

**Training of Rehabilitation Nurses: Effect on Selected Health
Parameters of Clients with Mechanical Low Back Pain**

Thesis

*Submitted for Partial fulfillment
Of Doctorate Degree in Nursing Sciences
(Community Health Nursing)*

By

Fatma Khalil Abd El-hameed

(M.Sc. Nursing, 2007)

**Faculty of Nursing
Ain Shams University**

(2010)

Training of Rehabilitation Nurses: Effect on Selected Health Parameters of Clients with Mechanical Low Back Pain

Thesis

*Submitted for partial fulfillment
Of Doctorate degree in nursing sciences
(Community Health Nursing)*

Supervisors

Dr. /Suheir A. Mekhemar

*Professor of Community Health Nursing
Faculty of nursing - Ain shams university*

Dr. / Ahmad Fathy Mohamed Genedy

*Professor of Rheumatology and Rehabilitation-
Military Medical Academy- Consultant of Rehabilitation Medicine- Armed
Forces- Head, Manger of Physical Medicine and Rehabilitation Center
Military Medical services*

Dr. /Amira Ahmad El Beih

*Professor of Community Health Nursing
Faculty of Nursing - Ain Shams University*

Dr. /Hanaa Abd. Alhakeem Ahmad

*Professor of Community Health Nursing
Faculty of Nursing - Ain Shams University*

(2010)

تأثير تدريب ممرضات التاهيل على مؤشرات صحيه مختاره لدى
العلاء ذوى
ألم اسفل الظهر الميكانيكى

رسالة توطئة
للحصول على درجة الدكتوراة فى علوم التمريض
(تمريض صحة المجتمع)

مقدمة من الطالبة/ فاطمة خليل عبد الحميد عثمان

(٢٠١٠)

تأثير تدريب ممرضات التأهيل على مؤشرات
صحيه مختاره لدى العملاء ذوى
ألم اسفل الظهر الميكانيكى

رسالة توطئة
للحصول على درجة الدكتوراة فى علوم التمريض

(تمريض صحة المجتمع)

مقدمة من الطالبة/ فاطمة خليل عبد الحميد عثمان

تحت اشراف

لواء طبيب.د/ أحمد فتحى محمد
جنى

استاذ الروماتيزم و الطب الطبيعى والتأهيل
بالأكاديمية الطبية العسكرية- مستشار التأهيل والطب
الطبيعى بالقوات المسلحة - مدير المركز الطبى
العلاجى الرياضى والتأهيل بالحلمية

