1997). *Impact of a nurse-led home management training programme in children admitted to hospital with acute asthma: a randomised controlled study*. Thorax, 52(3), 223-228.

Authors examined the effect of nurse-led home management training for children with asthma. Results showed subsequent re-admissions significantly reduced in the intervention group from 25% to 8% in individual follow up periods that ranged from two to 14 months. This reduction was not accompanied by any increase in subsequent emergency room attendances nor, in the short term, by any increase in urgent community asthma treatment. The intervention group also showed significant reductions in day and night morbidity 3-4 weeks after admission to hospital. A nurse-led asthma home management training programme administered during a hospital admission significantly reduced subsequent admissions to hospital for asthma.

Olds, D., Henderson, C.R. Jr., Cole, R. et al. (1998). *Long-term effects of nurse home visitation on children's criminal and antisocial behavior: 15-year follow-up of a randomized controlled trial*. JAMA, 280(14), 1238-1244.

This trial examined the long-term effects of a program of prenatal and early childhood home visitation by nurses on children's antisocial behavior. In contrast with those in the comparison groups, intervention subjects reported fewer instances (incidence) of running away, fewer arrests, fewer convictions and violations of probation, fewer lifetime sex partners, fewer cigarettes smoked per day, and fewer days having consumed alcohol in the last 6 months. Parents of nurse-visited children reported that their children had fewer behavioural problems related to use of alcohol and other drugs This program of prenatal and early childhood home visitation by nurses was seen to reduce serious antisocial behavior and emergent use of substances in adolescents born into high-risk families.

Wesseldine, L.J., McCarthy, P., Silverman, M. (1999). *Structured discharge procedure for children admitted to hospital with acute asthma: a randomised controlled trial of nursing practice.* Archives of Diseases of the Child, 80(2), 110-114.

The authors investigated the impact of a structured, nurse-led discharge package for children admitted to hospital with acute asthma on readmission to hospital, reattendance at the accident and emergency (A&E) department, and general practitioner consultations for asthma. By delivering the simplest form of education and support during a child's stay in hospital, readmissions over a six month period were reduced. The programme was suitable for administration by nursing staff on the children's wards after a brief period of training.

Bingol Karakoc, G., Yilmaz, M., Sur, S. et al. (2000). *The effects of daily pulmonary rehabilitation program at home on childhood asthma.* Allergology and Immunopathology, 28(1), 12-14.

The aim of this study is to investigate the efficacy of pulmonary rehabilitation program in children with asthma. This study showed that daily pulmonary rehabilitation at home could improve quality of life and pulmonary functions. Home pulmonary rehabilitation should be placed as a component of management in childhood asthma.

Bernard-Bonnin, A.C., Stachenko, S., Bonin, D. et al. (1995). *Self-management teaching programs and morbidity of pediatric asthma: a meta-analysis*. Journal of Allergy and Clinical Immunology, 95(1 Pt 1), 34-41.

The study was designed to evaluate the impact of self-management teaching programs on the morbidity of pediatric asthma. It was concluded that self-management teaching programs do not seem to reduce morbidity, and future programs should focus more on intermediate outcomes such as behavior.

Roberts, I., Kramer, M.S., Suissa, S. (1996). *Does home visiting prevent childhood injury? A systematic review of randomised controlled trials*. British Medical Journal, 312(7022), 29-33.

The objective of the analysis was to quantify the effectiveness of home visiting programmes in the prevention of child injury and child abuse. Eight trials examined the effectiveness of home visiting in the prevention of childhood injury. Four studies examined the effect of home visiting on injury in the first year of life. Nine trials examined the effect of home visiting on the occurrence of suspected abuse, reported abuse, or out of home placement for child abuse. Overall, home visiting programmes had the potential to reduce significantly the rates of childhood injury.

Grossman, D.C., Garcia, C.C. (1999). *Effectiveness of health promotion programs to increase motor vehicle occupant restraint use among young children*. American Journal of Preventive Medicine, 16(1 Suppl), 12-22.

The authors reviewed the effectiveness of nonlegislative community and clinical programs to increase the rate of child motor vehicle occupant restraint use among children under the age of 5 years. They concluded that programs to increase the rate of child restraint use among child occupants of motor vehicles appear to have overall moderate short-term effectiveness.

Studies by Clark et al (1998), Gerdner (2000), Goddaer and Abraham (1994), and Ragneskog et al (1997) show that nurses can play an important role in the management of behavioral problems of elderly persons with dementia, and enhance the quality of life of these persons. They can reduce agitation by creating an stress-reducing environment, using relaxing music.

Nurses play an essential role in interdisciplinary Case Management to optimize discharge from hospitals and to prevent institutionalization Obersk et al (1999)

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Clark, M., A. Lipe, M. Bilbrey, *Use of music to decrease aggressive behaviors in people with dementia*. In: Journal of Gerontological Nursing 24 (1998), nr. 7, 10-17.

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Ragneskog, H., G. Brane, I. Karlsson, M. Kihlgren. *Influence of dinner music on food intake and symptoms common in dementia*. In: Scandinavian Journal of Caring Sciences 10 (1997), nr. 1, 11-17.

Randomized Controlled Trials and Meta analyses

Bernabei, R., Landi, F., Gambassi, G. et al (1998). *Randomised trial of impact of model of integrated care and case management for older people living in the community.* British Medical Journal, 316(7141), 1348-1351.

This research evaluated the impact of a programme of integrated social and medical care among frail elderly people living in the community. Results showed that admission to hospital or nursing home in the intervention group occurred later and was less common than in controls. Health services were used to the same extent, but control subjects received more frequent home visits by general practitioners. In the intervention group the estimated financial savings were $1800 per year of follow up. The intervention group had improved physical function (activities of daily living) and decline of cognitive status was also reduced. Authors concluded that integrated social and medical care with case management programmes may provide a cost

effective approach to reduce admission to institutions and functional decline in older people living in the community.

Alessi, C.A., Yoon, E.J., Schnelle, J.F. et al (1999). *A randomized trial of a combined physical activity and environmental intervention in nursing home residents: do sleep and agitation improve?* Journal of the American Geriatric Society, 47(7), 784-791.

The purpose of this study was to test whether an intervention combining increased daytime physical activity with improvement in the night-time environment improves sleep and decreases agitation in nursing home residents. Results of the study provide preliminary evidence that an intervention combining increased physical activity with improvement in the night-time nursing home environment improves sleep and decreases agitation in nursing home residents.

Gagnon, A.J., Schein, C., McVey, L. et al. (1999). *Randomized controlled trial of nurse case management of frail older people.* Journal of the American Geriatric Society, 47(9), 1118-1124.

This study compared the effects of nurse case management with usual care provided to community-dwelling frail older people in regard to quality of life, satisfaction with care, functional status, admission to hospital, length of hospital stay, and readmission to emergency department. No significant differences were found in quality of life, satisfaction with care, functional status, admission to hospital, or length of hospital stay. Nurse-case-managed older adults were readmitted to the emergency department significantly more often than their usual care counterparts. Frail older people receiving nurse case management are more likely to use emergency health services without a concomitant increase in health benefits.

Stuck, A.E., Minder, C.E., Peter-Wuest, I. et al. (2000). *A randomized trial of in-home visits for disability prevention in community-dwelling older people at low and high risk for nursing home admission.* Archives of Internal Medicine, 160(7), 977-986.

This trial evaluated the effect of nurse home visits for disability prevention in elderly patients living in the community. After 3 years, surviving participants at low baseline risk in the intervention group were less dependent in instrumental activities of daily living (ADL) compared with controls. Among subjects at high baseline risk, there were no favorable intervention effects on ADL but an unfavorable increase in nursing home admissions was recorded. Result indicate that the intervention can reduce disabilities among elderly people at low risk but not among those at high risk for functional impairment, and that these effects are likely related to the home visitor's performance in conducting the visits.

Province, M.A., Hadley, E.C., Hornbrook, M.C. et al (1995). *The effects of exercise on falls in elderly patients. A preplanned meta-analysis of the FICSIT Trials. Frailty and Injuries*: Cooperative Studies of Intervention Techniques. JAMA, 273(17), 1341-1347.

This review determined if short-term exercise reduces falls and fall-related injuries in the elderly. The analysis concluded that various physical treatments including exercise for elderly adults reduce the risk of falls.

Wheeler, J.A., Gorey, K.M., Greenblatt, B. (1998). *The beneficial effects of volunteering for older volunteers and the people they serve: a meta-analysis*. International Journal of Aging and Human Development, 47(1), 69-79.

This meta-analysis of thirty-seven independent studies inferred that elder volunteers' sense of well-being seemed to be significantly bolstered through volunteering and that such relatively healthy older people represent a significant adjunct resource for meeting some of the service needs of more vulnerable elders, as well as those of other similarly vulnerable groups such as disabled children.

IMPROVING MENTAL HEALTH

Research indicates the effectiveness of nurses using an integrated problemcentred approach involving users and their family/carers in the care of people with a serious mental health problem (Baguley and Baguley. 1999).

Community Mental Health Nurses with specific cognitive therapy skills and preparation are more able to meet the needs of patients with enduring mental health problems (Devane et al 1998).

Community nurses using behaviour therapy in the treatment of schizophrenia improve attitudes to long term mental illness and improve liaison with patient/consumer groups (Brooker andButterworth 1993).

The vital role that mental health nurses have by being involved in the provision of work opportunities and in changing communities' attitudes to mental illness. The potency of work, in improving social inclusion for people with mental health problems (Evans and Repper 2000).

Providing non-mental health nurses with training to provide enhanced access to mental health care in the primary setting (Plummer et al 1997, Bugge et al 1997 and Bugge et al 1999).

Yurkovich and Smyer (1998) reported the use of complex nursing interventions, which focus on the therapeutic environment and the helping nurse-patient relationship, effective in maintaining wellness and help to avoid loss of control over the personal life.

Yurkovich et al (1999) emphasized that community day treatment centres can serve as supporting environments for mentally disabled people. Such centres provided empowerment to their clients to learn new behaviours from their peers and assume new roles as well as encourage social attitudes, and create a sense of belonging through valued involvement in their treatment.

There is evidence that nursing educational institutions respond to mental needs by changing their curricula to educate nurses about how to help people maintain mentally balanced lives (Norman, 1998 a, b).

Symonds (1998) argued for improved mental health legislation and revised methods for appraisal of mental status. Nurses' role as active participants in mental health policy-making and as advocates of patients' rights was highlighted.

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Randomized Controlled Trials and Meta analyses

Mynors-Wallis, L., Davies, I., Gray, A. et al. (1997). *A randomised controlled trial and cost analysis of problem-solving treatment for emotional disorders given by community nurses in primary care*. British Journal of Psychiatry, 170, 113-119.

The authors investigated whether community nurses could be trained in problem-solving therapy and, once trained, how effective they would be in treating emotional disorders in primary care. There was no difference in clinical outcomes between patients who received problem-solving treatment and patients who received the general practitioner's usual treatment. However, patients who received problem-solving treatment had fewer disability days and fewer days off work. The health care cost of problem-solving was greater than that of the general practitioner's usual treatment but this was more than offset by savings in the cost of days off work. Authors concluded that community nurses effectively deliver problem-solving treatments and that the clinical effectiveness and cost-benefit of the treatment will depend on the selection of appropriate patients.

Clark, M.E., Lipe, A.W., Bilbrey, M. (1998). *Use of music to decrease aggressive behaviors in people with dementia*. Journal of Gerontological Nursing, 24(7), 10-17.

The purpose of this study was to examine the effects of recorded, preferred music in decreasing occurrences of aggressive behavior among individuals with Alzheimer's type dementia during bathing episodes. Results indicated that during the music condition, decreases occurred in 12 of 15 identified aggressive behaviors. Decreases were significant for the total number of observed behaviors and for hitting behaviors. During the music condition, caregivers frequently reported improved affect and a general increase in cooperation with the bathing task.

Alessi, C.A., Yoon, E.J., Schnelle, J.F. et al (1999). *A randomized trial of a combined physical activity and environmental intervention in nursing home residents: do sleep and agitation improve?* Journal of the American Geriatric Society, 47(7), 784-791.

This study tested whether an intervention combining increased daytime physical activity with improvement in the night-time environment improves sleep and decreases agitation in nursing home residents. Results of the study provide preliminary evidence that an intervention combining increased physical activity with improvement in the night-time nursing home environment improves sleep and decreases agitation in nursing home residents.

Mittelman, M.S., Ferris, S.H., Shulman, E., et al (1996). *A family intervention to delay nursing home placement of patients with Alzheimer disease. A randomized controlled trial.* JAMA, 276(21), 1725-1731.

This study was designed to determine the long-term effectiveness of comprehensive support and counseling for spouse-caregivers and families in postponing or preventing nursing home placement of patients with Alzheimer disease (AD). A program of counseling and support can substantially increase the time spouse-caregivers are able to care for AD patients at home, particularly during the early to middle stages of dementia when nursing home placement is generally least appropriate.

McCurren, C., Dowe, D., Rattle, D. et al (1999). *Depression among nursing home elders: testing an intervention strategy.* Applied Nursing Research, 12(4), 185-195.

This study focused on the assessment of depression among nursing home elders, and on determining the efficacy of an intervention strategy for depression using a geropsychiatric nurse in conjunction with trained older adult volunteers in the role of mental health paraprofessionals. Among those receiving the intervention, depressive symptomatology was significantly reduced, but no significant decline was evident in the control group. This confirms the effectiveness of nurse delivered depression interventions in nursing home residents.

Rabins, P.V., Black, B.S., Roca, R. et al (2000). *Effectiveness of a nurse-based outreach program for identifying and treating psychiatric illness in the elderly*. JAMA, 283(21), 2802-2809.

This research determined whether a nurse-based mobile outreach program to seriously mentally ill elderly persons is more effective than usual care in diminishing levels of depression, psychiatric symptoms, and undesirable moves (eg, nursing home placement, eviction, board and care placement). At 26 months of follow-up, psychiatric cases at the intervention sites had significantly lower depressive symptoms scores and significantly lower psychiatric symptom scores than those at the nontreatment comparison sites. There was no significant difference between the groups in undesirable moves Results indicated that the PATCH intervention was more effective than usual care in reducing psychiatric symptoms in persons with psychiatric disorders and those with elevated levels of psychiatric symptoms.

REDUCING COMMUNICABLE DISEASES

The article by Roberts (1996) identifies the reemergence of infectious diseases as a challenge to nursing.

Nurses may use several approaches to control infections but according to Cohen & Larson (1996) multidisciplinary collaboration is proven the best effort and they state that nurses are ideally placed to contribute to such measures.

A personalized nursing intervention reported by Andersen and colleagues (1993) successfully decreased high-risk AIDS behaviors among hard-to-reach urban drug users. The intervention increased well-being of subjects and lowered frequency of drug use that was maintained after 6 months.

Carr and associates (1996) described their experiences of 6 years gained with a drop-in center in Glasgow established to promote HIV prevention among street prostitutes. The report concluded that HIV prevention efforts targeting sex workers are best if multidisciplinary health and social services are provided to street sex workers at a time and place convenient to their work.

Thompson et al. (1999) argued that to prevent the spread of HIV, knowledge and attitudes of the most susceptible should be evaluated. The report stresses the need to observe changes over time and design interventions accordingly.

Van de Ven and Appleton (1999) presented an update on the most successful HIV/AIDS education techniques using an evidence-based approach. They concluded that many successful solutions were collected outside of randomised clinical trials, practitioners, program managers, community members are equally important as repository of knowledge base in a specialty area.

Gleissberg et al. (1999) reported a successful tuberculosis prevention program based WHO recommendations in Russia. The program focused on training local nurses using the WHO DOTS strategy. Increased patient education offered by nurses improved patient compliance with drug and medical treatment in general.

Mayo and colleagues (1996) showed that community collaboration models are effectively reducing the occurrence of TB among the homeless. A collaboration of nurse practitioners, nursing students, and public health nurses was important in the mass-screening of homeless people, case identification and treatment, policy development and implementation, health education, and establishing methods of communication between the shelter, clinic, and health departments.

Carnie & Randall (1998) point out that nursing home residents, prison populations and also immunosuppressed patients, especially those who are HIV positive should also be regarded as at increased risk of TB.

To support early recognition of tuberculosis, an assessment tool for nurses has been developed by Sibilano (1996).

There is also evidence available that administrative measures to safeguard student nurses from contracting infectious diseases have become educational concerns (Moore, 1998).

Trovillion and colleagues (1998) discuss the utility of low cost interventions delivered to high-risk areas in a healthcare institution based on the train-the-trainers concept. Authors argue that this concept has direct transferability to all health professions including nursing.

Andersen, M.D., Smereck, G.A., Braunstein, M.S. (1993). *LIGHT model: an effective intervention model to change high-risk AIDS behaviors among hard-to-reach urban drug users.* American Journal of Drug and Alcohol Abuse, 19 (3), 309-325.

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Randomized Controlled Trials and Meta analyses

Kidane, G., Morrow, R.H. (2000). *Teaching mothers to provide home treatment of malaria in Tigray, Ethiopia: a randomised trial*. Lancet, 356(9229), 550-555.

The authors compared the effect on mortality of children under 5 years of age of teaching mothers to promptly provide antimalarials to their sick children at home, with the present community health worker approach. Of the 6383 children under-5 significantly fewer number died in the intervention group compared to the controls Under-5 mortality was reduced by 40% in the intervention localities. A major reduction in under-5 mortality can be achieved in holoendemic malaria areas through training local mother coordinators to teach mothers to give under-5 children antimalarial drugs.

Eller, L.S. (1999). *Effects of cognitive-behavioral interventions on quality of life in persons with HIV*. International Journal of Nursing Studies, 36(3), 223-233.

This study explored the effects of cognitive-behavioral interventions on quality of life in persons with HIV. Post intervention, perceived health status, but not quality of life, was significantly different across treatment groups. Findings suggested differential effects for guided imagery and progressive muscle relaxation, with larger effects for those at mid-stage disease and for low frequency users of guided imagery.

A study by Allsion et al. (2000) examined whether nurses could manage coronary risk factors in patients with unstable angina more effectively than physicians practicing usual care. The nurse intervention consisted of a 30-minute counseling visit at 6 to 10 days after the chest pain episode and a second 30-minute session 1 month later. Authors concluded that a nurse-delivered risk factor intervention program for patients with chest pain is feasible and more effective than usual care in terms of fostering lifestyle changes that may lower coronary risk.

Naylor and McCauley (2000) reported effects of a nursing intervention for elderly with common cardiac problems which consisted of comprehensive discharge planning and home follow-up by an advanced practice nurse (APN) for 4 weeks after discharge. The findings of this study suggested that high-risk elders with significant cardiac problems may benefit from a care program that emphasizes collaborative, coordinated discharge planning and home follow-up that includes telephone and home visits by APNs.

The objective of the study by Johnson et al. (1999) was to determine the effect of a nurse-delivered smoking cessation intervention for hospitalized smokers on smoking cessation rates and smoking cessation self-efficacy at 6 months after enrollment. The intervention included two structured, in-hospital contacts, followed by 3 months of telephone support. The interventions focused on problem-solving and reinforcing the patient's self-efficacy. The findings of this research confirmed that a nurse-delivered smoking cessation intervention improved the smoking cessation rate in patients with cardiac disease.

The study conducted by Parent (1997) aimed to determine whether vicarious experiences, in which expatients exemplify the active lives they are leading, can strengthen the belief in the restorability of cardiac functions. An intervention was designed to link volunteers who have successfully recovered from cardiac surgery in dyadic support with those individuals about to undergo similar surgery, by means of visits during the hospitalisation and recovery period. Data analysis revealed significant differences between groups in the anxiety level at 24 hours before surgery, and at 5 days and 4 weeks after surgery. Only the experimental group showed a significant decrease in anxiety during hospitalisation. Significant differences between groups in were found in levels of perceived self-efficacy and performance of activities at 5 days and at 4 weeks after surgery. These results indicated that dyadic social support that volunteers offer cardiac surgery patients seems to be effective in helping the latter deal with cardiac events.

There is evidence for the effective information providing and supporting role of nurses in managing chronic diseases. Lindsay et al. (2000) identified and explored the learning and support needs of patients and families during the waiting period before cardiac surgery. Their survey identified that patients were concerned about their health and survival until the surgical procedure, as well as about the success of the procedure. Families shared patients' concerns and had an additional concern regarding how to support the patient during the perioperative stage.

Moore (1997) provided an integrated review of the literature on investigations of interventions to promote recovery following coronary artery bypass graft surgery (CABG) The most frequently tested CABG recovery intervention, preparatory information, effectively increased knowledge, and enhanced resumption of activities during recovery. There was clear evidence that information interventions designed to increase individuals' knowledge about expected recovery experiences and coronary artery disease were effective.

The research by Frasure-Smith et al. (1997) aimed to find out whether a home-based nursing intervention programme would reduce 1-year cardiac mortality for women and men. Their results do not warrant the routine implementation of programmes that involve psychological-distress screening and home nursing intervention for patients recovering from MI. However, authors concluded that poorer overall outcome for women, and the possible harmful impact of the intervention on women, underline the need for further post-MI trials.