أ.د/ سهير عبد الحليم مخيمر

استاذ تمريض صحة المجتمع
كلية التمريض
جامعة عين شمس

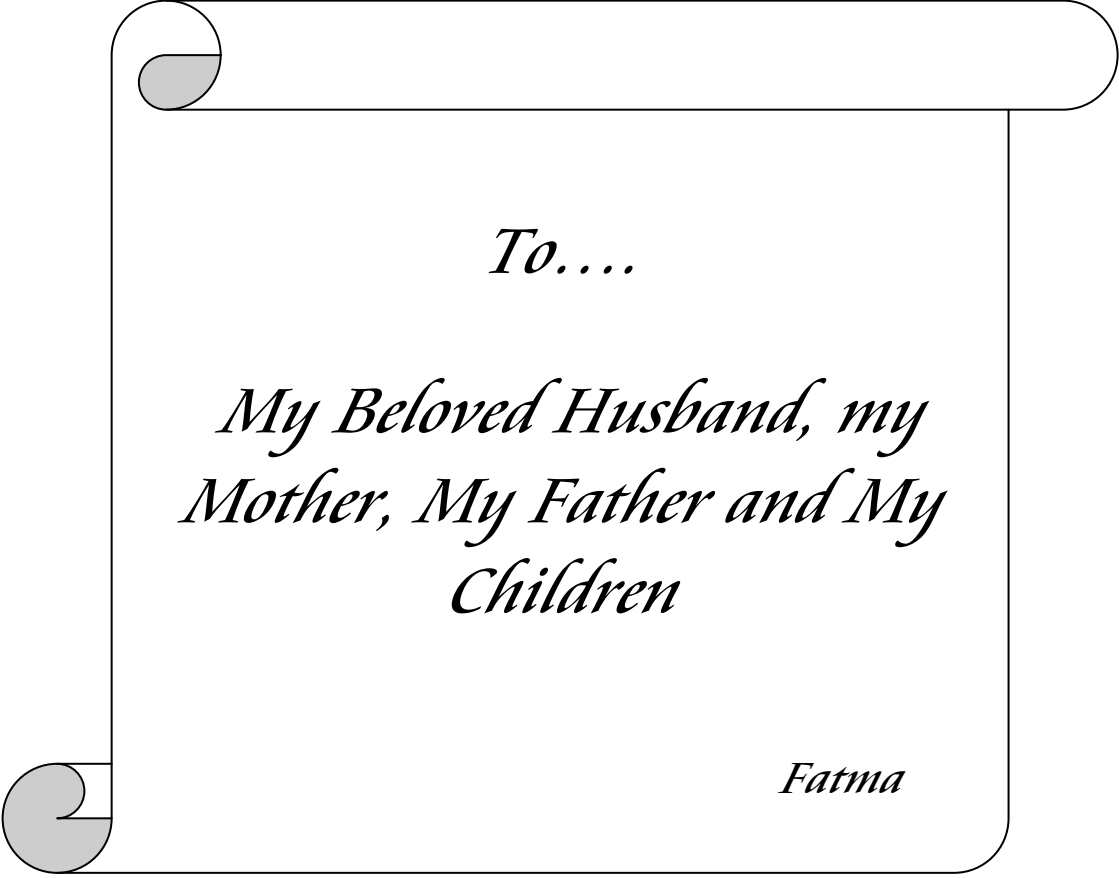
أ.د/ هناء عبد الحكيم أحمد

استاذ تمريض صحة المجتمع
كلية التمريض - جامعة عين شمس

أ.د/ أميرة أحمد البية

استاذ تمريض صحة المجتمع
التمريض - جامعة عين شمس

(٢٠١٠)



To....

*My Beloved Husband, my
Mother, My Father and My
Children*

Fatma

ACKNOWLEDGMENTS

Thanks to **ALLAH**, The greatest of all, to whom I relate any success in achieving any work in my life.

I would like to express my deepest gratitude to **Dr. Suheir Mekhemar**- Professor of Community Health - Nursing - Ain Shams University, who has patiently and with steady hands guided me through this experience.

I would like also to express my appreciation to **General Dr. Ahmad Fathy Mohamed Genedy**, Professor of Rheumatology and Rehabilitation - Military Medical Academy- Consultant of Rehabilitation Medicine - Armed Forces- Head, Manger of the Physical Medicine and Rehabilitation Center Military Medical services for providing me with an opportunity to fulfill a goal and a dream.

I would like also to express my appreciation to **Dr. Amira Ahmad Elbeih**, Professor of Community Health Nursing, Faculty of Nursing, Ain Shams University, who as a mentor and friend provided technical and moral support to this project, who coached, encouraged and provided the support needed, She has kept me rooted firmly to the task, but allowed me to fly away to my dream.

And last, but not least to **Dr. Hanaa Abd. Alhakeem**, Professor of Community Health Nursing, Faculty of Nursing, Ain Shams University, for her kindly help, encouragement and support.

Fatma Khalil



إسم الطالبه : فاطمة خليل عبد الحميد عثمان
الدرجة العلميه : دكتوراه فى علوم التمريض
القسم التابع له : تمريض صحه المجتمع
إسم الكليه : كليه التمريض
الجامعه : عين شمس
سنه المنح : ٢٠١٠ م



رساله دكتوراه

إسم الطالبه : فاطمه خليل عبد الحميد

عنوان الرسالة : تأثير تدريب ممرضات التأهيل على مؤشرات صحيه مختاره
لدى العملاء ذوى ألم اسفل الظهر الميكانيكى

إسم الدرجة : دكتوراه فى علوم التمريض

لجنه المناقشه

أ.د./ سهير عبد الحليم مخيمر : أستاذ تمريض صحه المجتمع

كلية التمريض – جامعه عين شمس (عن المشرفين)

أ.د./ هناء عبد الحكيم أحمد: أستاذ تمريض صحه المجتمع

كلية التمريض – جامعه عين شمس (عن المشرفين)

أ.د./ فاتن خيرت الجندى : استاذ ورئيس قسم تمريض صحه المجتمع

كلية التمريض – جامعه عين شمس (ممتحن داخلى)

عميد طبيب د./ أيمن السيد الشافعى : استشارى الروماتيزم و الطب الطبيعى والتأهيل

بالقوات المسلحه (ممتحن خارجى)

تاريخ البحث : / / ٢٠٠

الدراسات العليا

ختم الاجازه : أجازت الرسالة بتاريخ : / /

موافقه مجلس الجامعه

/ / ٢٠١٠

موافقه مجلس الكليه

/ / ٢٠١٠

شكر

أتقدم بالشكر الجليل بعد المولى عز وجل الى الساده الاساتذه الكرام الذين مدوا اليّ يد العون والمساعدته حيث قاموا بالاشراف على هذه الرساله وهم:

أ.د/ سهير عبد الحليم مخيمر

استاذ تمرير صحه المجتمع كليه التمريض – جامعة عين شمس

أ.د/ أحمد فتحي محمد جنيدى

استاذ التأهيل والطب الطبيعى بالأكاديمية الطبية العسكرية- مستشار التأهيل والطب الطبيعى بالقوات المسلحة - مدير المركز الطبى الرياضى التأهيلي بالحلمية

أ.د/ أميرة أحمد البية

استاذ تمرير صحه المجتمع كليه التمريض – جامعة عين شمس

أ.د./ هناء عبد الحكيم أحمد

استاذ تمرير صحه المجتمع كليه التمريض – جامعة عين شمس

كما اتقدم بخالص الشكر الى كل من ساهم فى إخراج هذه الرساله على هذا النحو .

Introduction

Rehabilitation nursing (RN) is a person-centered, active and creative process that involves adaptation to changes in life circumstances; nurses play an important role in the physical, psychological aspects of rehabilitation process and adaptation. Nurses have a unique place within the rehabilitation team as they have contact with client and this provides unique opportunities for client observation, education and the therapy during contact time (**Richard et al., 2007**) this emphasizes the importance of rehabilitation nurses' training to provide the necessary care to their clients (**Hills, 2006**).

Training is defined as a set of activities designed to develop specific skill levels of nurses who are required to perform public health prevention functions or tasks (**Bonnie et al., 2009**). The continuing evolution of public health problems raises new challenges to nurses and other health personnel, requiring constant update and enhancement of their knowledge and skills training, professional development, and career development (**Anema et al., 2007**).

Mechanical Low Back Pain (MLBP) exists in every culture and country. It is estimated that 80% of all human beings experience mechanical LBP at some point in their lives (**Nelson, et al., 2007**). The occurrence of MLBP continues to represent a significant burden on health care and society, not only in the monetary expenditure, but also the loss of productivity in the work place, in addition to the time clinicians spend in evaluating and re-evaluating the client. The impact of mechanical low back pain as a health, social and economic burden is heavy (**Dagenais et al., 2007**).

The majority of indices of physical health parameters and some psychological scales build their operational definitions of health on the concept of functioning and to what extent is the person able to function normally and to carry out his or her usual daily activities; Alterations in function should be assessed with the person's normal level of functioning in mind (**Rogers, 2009**).

Causes of MLBP are generally attributed to an acute traumatic event, they might include cumulative trauma as an etiology. The severity of an acute traumatic event varies widely, from twisting ones back to being involved in a motor vehicle collision. MLBP due to cumulative trauma tends to occur more commonly in the workplace (**Hills, 2006**). According to the **United Nation (2005)**, many, if not most people, will acquire a disability at some time in their life due to physical injury, disease or ageing (**Springhouse, 2006**).

Aim of the study

This study aims to identify the effect of rehabilitation nurses' training on selected health parameters of clients with mechanical low back pain through:

1. Assessing nurses' training needs.
2. Applying of On-the-Job program for the nurses based on their identified needs.
3. Studying the effect of the interventional training program on nurses' knowledge.
4. Studying the effect of the interventional training program on nurses' competence level.
5. Assessing the effect of the interventional program on clients' selected health parameters and satisfaction.