Moore (1996) conducted a quasi-experimental study to test the effects of a discharge information intervention on physical and psychological outcomes 1 month following coronary artery bypass surgery (CABG). The audiotape intervention produced positive effects on physical functioning which were maintained when age and post-operative length of stay were statistically controlled. No differences in psychological distress were found. Findings suggested that audiotapes containing discharge information about expected recovery experiences are a feasible and effective approach to enhancing the physical recovery of CABG patients.

The article by Fleury and Moore (1999) reviews empirical research available to cardiovascular nurses to help guide family-centered care during the acute phase after myocardial infarction. Directions for practice and research focus on cardiovascular nursing interventions that address family needs after an acute myocardial infarction. Authors present evidence that the experience of an acute myocardial infarction is a source of stress for both patients and their family members that significantly disrupts family functioning and dynamics.

The aim of the study by Moore et al. (1998) was to identify women's exercise patterns and adherence to recommended exercise maintenance after a cardiac rehabilitation (CR) program. Results indicated that although 83% of the participating women started exercising during the first month of the study, after 1 month one third of the participants had stopped exercising. During the last week of the study, only 50% of the women were still exercising. These findings indicated that women were exercising well below the recommended guidelines for exercise after acute cardiac events.

The purpose of the study by Moore and Kramer (1996) was to identify and compare women's and men's preferences for specific cardiac rehabilitation program features. Convenience factors (drive time, transportation, noninterference with other life activities, and ease of learning the exercises) were well-met preferences for both women and men. Men's and women's preferences were not well met for being able to discuss their progress with professionals and the ability to choose their own exercises. Men indicated that the ability to set their own goals was their greatest unmet preference. Women's preferences for not having pain and not tiring while exercising were significantly less well met than those of men. The findings suggested that a cardiac rehabilitation program that is responsive to client preferences should emphasize joint goal setting with participants and discussion of progress, offer frequent encouragement from professionals, and provide a range of exercise choices.

The aim of Moore’s (1996) study was to examine the perceptions and experiences of women participating in a cardiac rehabilitation program using focus groups. Results indicated that prior to participation women had no idea what to expect in a cardiac rehabilitation program. Features women liked most about the program included: (1) feeling "safe" during exercise because they were monitored; (2) peer group support during rehabilitation; and (3) pleasant, encouraging staff. Women desired more: (1) social interaction during the cardiac rehabilitation exercise sessions; (2) emotional support from staff members about all dimensions of cardiac recovery; and (3) exercise options other than cycle or treadmill.

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Naylor, M.D., McCauley, K.M. (2000). *The effects of a discharge planning and home follow-up intervention on elders hospitalized with common medical and surgical cardiac conditions.* Journal of Cardiovascular Nursing, 14(1), 44-54.

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Shiell A, Kenny P, Farnworth M. 1993. *The role of the clinical nurse coordinator in the provision of cost-effective orthopaedic services for elderly people*. Journal of Advanced Nursing 18, 1424-1428.

Randomised Controlled Trials and Meta analyses

Forster, A., Young, J. (1996). *Specialist nurse support for patients with stroke in the community: a randomised controlled trial*. British Medical Journal, 312(7047), 1642-1646.

The study evaluated whether specialist nurse visits enhance the social integration and perceived health of patients with stroke or alleviates stress in carers in longer term stroke care. There were no significant differences in perceived health, social activities, or stress among carers between the treatment and control groups at any of the assessments points. A subgroup of mildly disabled patients with stroke had an improved social outcome at six months and for the full 12 months of follow up compared with the control group. The specialist nurse intervention resulted in a small improvement in social activities only for the mildly disabled patients.

Taylor, C.B., Miller, N.H., Smith, P.M. et al (1997). *The effect of a home-based, case-managed, multifactorial risk-reduction program on reducing psychological distress in patients with cardiovascular disease.* Journal of Cardiopulmonary Rehabilitation, 17(3), 157-162.

This study examined the effects of a nurse-case-managed, multifactorial, risk-reduction program on psychological distress among patients after myocardial infarction (MI). There was a significant reduction in the psychological distress variables for all patient groups between baseline and 12 months. The program had a significant effect on reducing anxiety in the patient group with low levels of anxiety and reducing anger in the patient group with frequent episodes of anger but, overall, the treatment and control groups showed equal levels of improvement. Authors agreed that the intervention significantly decreased psychological distress during the 12 months among patients without complications.

Zernike, W., Henderson, A. (1998). *Evaluating the effectiveness of two teaching strategies for patients diagnosed with hypertension*. Journal of Clinical Nursing, 7(1), 37-44.

This study investigated whether a structured patient-centred education programme was more effective than the normal ad hoc information that patients receive in improving their knowledge of hypertension whilst in hospital. Comparison of the pre- and post-tests of the test group revealed a significant increase in knowledge level at the time of discharge from hospital. Patients were found to retain this new knowledge at 8 weeks and 1 year after discharge. No significant difference was found for the control group. This study has shown that a structured approach to health education is more effective in improving patients' knowledge about their condition than relying on the ad hoc information that patients traditionally receive during their hospitalization.

Campbell, N.C., Thain, J., Deans, H.G. et al (1998). *Secondary prevention clinics for coronary heart disease: randomised trial of effect on health*. British Medical Journal, 316(7142), 1434-1437.

The objective of the present research was to evaluate the effects of secondary prevention clinics run by nurses in general practice on the health of patients with coronary heart disease. There

were significant improvements in six of eight health status domains (all functioning scales, pain, and general health) among patients attending the clinic. Role limitations attributed to physical problems improved most. Fewer patients reported worsening chest pain. There were no significant effects on anxiety or depression. Fewer intervention group patients required hospital admissions, but general practitioner consultation rates did not alter. Within their first year, the fact that secondary prevention clinics improved patients' health and reduced hospital admissions has been confirmed.

Becker, D.M., Raqueno, J.V., Yook, R.M. et al (1998). *Nurse-mediated cholesterol management compared with enhanced primary care in siblings of individuals with premature coronary disease.* Archives of Internal Medicine, 158(14), 1533-1539.

This study evaluated management strategies for high cholesterol (LDL-C) levels in apparently healthy 30- to 59-year-old siblings of individuals with documented coronary heart disease prior to age 60 years. Findings showed that high LDL-C levels in siblings were more effectively treated by a trained nurse, probably related to greater adherence to the application of national guidelines. Nonetheless, the majority of siblings with high LDL-C levels did not meet goal levels 2 years after an index case coronary heart disease event.

Aubert, R.E., Herman, W.H., Waters, J. et al (1998). *Nurse case management to improve glycemic control in diabetic patients in a health maintenance organization. A randomized, controlled trial.* Annals of Internal Medicine, 129(8), 605-612.

The research compared diabetes control in patients receiving nurse case management and patients receiving usual care. Patients in the nurse case management group had significantly greater mean decreases of HbA1c values and fasting glucose levels than patients in the usual care group. A conclusion was that nurse case managers with considerable management responsibility can, in association with primary care physicians and an endocrinologist, help improve glycemic control in diabetic patients.

Sedlak, C.A., Doheny, M.O., Jones, S.L. (1998). *Osteoporosis prevention in young women.* Orthopedic Nursing, 17(3), 53-60.

The present research assessed whether young women who participated in an osteoporosis prevention program based on the Health Belief and Self-Efficacy Models demonstrated higher levels of knowledge regarding osteoporosis prevention than young women who did not participate in such a program. Findings showed subjects in the experimental group had significantly higher knowledge and health belief scores after receiving the intervention than their pretest scores while subjects in the control group had no change in scores. Therefore, the osteoporosis program was concluded effective in increasing awareness of osteoporosis prevention in this group of young women.

Campbell, N.C., Ritchie, L.D., Thain, J. et al (1998). *Secondary prevention in coronary heart disease: a randomised trial of nurse led clinics in primary care.* Heart, 80(5), 447-452.

This research investigated whether nurse run clinics in general practice improve secondary prevention in patients with coronary heart disease. Findings showed nurse run clinics practical to implement in general practice and to effectively increase secondary prevention in coronary heart disease. Authors claimed that most patients gained at least one effective component of secondary prevention and, for them, future cardiovascular events and mortality could be reduced by up to a third.

Smith, B.J., Appleton, S.L., Bennett P. (1999). *The effect of a respiratory home nurse intervention in patients with chronic obstructive pulmonary disease (COPD).* Australian and New Zealand Journal of Medicine, 29(5), 718-725.

The aim of this research was to determine the effectiveness of an outreach respiratory nurse in a shared care approach, with collaboration between general practitioners and hospital services, in the management of patients with severe COPD. Results indicated that an increased level of care given by an outreach respiratory nurse in a shared care approach for patients with severe COPD produced small improvements in HRQL but did not result in the prevention of deaths or reduced health care utilisation.

Bredin, M., Corner, J., Krishnasamy, M., Plant, H. et al (1999). *Multicentre randomised controlled trial of nursing intervention for breathlessness in patients with lung cancer.* British Medical Journal, 318(7188), 901-904.

The objective of this trial was to evaluate the effectiveness of nursing intervention for breathlessness in patients with lung cancer. The intervention group improved significantly at 8 weeks in 5 of the 11 items assessed: breathlessness at best, WHO performance status, levels of depression, and two Rotterdam symptom checklist measures (physical symptom distress and breathlessness) and showed slight improvement in 3 of the remaining 6 items. Most patients who completed the study had a poor prognosis, and breathlessness was typically a symptom of their deteriorating condition. Patients who attended nursing clinics and received the breathlessness intervention experienced improvements in breathlessness, performance status, and physical and emotional states relative to control patients.

Wengstrom, Y., Haggmark, C., Strander, H. et al (1999). *Effects of a nursing intervention on subjective distress, side effects and quality of life of breast cancer patients receiving curative radiation therapy--a randomized study.* Acta Oncologica, 38(6), 763-770.

The purpose of this randomized clinical study was to investigate whether a nursing intervention using Orem's self-care theory as a framework would affect subjective distress, side effects and quality of life as perceived by breast cancer patients receiving curative radiation therapy. No measurable effect of the nursing intervention was found for side effects or quality of life but nursing intervention proved to have a positive effect in minimizing stress reactions. Due to the tress eliminating effect of the intervention, it was suggested that a nursing intervention should be implemented for breast cancer patients receiving curative radiation therapy.

Naylor, M.D., McCauley, K.M. (1999). *The effects of a discharge planning and home follow-up intervention on elders hospitalized with common medical and surgical cardiac conditions.* Journal of Cardiovascular Nursing, 14(1), 44-54.

The intervention in this study consisted of comprehensive discharge planning and home follow-up by an advanced practice nurse (APN) for 4 weeks after discharge. Control subjects received usual care. Findings indicated that medical patients in the intervention group had fewer multiple readmissions during the 24 weeks of follow-up and a reduced total number of days of rehospitalization. There were fewer hospital readmissions in the surgical group when measured from discharge to 6 weeks. There were no differences in functional status between intervention and control groups for either population. The findings of this study suggested that high-risk elders with significant cardiac problems may benefit from a care program that emphasizes collaborative, coordinated discharge planning and home follow-up that includes telephone and home visits by APNs.

Reynolds, H., Wilson-Barnett, J., Richardson, G. (2000). *Evaluation of the role of the Parkinson's disease nurse specialist.* International Journal of Nursing Studies, 37(4), 337-349.

This study performed a one year follow up of 108 randomised patients with Parkinson's disease at three centres to investigate differences between care provided by the hospital based Parkinson's disease nurse specialist (PDNS) compared with the Consultant Neurologist (control). Only two (out of 22) differences were found where physical functioning and general health improved more in the control group. Provision of PDNS' for patients with Parkinson's disease cannot therefore be recommended solely on cost-effectiveness grounds. However medical and nursing specialists valued their complimentary expertise, and patient and carers responses to consultations also reflect that PDNS's have particular contributions.

Allison, T.G., Farkouh, M.E., Smars, P.A. et al (2000). *Management of coronary risk factors by registered nurses versus usual care in patients with unstable angina pectoris (a chest pain evaluation in the emergency room [CHEER] substudy*). American Journal of Cardiology, 86(2), 133-138.

This study examined whether nurses could manage coronary risk factors in patients with unstable angina more effectively than physicians practicing usual care. The nurse intervention consisted of a 30-minute counseling visit at 6 to 10 days after the chest pain episode and a second 30-minute session 1 month later. Compared with usual care, nurse intervention patients significantly reduced both triglycerides and weight, and had corresponding improvements in self-reported diet compliance and exercise. No significant differences between groups were observed in terms of 6-month changes in total, high-density lipoprotein, or low-density lipoprotein cholesterol, blood pressure, fasting blood glucose, percent body fat or waist-hip ratio, or psychological distress scores. The 6-month rate of recurrent events (cardiac death, out-of-hospital cardiac arrest, myocardial infarction) and/or revascularizations (coronary artery bypass surgery or coronary angioplasty) was lower in the nurse intervention group. It was concluded that a nurse-delivered risk factor intervention program for patients with chest pain is feasible and more effective than usual care in terms of fostering lifestyle changes that may lower coronary risk.

Linne, A.B., Liedholm, H., Israelsson, B. (1999). *Effects of systematic education on heart failure patients' knowledge after 6 months. A randomised, controlled trial.* European Journal of Heart Failure, 1(3), 219-227.

This study compared systematic nurse and pharmacist led education including an interactive Kodak Photo-CD Portfolio technique with conventional information regarding heart failure patients' knowledge. Two to 3 hours of systematic education improved heart failure patients' knowledge on essential issues. High age does not preclude the introduction of a new technique for patient education.

Brown, S.A. (1992). *Meta-analysis of diabetes patient education research: variations in intervention effects across studies.* Research in Nursing and Health, 15(6), 409-419.

This review analysed practice related to the effectiveness of diabetes patient education. Patient education appeared to be more effective in younger patients, particularly for the knowledge outcome. For all patients receiving interventions glycosylated hemoglobin levels improved between 1 and 6 months postintervention, but decreased to 1-month levels after 6 months. Length of the educational intervention did not appear to influence outcomes. Overall, educational programs were found to significantly effect health outcomes of diabetes patients.

Smith, M.C., Holcombe, J.K., Stullenbarger, E. (1994). *A meta-analysis of intervention effectiveness for symptom management in oncology nursing research.* Oncology Nursing Forum, 21(7), 1201-1209.

The purpose of the analysis was to describe nursing intervention effectiveness for symptom management in oncology nursing research. Interventions were effective in relieving symptoms in the reviewed collection of studies. Strong positive effects were found in the clusters for managing nausea and vomiting, pain, anxiety, alopecia, infection, and side effects of chemotherapy.

Devine, E.C., Westlake, S.K. (1995). *The effects of psychoeducational care provided to adults with cancer: meta-analysis of 116 studies.* Oncology Nursing Forum, 22(9), 1369-1381.

This analysis was done to determine how educational and psychosocial care provided to adults with cancer affects seven outcomes--anxiety, depression, mood, nausea, vomiting, pain, and knowledge. Statistically significant, beneficial effects were found in relation to all seven of the outcomes. Psychoeducational care was found to benefit adults with cancer in relation to anxiety, depression, mood, nausea, vomiting, pain, and knowledge. Authors implicated that to maximize the utility of this knowledge for clinicians, more research is needed to evaluate the relative effectiveness of different types of psychoeducational care. They also argued that a strong research base has established the beneficial effects of psychoeducational care and clinicians should examine their practice to determine if research-based psychoeducational care is being used sufficiently.

Paterson, B.L., Thorne, S., Dewis, M. (1998). *Adapting to and managing diabetes.* Image Journal of Nursing Scholarship, 30(1), 57-62.

This meta-analysis of several publications found that learning to balance is a developmental process in which one learns to assume control of diabetes management. Studies showed that support for such development requires that nurses know their clients as individuals and value the expertise they have gained in living with diabetes. Control of blood sugar levels within a prescribed range may be a goal established by professionals, but the goal of healthy balance determines a person's willingness to assume an active role in self-care.

REDUCING INJURY FROM VIOLENCE AND ACCIDENTS

Health Visitors can reduce childhood illnesses from a variety of causes andreduce risk of osteoporosis in later life (NHS 1996:2 (4 and 5)).

School Nurses can advise on safety rules for organized sport to reduce injuries (NHS 1996:2 (5)).

There is evidence for the recognition of violence as a public health problem by professional nursing associations (American Association of Colleges of Nursing, 2000).

Clapp (2000) suggested that fighting violence in and out of homes requires a coordinated and integrated approach. Nurses through home visits can be part of this coordinated response because of their knowledge about the dynamics of domestic violence and the ways to recognize it.

Smart (1999) reported the success of public health nurses preventing childhood violence by teaming up with members of children's protective services.

An article by Eckenrode et al. (2000) showed that nurses were able to develop effective interventions through their home visiting practice that reduces violence in the family against children.

A systematic review conducted by Roberts et al. (1996) also confirm that home-visiting programmes had the potential to reduce significantly the rates of childhood injury.

Evidence show that battered women seek prenatal care later than women not suffering from abuse (Taggart & Mattson, 1996). Battered women sought prenatal care 6.5 weeks later than the non-abused sample and stated that they had delayed care because of injuries.

Corrarino et al. (2000) reported nurses effectively building coalitions with the community to prevent childhood injuries. The Cool Kids Coalition described was developed by nurses to prevent children from scald burns by parent education, by intervention for those at risk, and by enhancing community awareness of scald burns.

Nurses have the skills and knowledge to diagnose home violence and are in a position to conduct proper evidence recognition, collection, and preservation (Goldy & Goldy, 1999, Hoyt, 1999). With an understanding of proper forensic techniques, the critical care nurse is viewed as an outstanding patient advocate.

Woodtli (2000) presented evidence for the need to incorporate nurses' clinical experiences related to handling violence into the education curricula.

Education is also effective as an intervention to stop violence. Murray et al. (1999) reported the success of the Student for Peace initiative, a randomised trial to prevent violence among middle school children. The novelty of this approach is that it targeted parents of the children to raise their social norms of monitoring violence.

The role of nurses in preventing workplace injuries and accidents is recognized (Brezler, 1999). Occupational and environmental health nurses significantly reduce morbidity and mortality of adolescent workers by preventing them from injuries. Moreover, occupational and environmental health nurses advocate for improved legislation to protect children and adolescents.

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Eckenrode, J., Ganzel, B., Henderson, C.R. Jr. et al (2000). *Preventing child abuse and neglect with a program of nurse home visitation: the limiting effects of domestic violence.* JAMA, 284 (11), 1385-1391.

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Taggart, L., Mattson, S. (1996). *Delay in prenatal care as a result of battering in pregnancy: cross-cultural implications.* Health Care Women International, 17 (1), 25-34.

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Randomized Controlled Trials and Meta analyses

Kitzman, H., Olds, D.L., Henderson, C.R. Jr. et al (1997). *Effect of prenatal and infancy home visitation by nurses on pregnancy outcomes, childhood injuries, and repeated childbearing. A randomized controlled trial.* JAMA, 278(8), 644-652.

The aim of this study was to test the effect of prenatal and infancy home visits by nurses on pregnancy-induced hypertension, preterm delivery, and low birth weight; on children's injuries, immunizations, mental development, and behavioral problems; and on maternal life course. Results showed that fewer women visited by nurses during pregnancy had pregnancy-induced hypertension. During the first 2 years after delivery, women visited by nurses during pregnancy had fewer health care encounters for children in which injuries or ingestions were detected; days that children were hospitalized with injuries or ingestions; and second pregnancies. There were no program effects on preterm delivery or low birth weight; children's immunization rates, mental development, or behavioral problems; or mothers' education and employment. This program of home visitation by nurses reduced pregnancy-induced hypertension, childhood injuries, and subsequent pregnancies among low-income women with no previous live births.

HEALTHIER LIVING:

Sedentary lifestyles can cause obesity. Nurses can design interventions to reduce sedentary behaviour and thus reduce overweight in children (NHS 1997:3(2) and NHS report 10 1997).

Nurses could develop programmes which focus on promoting physical activity which fit into an individual's daily routine. (NHS 1997:3(2) and NHS report 10 1997).

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Randomized Clinical Trials and Meta analyses

Alessi, C.A., Yoon, E.J., Schnelle, J.F. et al (1999). *A randomized trial of a combined physical activity and environmental intervention in nursing home residents: do sleep and agitation improve?* Journal of the American Geriatric Society, 47(7), 784-791.

This study tested whether an intervention combining increased daytime physical activity with improvement in the night-time environment improves sleep and decreases agitation in nursing home residents. Results of the study provide preliminary evidence that an intervention combining increased physical activity with improvement in the night-time nursing home environment improves sleep and decreases agitation in nursing home residents.

Chen, M.Y. (1999). *The effectiveness of health promotion counseling to family caregivers*. Public Health Nursing, 16(2), 125-132.

This study examined the effectiveness of health promotion counseling of the family caregivers from Taipei Metropolitan Area. The findings showed that the counseling enabled members of the treatment group to adopt healthier lifestyles. The research outcome supports the value of home-care nurse counseling of family caregivers.

REDUCING HARM FROM ALCOHOL, DRUGS AND TOBACCO:

A review of Rice and Stead (1999) based on the Randomised Controlled Trial (RCT)indicates some degree of effectiveness in terms of numbers of smokers stopping at 6 months post-intervention.

Macleod Clark et al (1990 and 1993) used qualitative methods to evaluate the role of nurses and effectiveness in supporting people to stop smoking.