Research Hypothesis

1. Training of rehabilitation nurses will positively affect their knowledge and competency level in conducting rehabilitation nursing skills for MLBP sufferers.
2. Training of rehabilitation nurses will positively affect selected health parameters of clients with mechanical low back pain.

Rehabilitation nursing

Historical background

Rehabilitation principles were applied by Florence Nightingale, who documented, in her seminal 1859 book, *Notes on Nursing: "What Is It and What It Is Not"* that; allowing clients to do for themselves was an important nursing intervention (**Punnett, et al., 2005**); The 1940s saw significant growth in the field of physical medicine. Psychosocial treatment and vocational training were introduced in British "Air Force convalescent centers.

Rehabilitation begins to be mentioned on 1894 when a group of British's nurses established an association of rehabilitation therapy which called "Chartered Society of physiotherapy" to prepare therapists. With the World War I, rehabilitation begins to emerge to rehabilitate the sick soldiers (www.nara.com/vb/showthread).

By 1945, there were eight spinal cord injury units in the United States. The specialty of rehabilitation medicine became firmly established, and, by 1946, physiatrists were being trained in rehabilitation medicine (**Datta et al., 2005**). Alice Morrissey, was the author of the first textbook in the field, titled *Rehabilitation Nursing*; (**Nelson et al, 2007**).

In Egypt, rehabilitation begins to emerge after the 1956 war, were the Israel side use Napalms bombs against the Egyptian soldiers which caused serious burns (**Abd Al Wahab, 2003**). Rehabilitation begins to be a specialty practice that was organized as a nursing specialty in 1964. On August 1973, the first Egyptian association for providing rehabilitation services for injured and disabled military personnel was established called "Al waffa Wa Al amal" in a form of a city for providing rehabilitation services in Egypt (**Abd Al Wahab, 2003**).

Definition: Rehabilitation nursing is a dynamic and creative process designed to facilitate the highest level of function of clients situated in their environments, where "functional capacity" reflects the extent to which individuals can engage in dynamic interaction with the environment (**Bonnie et al., 2009**). It begins with immediate preventive care in the beginning stages of accident or illness, is continued through the restorative stage of care, and involves adaptation of the whole being to a new life (**Pryor et al., 2007**).

Philosophy: Rehabilitation nursing is based on the philosophy that every individual, regardless of illness or disability, has the potential for a

productive, dignified and personally meaningful life (**Pryor and Smith, 2002**). The rehabilitation philosophy includes not 'doing for' the client because of their disability, but focuses on enabling clients to empower and take control over what is happening to them within the limits of safety (**Pryor and Smith, 2002**). Whilst 'doing for' the client is quicker it may result in increased dependency, poor self worth and poor self esteem (**Ora, 2003**).

The rehabilitation nurse employs education and supportive strategies based on rehabilitation philosophy, goals, and concepts (**Hoeman, 2002**). Rehabilitation can take place in various settings including at home through the home health care, in an out-patient therapy facility, in a skilled nursing facility, in a comprehensive out-patient rehabilitation facility, in an inpatient rehabilitation facility, or in a long-term care hospital (**Hoeman, 2002**).

Rehabilitative nursing care may be provided by:

- Home care Rehabilitation Nursing
- Gerontological Rehabilitation Nursing
- Rehabilitation nurse manager
- Advanced practice Rehabilitation Nursing
- Rehabilitation nurse case manager, researcher and educator. Goals of Rehabilitation Nursing were summarized by **Pryor and Smith (2002)** as: Maximization of self determination - restoration of function - optimization of lifestyle choices for their clients. Rehabilitation nurses view the client, his/her family and significant others as their clients and facilitate the attainment of these goals by working in partnership with their clients to set client-centered goals and priorities, plan care and evaluate progress. Rehabilitation nurses also support their clients to adjust to ongoing limitations.

To achieve these Goals, Rehabilitation Nurses focus on:

- Maintenance of existing abilities and roles.
- Promotion of health.
- Prevention of further impairment of body structures and function.
- Prevention and reduction of activity limitations.
- Restoration of body function and social roles.
- Minimization of participation restrictions (**Chapman and Kimberly, 2009**).