Dyehouse and Sommers (1998) reported an effective, focused, time limited brief clinical intervention that prevents further alcohol-related injuries, which can be used by any health professional.

Kleman and Rooks (1999) described a simple, effective 5-10 minute counseling method for midwives to help pregnant women stop smoking.

A randomized controlled trial by Greenberg et al. (1994) supported the beneficial effects of home visiting on reduced infant passive smoking and lower respiratory illness. There was a significant difference in trend over the year between the intervention and the control groups in the amount of exposure to tobacco smoke; infants in the intervention group were exposed to 5.9 fewer cigarettes per day at 12 months.

A systematic review of nursing interventions on smoking cessation confirmed that cessation advice and counselling given by nurses are effective (Rice & Stead, 2000). The challenge will be to incorporate smoking cessation intervention as part of standard practice so that all patients are given an opportunity to be asked about their tobacco use, to be given advice to quit, and be followed-up.

Wadland et al. (1999) compared primary care and community settings in their effectiveness to enhance smoking cessation. They found no difference between the practice-based and community approach, and concluded that nurses in primary care are effectively delivering relapse prevention during office visits and also by telephone.

Studies by Rose, 1991, Sarna et al., 2000 show the majority of oncology nurses assessing and documenting tobacco status and determining readiness of the person to quit (). However, fewer nurses recommend nicotine replacement and teach skills to prevent relapse due to lack of patient motivation, nurse's time, or sufficient training.

There is evidence that school nurses target adolescent girls with smoking prevention (Giarelli, 1999). By understanding the adolescent identity and its relationship to cigarette smoking in association with several social and personal factors led to the development of nurse designed health beliefs and self-efficacy personalized interventions.

There is also proof that nursing has influence on tobacco interventions and helps enforce legislation about tobacco use (Scholz, 1998).

Marcus et al. (2000) present such a partnership model between academic nursing institutions and community organizations, which increased research activity and community awareness; enhanced student curriculum; and resulted in sustained interventions for substance abusers.

Liston, (1998) and (Tiedje et al. (1996) reported effective substance abuse intervention models developed for women, especially during pregnancy and breastfeeding.

Occupational health nurses successfully discover alcohol and drug abuse and deliver effective early interventions in workplaces (Hagemaster, 1991).

Arthur (1998) and Marcus (1997) reported change processes in the nursing education curricula to adopt more independent nursing models, such as controlled drinking, that are an alternatives to the medical abstinence model. These enhanced curricula focus more on the interventions strategies to be carried out not only at the individual level but also in the primary care and in communities by nurses.

Marcus (1999) introduced a novel and highly effective approach for substance abuse in healthcare settings. The substance abuse education liaison is a competent nurse who provides continuing education to others in organized workshops and establishes resource networks in acute care teams.

Pullen et al. (1997) addressed changes in the nursing education curricula to help nurses develop skills to recognize signs of chemical dependency in peers and techniques to intervene.

Nurses demonstrated cross-cultural sensitiveness in the design of drug awareness programs for diverse ethnic groups (Jeffries, 1999).

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Eggert, L.L., Herting, J.R., Thompson, E.A. (1996). *The Drug Involvement Scale for Adolescents (DISA).* Journal of Drug Education 26 (2), 101-130.

Randomized Controlled Trials and Meta analyses

Griebel, B., Wewers, M.E., Baker, C.A. (1998). *The effectiveness of a nurse-managed minimal smoking-cessation intervention among hospitalized patients with cancer.* Oncology Nursing Forum, 25(5), 897-902.

This research determined the effectiveness of a nurse-managed minimal smoking-cessation intervention among hospitalized patients with cancer. Upon hospital admission, 64% of the intervention group and 71% of the usual care group reported their intention to quit smoking. At six weeks postintervention, only 21% and 14% of the intervention and usual care group, respectively, were classified as abstinent from smoking. More than 90% of the intervention group members who resumed smoking did so within first week of discharge. Authors concluded that more intensive intervention may be necessary to assist hospitalized surgical patients in achieving smoking cessation.

Tomson, Y., Romelsjo, A., Aberg, H. (1998). *Excessive drinking--brief intervention by a primary health care nurse. A randomized controlled trial.* Scandinavian Journal of Primary Health Care, 16(3), 188-192.

The study evaluated the effect of a nurse-conducted intervention on excessive drinkers. The intervention group visited a nurse three times during a 12-month period. The controls met once with a general practitioner (GP). Outcomes included measuring gamma-glutamyl transferase (GGT) and self-reported alcohol consumption. After 2 years a significant reduction in GGT had occurred in the treatment group. The controls increased their mean level of GGT. Mean weekly alcohol consumption in the intervention group was also reduced. The intervention had an impact on GGT and self-reported consumption.

Cameron, R., Brown, K.S., Best, J.A. et al (1999). *Effectiveness of a social influences smoking prevention program as a function of provider type, training method, and school risk.* American Journal of Public Health, 89(12), 1827-1831.

This study was designed to determine the effect of provider (nurse or teacher) and training method (workshop or self-preparation) on outcomes of a social influences smoking prevention program. The intervention reduced grade 8 smoking rates in high-risk schools (smoking rates of 26.9% in control vs 16.0% in intervention schools) but not in low-risk schools. There were no significant differences in outcome as a function of training method and no significant differences in outcome between teacher-provided and nurse-provided interventions in high- and medium-risk schools. Although nurses achieved better outcomes than did teachers in low-risk schools, neither provider type achieved outcomes superior to the control condition in those schools. According to the authors, workshop training did not affect outcomes. Teachers and nurses were equally effective providers. Results suggested that programming should target high-risk schools.

Werch, C.E., Carlson, J.M., Pappas, D.M. et al. (1996). *Brief nurse consultations for preventing alcohol use among urban school youth.* Journal of School Health, 66(9), 335-338.

This study examined the effects of brief nurse consultations in preventing alcohol use among inner-city youth. A significant difference was found on heavy alcohol use with intervention subjects showing a reduction and control subjects an increase in heavy drinking. No differences

were found between groups on other alcohol use measures. This study's findings indicate that a series of brief nurse consultations appear to reduce heavy alcohol consumption among urban school youth.

Rice, V.H. (1999). *Nursing intervention and smoking cessation: A meta-analysis*. Heart Lung, 28(6), 438-454.

This publication compared fifteen studies to determine the effects of nursing-delivered smoking cessation interventions. They found that the interventions significantly increased the odds of smoking cessation. However, nurse counselling on smoking cessation during a screening health check was likely to have less effect. The results indicated the potential benefits of smoking cessation advice and counselling given by nurses to their patients.

SETTINGS FOR HEALTH

A study by Kay et al (1995) reports the outcomes of a national study into the role of the learning disability nurse.

Allen (1997, 1999) reported inequalities in healthcare to discriminate people with disabilities. Experiences from a special health clinic established to serve disabled individuals confirmed increased access and treatment of several health problems by staff. The author concludes that such clinics employing specially educated health visitors are effective alternatives to reduce inequalities in the community.

Cavendish et al. (1999) found in a national survey of school nurses' interventions that nurse health promotion in schools used 163 different interventions. Interventions were significantly associated with special education or grade level of children.

Pavelka et al. (1999) concerning the frequency of nursing interventions used in school nursing practice found that out of 433 classified interventions 114 were used by school nurses at least monthly, with 32 of these 114 interventions identified as being used at least once a week.

Anderton and Broady (1999) presented evidence that school nurses influenced improving schools' asthma policies and procedures. To modify school policies school nurses formed collaboration between a health trust and an education authority.

Ailey (2000) provided evidence of school nurses improving mental health. The article emphasized that screening adolescents with mental retardation for depression is an important part of the development of Individualized Educational Plans for school nurses.

Weinman and associates (1999) reported a school-based and school-linked intervention program effectively helping pregnant and parenting teenagers. The end-of-year evaluations indicated 88% to 95% of teens attended services that were recommended, and 69% did not miss school to receive these services. The teens' rate of passing their grade level increased at the end of the program year. Additionally, 78% used birth control, and over 90% of the infants received timely health care.
Larter and colleagues (1999) reported the effectiveness of a model school nurse education program. The Health Consultation Program resulted in greater self-care abilities by students, improved skills of teachers and other professionals, increased planning for safe and appropriate care, and improved quality of care.

Working with school nurses improved children's vision and helped build community relationships (Mitchell, 2000).

Krug and colleagues (1997) showed the positive impact of an elementary school-based violence prevention program. The data indicated that in the intervention schools, injuries and visits to the school nurse decreased over the two-year period and that the intervention contributed to significant this change.

Spanier and Slater (1997) reported the development of a school nurse education model. The authors acknowledged that changing family structure and health care needs of children demand a more specific health focus in the education of school nurses.

Rogers and Livsey (2000) pointed out the contributions occupational health nurses in ensuring a healthy work force. As independent health care providers occupational health nurses are active in surveillance, screening, and prevention activities, and in delivering health promotion interventions at the workplace.

Childre (1997) reported a nurse managed occupational health service utilizing the primary care concept providing quality and continuity of care. An on-site model of primary health care delivery, incorporating the fundamentals of occupational health nursing, can bring significant savings to the organization in health related costs.

There is evidence that through partnership building occupational health nurses contribute to community development and enhance employer efforts for improving and maintaining employee health and workplace safety (Nester, 1996).

Work by Sofie (2000) illustrated the relevance of incorporating workers' perception in the creation of a successful occupational health and safety program. Occupational and environmental health nurses are in the perfect position to ensure workers' perceptions are considered, thus reducing worksite injury and illness.

According to Dille (1999), occupational health nurses successfully contributed to planning and implementing workplace immunization campaigns as a part of their health promotion practice.

Paskett et al. (1999) reported the development and success of a worksite breast cancer screening education program by occupational health nurses. Results indicated that worksites had been receptive to offering nurse designed breast cancer educational programs.

Edmondson and Williamson (1998) reported the train the trainer approach successful for nurses to use in relation with creating awareness about hazardous waste sites. Environmental health nurses are identified as resources for community education and health promotion.

Working in partnerships, occupational health nurses can take a leadership role in obtaining management's support to implement effective intervention strategies involving a multidisciplinary team approach, to stop workplace violence and influence written workplace policies (Duda, 1997).

A nurse-managed wellness center of a large corporation has demonstrated how nurse practitioner services can help corporations reduce medical costs while fostering employee satisfaction and addressing aggregate health needs (Lugo, 1997). In the first 6 months of operation, more than half of the company's employees used the wellness center for episodic care, health maintenance, and patient education, saving an estimated $100,000 in averted outside medical care and absenteeism.

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Randomised Controlled Trials and Meta analyses

Lamb, J.M., Puskar, K.R., Sereika, S.M. et al (1998). *School-based intervention to promote coping in rural teens.* MHC Journal of American Maternal Child Nursing, 23(4), 187-194.

The study was done to evaluate a program designed to help high school students with depressive symptomology to effectively cope. Intervention subjects were treated with a nurse-led, 8-week cognitive skills group, conducted at school. On posttesting, the intervention groups demonstrated reduced depressive symptoms in females and a wider range of coping compared with controls. Results of this study indicated that such programs can be implemented successfully in schools and have the potential to promote mental health in teenagers.

Larsson, B., Carlsson, J. *A school-based, nurse-administered relaxation training for children with chronic tension-type headache.* Journal of Pediatric Psychology, 21(5), 603-614.

This study compared the efficacy of a school-based, nurse-administered relaxation training intervention to a no-treatment control condition for children (10-15 years old) with chronic tension-type headache. Results showed that headache activity in the children treated with relaxation training was significantly more reduced than among those in the no-treatment control group at posttreatment as well as the 6-month follow-up. Thus, the school-based, nurse-administered relaxation training program seems to be a viable treatment approach for children with chronic tension-type headaches.

Kinnersley, P., Anderson, E., Parry, K. et al (2000). *Randomised controlled trial of nurse practitioner versus general practitioner care for patients requesting "same day" consultations in primary care*. British Medical Journal, 320(7241), 1043-1048.

This research evaluated any differences between care from nurse practitioners and that from general practitioners for patients seeking "same day" consultations in primary care. Generally patients consulting nurse practitioners were significantly more satisfied with their care, although for adults this difference was not observed in all practices. For children, the difference between general and nurse practitioner in percentage satisfaction was higher for nurses. Resolution of symptoms and concerns did not differ between the two groups. The number of prescriptions issued, investigations ordered, referrals to secondary care, and reattendances were similar between the two groups. However, patients managed by nurse practitioners reported receiving significantly more information about their illnesses and, in all but one practice, their consultations were significantly longer. This study supported the wider acceptance of the role of nurse practitioners in providing care to patients requesting same day consultations.

INTEGRATED HEALTH SECTOR

This study by Barr et al (1999) sought to increase access to health screening for people with learning disabilities. Specialist community nurses for people with learning disabilities undertook training in health screening procedures and implemented screening programmes across a range of day care settings. A wide range of previously untreated health problems were identified and treatment provided through collaboration of the General Practitioner, community nurse and family. As a follow on from the project, health screening instruments were developed and closer links with Primary Care Team established in order that people with learning disabilities could access screening through primary care services assisted by specialist community nurses.

Jewell and Russell (2000) reported a nursing initiative to improve access to prenatal care. Nursing interventions targeting expectant mothers resulted in earlier and better utilization of prenatal care. This article showed how community health nurses partner with coalitions to improve the content of prenatal care and how they effectively decrease sociocultural barriers to care.

Margolis et al. (1996) presented evidence about successfully linking clinical and public health approaches to improve the quality and effectiveness of care for socially disadvantaged children.

Spurlock and colleagues (2000) reported an innovative mobile nursing center, which involved nursing students to work in community care. This service was not only cost-effective but provided immediate access to care and valuable learning experiences to students.

The articles by Lattimer et al. (1998) and Schwartz et al. (2000) show that nurse-led telephone consultation services are safe, effective, and hold potential for substantial cost reductions by diverting patients from unnecessary use of emergency and hospital care.

There is evidence to show how nurses expanded the community; working as volunteers in congregations religious communities provided ground for delivering health-promoting interventions (Chase-Ziolek and Striepe, 1999).

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Randomized Controlled Trials and Meta analyses

Evans, R.L., Connis, R.T., Haselkorn, J.K. (1998). Hospital-based rehabilitative care versus outpatient services: effect on functioning and health status. Disability and Rehabilitation, 20(8), 298-307.

The goal of this clinical trial was to examine the long-term impact of rehabilitative care on the health status of patients diagnosed with a disabling disorder. The findings suggested that hospital-based rehabilitative care does not have lasting benefits, and that alternative care or supportive follow-up by a subacute-care facility may be needed to assist patients in maintaining functional gains and health benefits.

Lavender, T., Walkinshaw, S.A. (1998). Can midwives reduce postpartum psychological morbidity? A randomized trial. Birth, 25(4), 215-219.

This study's purpose was to examine if postnatal "debriefing" by midwives can reduce psychological morbidity after childbirth. Women who received the intervention were less likely to have high anxiety and depression scores after delivery when compared with the control group. The support, counseling, understanding, and explanation given to women by midwives in the postnatal period provides benefits to psychological well-being. Maternity units had been urged to develop a service that offers all women the option of attending a session to discuss their labour.

Penque, S., Petersen, B., Arom, K. et al. (1999). Early discharge with home health care in the coronary artery bypass patient. Dimensions of Critical Care Nursing, 18(6), 40-48.

This study examined the effect of early hospital discharge on patients after coronary artery bypass graft surgery. It also compared outcomes, readmissions, and costs for patients discharged early with home health care with those of patients discharged a day or more later without home

health care. Discharging open-heart surgery patients on postoperative day 4 with home health care was found to be both safe and cost-effective.

Shum, C., Humphreys, A., Wheeler, D. et al. (2000). Nurse management of patients with minor illnesses in general practice: multicentre, randomised controlled trial. British Medical Journal, 320(7241), 1038-1043.

The objective of this study was to assess the acceptability and safety of a minor illness service led by practice nurses in general practice. Patients were very satisfied with both nurses and doctors, but they were significantly more satisfied with their consultations with nurses Consultations with nurses took about 10 minutes compared with about 8 minutes for consultations with doctors. Nurses and doctors wrote prescriptions for a similar proportion of patients. Patients seen by nurses were managed without any input from doctors. Practice nurses seem to offer an effective service for patients with minor illnesses who request same day appointments.

von Koch, L., Widen Holmqvist, L., Kostulas, V. et al. (2000). A randomized controlled trial of rehabilitation at home after stroke in Southwest Stockholm: outcome at six months. Scandinavian Journal of Rehabilitation and Medicine, 32(2), 80-86.

This study evaluated the effect of early supported discharge and continued rehabilitation at home after stroke. The 6-month follow-up of 78 patients showed no statistically significant differences in patient outcome but results indicated a positive effect of home rehabilitation on activities of daily living. At 3-6 months the frequency of significant improvements was higher in the intervention group. Death or dependency in activities of daily living was lower in the intervention group. It is concluded that for moderately disabled stroke patients with mental function within normal limits, early supported discharge and continued rehabilitation at home had no less a beneficial effect on patient outcome than routine rehabilitation, reduced initial hospitalization significantly and had no adverse effects on mortality and number of falls.

Evans, R.L., Connis, R.T., Hendricks, R.D. (1995). Multidisciplinary rehabilitation versus medical care: a meta-analysis. Social Science and Medicine, 40(12), 1699-1706.

Research literature comparing the clinical effectiveness of rehabilitation programs with medical care was evaluated for three uniformly available outcome criteria: survival; functional ability; and discharge location in this publication. Results of the meta-analyses indicated that rehabilitation services were significantly associated with better rates of survival and improved function during hospital stay but significance was not observed at follow-up. Also, rehabilitation patients returned to their homes and remained there more frequently than controls. It was concluded that patients who participate in inpatient rehabilitation programs function better at hospital discharge, have a better chance of short-term survival, and return home more frequently than non-participants.

Evans, R.L., Connis, R.T., Haselkorn, J.K. (1997). Evaluating rehabilitation medicine: effects on survival, function, and home care. Home Health Care Services Quarterly, 16(3), 35-53.

The goal of this study was to measure the clinical impact of rehabilitation on adults diagnosed with a disabling disorder. Specific objectives of the clinical trial were to determine the effects of inpatient rehabilitation on: (1) survival, (2) function, (3) home care, and related variables such as family function and use of health care resources. There were no differences between groups in their use of nursing homes, length of hospital stay, survival, or in the number of hospital readmissions or clinic visits during the first year after hospital discharge. Rehabilitation did cost

significantly more than medical care, primarily due to the cost of inpatient services. It was recommended that health care systems evaluate the benefits of subacute rehabilitative care and consider outpatient programs that can be provided at home for implementation.

The implementation of a clinical nurse specialist in a congenital heart disease program, increases health care professionals' attention to psycho-social concerns and the learning needs of the patient (Canobbio and Day 1994).

In an ambulatory care situation in which patients were randomly assigned to either nurse practitioners or physicians, and where nurse practitioners had the same authority, responsibilities, productivity and administrative requirements, and patient population as primary care physicians, patients' outcomes were comparable (Mundinger et al 2000).

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Randomized Controlled Trials and Meta analyses

Harvey, S., Jarrell, J., Brant, R. et al (1996). *A randomized, controlled trial of nurse-midwifery care.* Birth, 23(3), 128-135.

This trial was conducted to determine the effectiveness of a midwifery program. The rate of cesarean delivery in the nurse-midwife group was 4 percent compared with 15.1 percent in the physician group. The episiotomy rate, excluding cesarean deliveries, for the nurse-midwife group was 15.5 percent compared with 32.9 percent in the physician group. The rates of epidural anesthesia for pain relief in labor were 12.9 percent and 23.7 percent, respectively. Statistically significant differences were also found in ultrasound examinations, amniotomy, and intravenous drug administration during labor, dietary supplements, length of hospital stay, and admission of infants to the neonatal intensive care unit. The results of the study supported the effectiveness of the nurse-midwifery program and suggested more extensive participation of midwives in health care systems.

Ridsdale, L., Robins, D., Cryer, C. et al (1997). *Feasibility and effects of nurse run clinics for patients with epilepsy in general practice: randomised controlled trial.* Epilepsy Care Evaluation Group. British Medical Journal, 314(7074), 120-122.

The study tested the feasibility and effect of nurse run epilepsy clinics in primary care. For the intervention group compared with the usual care group there was a highly significant improvement in the level of advice recorded as having been given on drug compliance, adverse drug effects, driving, alcohol intake, and self help groups. Nurse run clinics for patients with

epilepsy were concluded feasible and well attended. Such clinics can significantly improve the level of advice and drug management.

Hill, J. (1997). *Patient satisfaction in a nurse-led rheumatology clinic*. Journal of Advanced Nursing, 25(2), 347-354.

This study compared patient satisfaction with a nurse-led rheumatology clinic and a rheumatologist's clinic. At week 0 both groups were satisfied with their care and there were no significant differences between them. By week 48 the medical cohort showed significantly increased satisfaction with access and continuity but no change in overall satisfaction. The patients in the nurse-led clinic recorded significant increases in overall satisfaction. Between-group comparison at week 48 showed the nurse's patients to be significantly more satisfied than those of the rheumatologist.

Wheeler, E.C. (1999). *The effect of the clinical nurse specialist on patient outcomes.* Nursing Clinics of North America, 11(2), 269-275.