Principles of Rehabilitation Nursing were emphasized by **Johnston, (2010)** that: Health care should be client centered and adopt a whole person

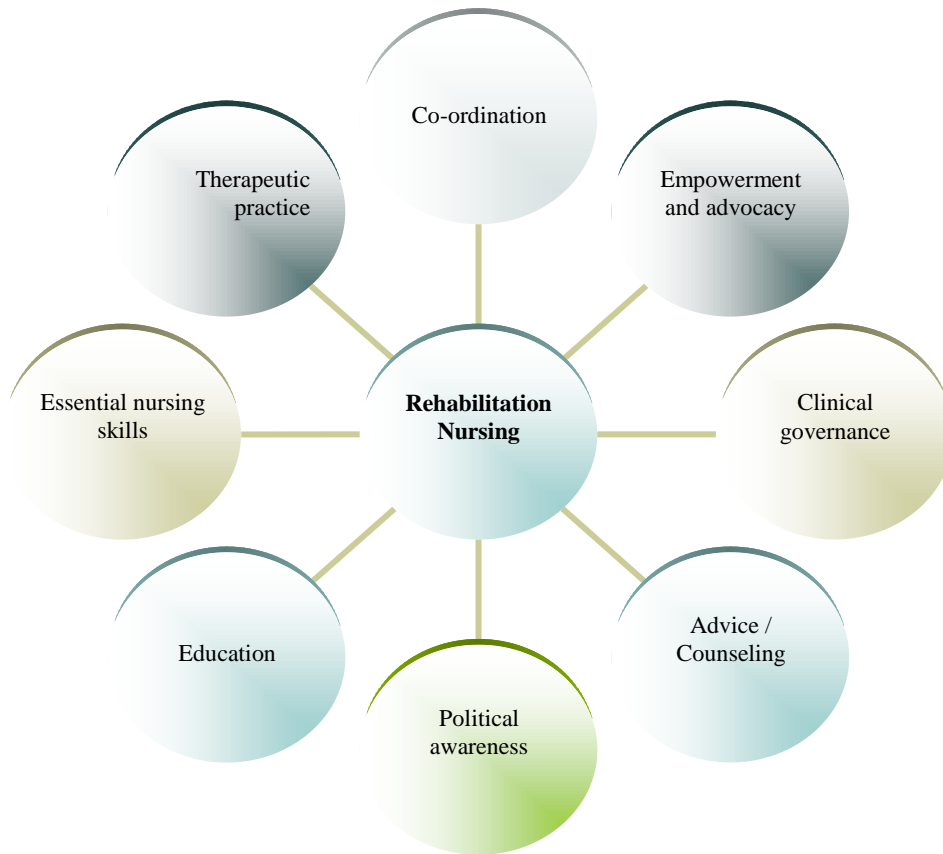
approach; Health care professionals should move towards and enable an equal partnership in care with clients, their families. Goal setting informs the rehabilitation plan and allows the goals to be focused on the client rather than just health professionals, where health care should be based on getting to know the individual person, maximization of self –determination is central to the success of the rehabilitation program. Involvement of family, significant others and career can enhance the rehabilitation process (Pryor &Smith, 2002).

Scope and Standards of Practice: According to The Association of Rehabilitation Nurses (ARN) 2005, Nursing Standards of Practice, describes a competent level of professional nursing care and professional practice common to all rehabilitation professional registered nurses engaged in clinical practice. The Standards of Practice describe a competent level of nursing care as demonstrated by the nursing process, and the Standards of Professional Performance describes a competent level of behavior in the professional role that include activities related to quality of practice, education, professional practice evaluation, collegiality, advocacy, collaboration, ethics, research, resource utilization, and leadership (ARN, Standards and Scope, 2008).

Rehabilitation Team: Rehabilitation is contingent on a team approach. The collaborative rehabilitation team facilitates care in a coordinated and cost-effective manner. The rehabilitation professional registered nurses role on the rehabilitation team is vital. Members of the rehabilitation team will vary, depending on the practice setting and the disability, but the client and family are always essential core members of the team (Nelson et al, 2007).

Framework of rehabilitation nursing

This simple framework identified eight categories where rehabilitation nurses can influence care.



Framework of rehabilitation nursing: Adapted from (**Pryor and Smith, 2002**).