The review of the literature showed a beginning body of evidence to support the positive effects of clinical nurse specialists (CNSs) on patient outcomes. The study done by the author shows that patients with certain operations on units with CNSs had better patient outcomes than patients on units without CNSs. Patients on units with CNSs had an overall shorter stay and fewer complications than did patients on units without CNSs. It is concluded that the effect of CNSs on patient outcomes can result in improved quality of care and cost reduction.

Turnbull, D., Holmes, A., Shields, N. et al (1996). *Randomised, controlled trial of efficacy of midwife-managed care.* Lancet, 348(9022), 213-218.

This study compared midwife-managed care with shared care (ie, care divided among midwives, hospital doctors, and general practitioners) in terms of clinical efficacy and women's satisfaction. Interventions were similar in the two groups or lower with midwife-managed care. For example, women in the midwife-managed group were less likely than women in shared care to have induction of labour. Women in the midwife-managed group were more likely to have an intact perineum and less likely to have had an episiotomy, with no significant difference in perineal tears. Complication rates were similar. Authors concluded that midwife-managed care for healthy women, integrated within existing services, is clinically effective and enhances women's satisfaction with maternity care.

Law, Y.Y., Lam, K.Y. (1999). *A randomized controlled trial comparing midwife-managed care and obstetrician-managed care for women assessed to be at low risk in the initial intrapartum period.* Journal of Obstetrical and Gynaecological Research, 25(2), 107-112.

This study compared the efficacy of midwife-managed care and obstetrician-managed care for women assessed to be at low risk in the initial intrapartum period. Midwife-managed care was as safe as obstetrician-managed care for women who were assessed to be at low risk in the intrapartum period. It was concluded that routine visit by obstetrician is not necessary and the midwives are able to detect complications in the course of labour and alert the obstetrician for taking the necessary action.

Shields, N., Turnbull, D., Reid, M. et al (1998). *Satisfaction with midwife-managed care in different time periods: a randomised controlled trial of 1299 women*. Midwifery, 14(2), 85-93.

Authors investigated women's satisfaction with midwife-managed care with 'shared care' over three different time periods. Women in both groups were satisfied. However, women in the midwife-managed group were more highly satisfied in relation to the dimensions examined: relationships with staff, information transfer, choices and decisions, and social support. The differences between the two groups were evident for all time periods (i.e. antenatal, intrapartum and postnatal periods) and were sustained at seven-month follow-up. The midwife-managed group was more likely to make positive comments whereas the 'shared care' group was more likely to make negative comments. Midwife-managed care for healthy pregnant women which is integrated into existing services is seen to improve satisfaction with antenatal, intrapartum and postnatal care.

Piette, J.D., Weinberger, M., McPhee, S.J. (2000). *The effect of automated calls with telephone nurse follow-up on patient-centered outcomes of diabetes care: a randomized, controlled trial.* Medical Care, 38(2), 218-230.

The study evaluated the impact of automated telephone disease management (ATDM) calls with telephone nurse follow-up as a strategy for improving outcomes such as mental health, self-efficacy, satisfaction with care, and health-related quality of life (HRQL) among low-income patients with diabetes mellitus. Compared with patients receiving usual care, intervention patients at follow-up reported fewer symptoms of depression, greater self-efficacy to conduct self-care activities, and fewer days in bed because of illness. This intervention had several positive effects on patient-centered outcomes of care but no measurable effects on anxiety or HRQL.

Griffiths, P., Wilson-Barnett, J., Richardson, G. et al (2000). *The effectiveness of intermediate care in a nursing-led in-patient unit.* International Journal of Nursing Studies, 37(2), 153-161.

The present trial was conducted to assess the potential for a nursing-led in-patient unit (NLIU) to substitute for a period of care in the acute hospital environment and promote recovery before discharge. There was no significant difference in functional independence at discharge. Patients undergoing usual care stayed in hospital for less time but the same number of patients were in hospital 90 days after recruitment due to re-admissions. Although the anticipated benefits of the NLIU were not demonstrated, the study does not conclude that the model should be rejected. The NLIU does offer some potential to substitute for acute care but also appears to substitute for a period of primary care.

Mayo, N.E., Wood-Dauphinee, S., Cote, R. et al (2000). *There's no place like home : an evaluation of early supported discharge for stroke*. Stroke, 31(5), 1016-1023.

The purpose of this study was to determine the effectiveness of prompt discharge combined with home rehabilitation on function, community reintegration, and health-related quality of life during the first 3 months after stroke. The total length of stay for the home group was, on average, 10 days, 6 days shorter than that for the usual care group. There were no differences between the 2 groups on measures of mobility at either 1 or 3 months after stroke; however, there was a significantly beneficial impact of the home intervention on activities of daily living and reintegration. By 3 months after stroke, the home intervention group showed a significantly higher score on the SF-36 Physical Health component than the usual care group. The total number of services received by the home group was actually lower than that received by the usual care group. Prompt discharge combined with home rehabilitation appeared to translate motor and functional gains that occur through natural recovery and rehabilitation into a greater degree of higher-level function and satisfaction with community reintegration, and these in turn were translated into a better physical health.

Rushforth, H., Bliss, A., Burge, D. (2000). *A pilot randomised controlled trial of medical versus nurse clerking for minor surgery.* Archives of Diseases in Children, 83(3), 23-26.

This study was conducted to assess the safety of nurse led clerking in paediatric day case and minor surgery. In 60 children studied, nurses identified a significantly greater proportion of the detectable abnormalities present in the sample. This difference is attributable to nurses' greater accuracy in history taking. Evidence attests to the likelihood of nursing having superior skills in history taking to SHOs. Exploration of nursing safety in undertaking physical examination, however, requires the conduct of a large scale equivalence study.

Levy, M.L., Robb, M., Allen, J., Doherty C. et al (2000). *A randomized controlled evaluation of specialist nurse education following accident and emergency department attendance for acute asthma.* Respiratory Medicine, 94(9), 900-908.

Authors investigated whether hospital-based specialist asthma nurses improved recognition and self-treatment of asthma episodes by patients followed up after attending accident and emergency departments (A&E) for asthma exacerbations. The intervention group increased their use of inhaled topical steroids and their use of rescue medication in severe attacks. Intervention patients had significantly higher and less variable PEF and significantly lower and less variable symptom scores 6 months after entry. Intervention patients had fewer episodes away from work in the first and the second 3 months than the controls. The active group had less routine consultations with the doctor and practice nurse, less consultations for uncontrolled episodes and less hospital visits than the controls. Hospital-based specialist nurses reduced asthma morbidity by improving patient self-management behaviour in acute attacks leading to reduced symptoms, improved lung function, less time off work and fewer consultations with health professionals.

Theis, S.L., Johnson, J.H. (1995). *Strategies for teaching patients: a meta-analysis.* Clinical Nurse Specialist, 9(2), 100-105, 120.

The purpose of this meta-analysis was to synthesize the existing body of research examining teaching strategies used in patient education. Results indicated that 66% of subjects receiving planned teaching had better outcomes than did control group subjects receiving routine care. Best results were achieved with reinforcement and by use of multiple strategies.

Collaborative systematic review of the randomised trials of organised inpatient (stroke unit) care after stroke. Stroke Unit Trialists' Collaboration. British Medical Journal, 314(7088), 1151-1159.

This analysis was conducted to define the characteristics and determine the effectiveness of organised inpatient (stroke unit) care compared with conventional care in reducing death, dependency, and the requirement for long term institutional care after stroke. Organised inpatient (stroke unit) care, when compared with conventional care, was best characterised by coordinated multidisciplinary rehabilitation, programmes of education and training in stroke, and specialisation of medical and nursing staff. Length of stay in a hospital or institution was reduced compared with conventional care. Organised stroke unit care resulted in long term reductions in death, dependency, and the need for institutional care. The observed benefits were not restricted to any particular subgroup of patients or model of stroke unit care. No systematic increase in the use of resources (in terms of length of stay) was apparent.

Mundinger, M.O., Kane, R.L., Lenz, E.R. et al (2000). *Primary care outcomes in patients treated by nurse practitioners or physicians: a randomized trial*. JAMA, 5;283(1), 59-68.

The objective of the research was to compare outcomes for patients randomly assigned to nurse practitioners or physicians for primary care follow-up and ongoing care after an emergency department or urgent care visit. Four community-based primary care clinics (17 physicians) and 1 primary care clinic (7 nurse practitioners) at an urban academic medical center participated. 1316 patients who had no regular source of care and kept their initial primary care appointment were enrolled and randomized with either a nurse practitioner (n = 806) or physician (n = 510). No significant differences were found in patients' health status (nurse practitioners vs physicians) at 6 months. Physiologic test results for patients with diabetes or asthma were not different. For patients with hypertension, the diastolic value was statistically significantly lower for nurse practitioner patients (82 vs 85 mm Hg; P = .04). No significant differences were found in health services utilization after either 6 months or 1 year. There were no differences in satisfaction ratings following the initial appointment. Satisfaction ratings at 6 months differed for 1 of 4 dimensions measured (provider attributes), with physicians rated higher. In an ambulatory care situation in which patients were randomly assigned to either nurse practitioners or physicians, and where nurse practitioners had the same authority, responsibilities, productivity and administrative requirements, and patient population as primary care physicians, patients' outcomes were comparable.

Hunter et al. (1999) provided the innovative approach that increasing access for the homeless to care provision is possible with cost-effectiveness that involves networking with members of the local community outside of health care.

Morell et al (1998) reported an example of effective service restructuring through the establishment of a leg ulcer clinic in the community. They concluded that despite traditional expectation, leg ulcers can be more (cost-) effectively treated at such clinics compared to home care.

Chiu et al (1997, 1999) supported that home care services for long-term care are less (cost-) effective. Studies compared the outcomes of patients with stroke and dementia with respect to their physical functioning and costs incurred by the family between home care and community-based nursing homes. Community-based nursing homes emerged in both studies as being more cost-effective, achieved better patient outcomes in the long run, and were observed to significantly reduce the caregiving input and burden of the family.

Lattimer and associates (2000) conducted a randomized clinical trial to evaluate the cost-effectiveness and safety of an out of hours primary care telephone consultation system run by nurses. They concluded that nurse telephone consultations were safe and resulted in long-term health services savings by reducing demand for emergency admission to hospital.

Venning et al (2000) compared practices of nurses and physicians and concluded that clinical care and health service costs of nurse practitioners and general practitioners were similar. However, if nurse practitioners were able to maintain the health benefits for patients while reducing their return consultation rate or shortening consultation times, they could be more cost effective than general practitioners.

In systematic review on nursing's contribution to quality care and cost-effectiveness, Shamian (1997) found the interpersonal skills of nurse practitioners better than those of physicians. Nurse practitioners facilitated continuity of patient care and improved access to care in rural settings more than physicians. Nurse practitioners also provided more health promotion than physicians, ordered more laboratory test with lower average costs, had patients with lower hospitalization than physicians, had lower costs per visits than physicians, and achieved better functional status and compliance in patients. Nurses also had higher patient satisfaction rates than physicians. Nurses significantly contributed to reduce hospitals costs through early discharge planning to community and home care, and nursing case management systems significantly reduced costs by shortening hospital stay. Nurses working in the community significantly reduced hospitals readmissions as well.

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Hunter, J.K., Ventura, M.R., Kearns, P.A. (1999). *Cost analysis of a nursing center for the homeless.* Nursing Economy, 17 (1), 20-28.

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Morrell, C.J., Walters, S.J., Dixon, S., Collins, K.A., Brereton, L.M.L., Peters, J., Brooker, C.D.G. (1998). *Cost effectiveness of community leg ulcer clinics: randomized controlled trial.* British Journal of Medicine, 316, 1487-1491.

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Randomized Controlled Trials and Meta analyses

O'Neill, C., Normand, C., Cupples, M. et al (1996). *Cost effectiveness of personal health education in primary care for people with angina in the greater Belfast area of Northern Ireland*. Epidemiology and Community Health, 50(5), 538-540.

The authors investigated the cost effectiveness of personal health education for angina patients being treated in general practice. Significant improvements in survival and self assessed quality of life were found between the intervention and control groups. The intervention was associated with a reduction in drug usage and there was no significant difference between the intervention and control groups in terms of their use of other health services. Given the improvement in survival and self assessed quality of life and no significant differences in costs to the health service between the two groups, the intervention was deemed to be cost effective.

Mynors-Wallis, L., Davies, I., Gray, A. et al (1997). *A randomised controlled trial and cost analysis of problem-solving treatment for emotional disorders given by community nurses in primary care.* British Journal of Psychiatry, 170, 113-119.

The authors explored whether community nurses could be trained in problem-solving therapy and, once trained, how effective they would be in treating emotional disorders in primary care. There was no difference in clinical outcomes between patients who received problem-solving treatment and patients who received the general practitioner's usual treatment. However, patients

who received problem-solving treatment had fewer disability days and fewer days off work. The health care cost of problem-solving was greater than that of the general practitioner's usual treatment but this was more than offset by savings in the cost of days off work. Authors concluded that community nurses effectively deliver problem-solving treatments and that the clinical effectiveness and cost-benefit of the treatment will depend on the selection of appropriate patients.

Morrell, C.J., Walters, S.J., Dixon, S. et al (1998). *Cost effectiveness of community leg ulcer clinics: randomised controlled trial.* British Medical Journal, 316(7143), 1487-1491.

This study was designed to establish the relative cost effectiveness of community leg ulcer clinics that use four layer compression bandaging versus usual care provided by district nurses. The ulcers of patients in the clinic group tended to heal sooner than those in the control group over the whole 12 month follow up. At 12 weeks, 34% of patients in the clinic group were healed compared with 24% in the control. No significant differences were found between the groups in health status. Mean total NHS costs did not significantly differ between the two groups (878.06 pounds per year for the clinic group and 859.34 pounds for the control). Authors concluded that community based leg ulcer clinics with trained nurses using four layer bandaging is more effective than traditional home based treatment. This benefit is achieved at a small additional cost and could be delivered at reduced cost if certain service configurations were used.

Langham, S., Thorogood, M., Normand, C. et al (1996). *Costs and cost effectiveness of health checks conducted by nurses in primary care: the Oxcheck study.* British Medical Journal, 312(7041), 1265-1268.

The present study measured the costs and cost effectiveness of the Oxcheck cardiovascular risk factor screening and intervention programme. Health check and follow up cost 29.27 pounds per patient. Estimated programme cost per 1% reduction in coronary risk per participant was between 1.46 pounds and 2.25 pounds; it was nearly twice as much for men as women. The cost to the practice of implementing Oxcheck-style health checks in an average sized practice of 7500 patients would be 47,000 pounds, a proportion of which could be paid for through staff pay reimbursements and health promotion target payments. This study highlights the considerable difficulties faced when calculating the costs and benefits of a health promotion programme. Authors highlighted that economic evaluations should be integrated into the protocols of randomised controlled trials to enable judgments to be made on the relative cost effectiveness of different prevention strategies.

Anttila, S.K., Huhtala, H.S., Pekurinen, M.J. et al (2000). *Cost-effectiveness of an innovative four-year post-discharge programme for elderly patients--prospective follow-up of hospital and nursing home use in project elderly and randomized controls.* Scandinavian Journal of Public Health, 28(1), 41-46.

The current study assessed the cost-effectiveness of a post-discharge programme on the use of hospital care and the continuity of care in an elderly cohort discharged from the city hospital. During the follow-up the costs of university hospital care decreased by 52% in the intervention group and by 24% in the control group per patient year, compared with the costs in the year preceding the project. There was also a tendency in the intervention group for the previous non-users of university hospital care to remain non-users during the follow-up. There were no differences in admissions to permanent care in the nursing homes. The intervention group did not make their first contact with the hospitals or permanent care in nursing homes earlier than the control group during the follow-up. The co-operation between hospital and domiciliary care and voluntary workers was well-suited to the innovative care of the elderly people.

Abel and Sherman (1991) pointed out that the use of national health databases help nursing students to gain essential knowledge about the health of the population at large and to develop or continue to refine their research skills.

Hays et al. (2000) argued the effectiveness of public health data to build a decision supporting knowledge base for high-risk prenatal women.

Early socialization in research trough the use of population relevant databases help remove the barriers to the production and dissemination of outcomes data (Hayward et al., 1996).

Ciliska et al. (1999) argued for the use of available data to be used in planning or designing nursing services. Authors reported a shift to increase the proportion of systematically derived knowledge for nursing (Ciliska et al., 1996).

Doyle and colleagues (1998) argued that socialization in research is best when health professional students become research partners in community-oriented primary care. Their model presented a wide range of learning needs in both research and community services directly linked to relevant everyday practice. Providing hands-on educational experience for students enhanced the commitment to research and ensured immediate application of findings.

Kelly (1995) reported community-based research a critical opportunity for student learning as well as a tool for community empowerment in which nurses have a critical role.

Eggert et al. (1994) showed nurses initiating complex, high quality prevention research programs in the community.

Peterson and Schaffer (1999) reported how nurses developed group collaboration combined with enhancing research skills in “service learning”. Service learning is a dynamic partnership between educational institutions and communities resulting in the mutual benefits for both. This article shows an evidence for the trend of many nursing colleges and universities incorporating service learning as an educational strategy into their curricula.

The publication of Rosswurm and Larrabee (1999) described a guide for nurses and other healthcare professionals using a systematic process to help change to evidence-based practice.

The publication by McClarey and Duff (1997) gives a systematic overview of procedures designed to evaluate clinical effectiveness of research publications and presents a guide how to incorporate research findings into clinical practice.

Sullivan (1998) outlines strategies to collect and appraise scientific information and a guide how to change to evidence-based practice in mental health.

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Other related research

Kearney N Campbell S and Sermeus W (1998) *Practising for the Future:Utilising IT in Cancer Nursing Practice.* European Journal of Oncology Nursing 2 (3),169-175.

Hillen EM McGuire MM and Cooper M. (1998) *Computers in Midwifery Practice: A View from the Labour Ward.* Journal of Advanced Nursing 27, 24-29.

MOBILIZING PARTNERS FOR HEALTH

Hitchings (1993) reported a successful intersectoral outreach program in health education between business and nursing.

Lukes and Johnson (1999) showed an example of collaboration between industry, school, and nursing to prevent hearing damage of adolescents as part of community service.

Thomas et al. (1999) provided evidence for collaboration to enhance breast health of women. They pointed out that academic nursing institutions, local health agencies and health industries have extensive experience, knowledge, and resources to share in order to raise awareness about certain health topics or to disseminate information. Such alliances strongly benefited the community and were preferred as models of future healthcare delivery.

There is evidence that academic nursing institutions integrate their service into the community (LeMone et al., 1998, Lough, 1999). The integration provided enhanced responsiveness to the varying needs of the community population that which was met by restructuring education programs.

Hacker and Wessel (1998) cited examples of partnerships between school-based health centers and school nurses, which increased access to care and resulted in better health for children.

Collaborative partnerships provide nursing students with the skills and hands-on experiences they need to work with adolescents in community settings (Juhn et al., 1999).

Hand et al. (1998) reported the outcome of 5 years of experience gained in a national heart attack alert program, which was collaborative effort of nurses and other health professionals to involve patients and the public in achieving better lifestyles.

Varcoe et al. (1993) and Yoder et al. (1997) reported the evidence that innovative partnerships between nursing schools and hospitals or home care agencies lead to better and more relevant services. The knowledge gained through these partnerships was useful to help refine educational curricula.

There is also evidence that nurses foster interpersonal and collegial partnerships with members of other health disciplines (Corser, 1998).

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Randomized Controlled Trials and Meta analyses

Sommers, L.S., Marton, K.I., Barbaccia, J.C. et al (2000). *Physician, nurse, and social worker collaboration in primary care for chronically ill seniors*. Archives of Internal Medicine, 160(12), 1825-1833.

This study examined the impact of an interdisciplinary, collaborative practice intervention involving a primary care physician, a nurse, and a social worker for community-dwelling seniors

with chronic illnesses. From 1992 (baseline year) to 1993, the two groups did not differ in service use or in self-reported health status. From 1993 to 1994, the hospitalization rate of the control group increased, while the rate in the intervention group stayed at baseline. The proportion of intervention patients with readmissions decreased, while the rate in the control group increased. Patients in the intervention group reported an increase in social activities compared with the control group's decrease. This model of primary care collaborative practice shows potential for reducing utilization and maintaining health status for seniors with chronic illnesses.

Fleming, V.E. (1998). *Women and midwives in partnership: a problematic relationship?* Journal of Advanced Nursing, 27(1), 8-14.

This article showed that beliefs, which underpin the practice of the midwives, are not always the same as those of their clients. Supporting evidence is provided for three major areas in which contradictions were found: work of midwives, the knowledge for practice and reflections on the experience. The author recommended that midwives become more visible by removing themselves from hegemonic structures, valuing alternative forms of knowledge and respecting the knowledge of their clients.

Wheeler, J.A., Gorey, K.M., Greenblatt, B. (1998). *The beneficial effects of volunteering for older volunteers and the people they serve: a meta-analysi.* sInternational Journal of Aging and Human Development, 47(1), 69-79.

This meta-analysis of thirty-seven independent studies inferred that elder volunteers' sense of well-being seemed to be significantly bolstered through volunteering and that such relatively healthy older people represent a significant adjunct resource for meeting some of the service needs of more vulnerable elders, as well as those of other similarly vulnerable groups such as disabled children.