Deanship of Graduate Studies

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Knowledge and attitude of nurses toward stroke rehabilitation in two Governorates in Palestine

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2. Internal Examiner: ……... Signature: …….
3. External Examiner: …….. Signature: ….....

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Dedication

I dedicate this thesis to my precious family members.

I also dedicate this work to the spirit of Palestinian martyrs and to the prisoners of freedom in Israeli jails, and for every nurse who has taught me as a public health student.

Declaration

I certify that this thesis submitted for the Master degree of Public Health is the result of my own research, except where otherwise acknowledged, and that this thesis or any part of the same material has not been submitted for a higher degree to any other university or institution.

Name: ----------

Signed: ----------

Date: / / .

Acknowledgements

I am grateful to God for the excellent health and well-being that was necessary to complete this thesis. Without faculty and colleagues, this thesis would not have been possible. Although it would be impossible to name all of the people individually, with all of the events that contributed to the success of this project and the accomplishment of a remarkable educational and experiential milestone, I know, value and appreciate each and every one.

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A warm appreciation is expressed to my family, my husband, respectful parents and brothers who have continuously supported me during my entire educational journey, what a pleasant journey it has been. I would also like to give a special thanks to my friends for their supportive and patient attitude. It was most truly welcoming.

I want to thank the Arab Society Hospital as well as Abu Raya rehabilitation centres for enabling me to conduct my study at their institutions.
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Abstract

Background:

After heart disease, stroke is reported to be the second most common leading cause of death in the world. The impact of stroke on patients may range from mild to severe. Some patients may need rehabilitation, which is the process a patient goes through whereby the patient is helped to return to a healthier, more independent life. During rehabilitation, patients are taken care of by nurses. Although nurses have significant roles during this rehabilitation period, such as therapeutic practice, little is known about the knowledge and attitude of Palestinian nurses towards stroke rehabilitation. This study is aimed at investigating nurses' knowledge and attitude regarding their roles during the care of stroke patients while in rehabilitation.

The method:

The study used a quantitative, cross-sectional descriptive design, with a self-administrative questionnaire as the data collection instrument. The study was conducted in Bethlehem and Ramallah governorates, including two departments for rehabilitation, which included 107 nurses.

The results

Study findings showed that nurses have inadequate knowledge about the basic principles of rehabilitation for stroke patients in the area of patient management. The uniqueness of cases, intensive rehabilitation, the time, and duration it takes a patient to improve are all findings to consider.

In the area of attitude, the current study found that most participants had a passion for providing proper care to stroke patients. However, even though the desire to provide care was strong,

various negative personal impacts were experienced by nurses, including nurses who did not desire to practice additional tasks in their settings and those who prefer to be far from the active rehabilitation process.

It was noted that demographic variables and years of nursing experience did not reveal a relationship with the level of knowledge and attitude.

There is a strong evidence that nurses should develop and integrate stroke-specific rehabilitation knowledge and skills in their practice, as well as additional stroke-specific training to integrate rehabilitation principles in their role and workplace.

ملخص الدراسة

يُشار إلى أن السكتة الدماغية هي السبب الثاني الأكثر شيوعًا للوفاة في العالم بعد أمراض القلب ، وقد يتراوح تأثير السكتة الدماغية على المرضى من خفيف إلى شديد ، بحيث يحتاج المرضى إلى إعادة تأهيل يمكن وصفها بأنها عملية يساعد الفرد في العودة إلى حياة صحية ومستقلة ومفيدة. على الرغم من أن الرعاية التمريضية أثناء التأهيل لها أدوار رئيسية تشمل الممارسة العلاجية ، إلا أنه لا يُعرف الكثير عن معرفة طواقم التمريض في فلسطين ومواقفهم من إعادة تأهيل السكتة الدماغية. لذا هدفت هذه الدراسة إلى استكشاف معرفة وتوجهات طواقم التمريض فيما يتعلق بدورهم في تأهيل المرضى بعد الإصابة بالسكتة الدماغية.

منهجية البحث: استخدمت الدراسة التصميم الوصفي الكمي المقطعي، وقد أجريت في محافظتي بيت لحم ورام الله ، في مركزين لإعادة التأهيل شملت 107 ممرض وممرضة ، وتم اجراء الدراسة باستخدام استبيان ذاتي التطبيق.

النتائج: بينت النتائج، أن لدى طواقم التمريض معرفة ضعيفة حول مبادئ أساسيات إعادة التأهيل لمرضى السكتة الدماغية في مجال تقديم المشورة للمريض ، تفرد الحالات ، إعادة التأهيل المكثف ، وقت ومدة تحسن المريض. كما أن طواقم التمريض لا تتلقى توجيها جيدا في جميع بيان دور التمريض في إعادة تأهيل السكتة الدماغية ، فهم لا يعتبرون أنفسهم يلعبون دورًا نشطًا.

في مجال اتجاهات التمريض ، وجدت الدراسة الحالية أن معظم المشاركين لديهم شغف لتوفير رعاية جيدة لمرضى السكتة الدماغية. ومع ذلك ، على الرغم من أن الرغبة في توفير الرعاية كانت قوية ،

فإن العديد من المؤثرات الشخصية السلبية واجهتها التمريض حيث انهم لا يرغبون في ممارسة مهام إضافية ويريدون أن يكونو بعيدين عن عملية تأهيل المرضى.

وقد لوحظ أن المتغيرات الديموغرافية وسنوات الخبرة لم تثبت وجود علاقة مع مستوى المعرفة والاتجاهات

هناك أدلة قوية على أن طواقم التمريض يجب أن تطور المعرفة والمهارات في مجال التأهيل للسكتة الدماغية في ممارستهم، ويحتاجون إلى مزيد من التدريب.

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List of Abbreviations

ANOVA	Analysis Of Variance
ATP	Adenosine Triphosphate
CRRN	Certified Registered Rehabilitation Nurse
CVA	Cerebro-Vascular Accident
PCBS	Palestinian Central Bureau of Statistics
SIGN	Scottish Intercollegiate Guidelines Network
TIA	Transient Ischemic Attack
WHO	World Health Organization
LOS	Length Of Stay
SPSS	Statistical Package of Social Science

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Chapter one: The introduction

1.1 Introduction

Stroke is reported as the second commonest cause of death in the worldwide, after heart disease, accounting for 10% of overall fatalities (World Health Organization (WHO, 2013a). It is a major health problem, affecting about fifteen million people in the world each year.Of these, about five million and seven thousand die, and 87% of these deaths occurs in low- and middle-income countries (WHO, 2013a). WHO predicts that one in six people worldwide will suffer from a stroke in their lives (WHO, 2013a)? In addition, stroke is one of the most common causes of long-term disability in adults (Feigin, et al., 2014). Although many advances have been made in primary prevention and acute care of stroke survivors, the emotional, social, and physical needs in the long term are unquestionably high (McKevitt, et al., 2011; Pollock et al., 2012). In fact, 25% of the annual strokes reported in the United States are recurrent (Furie, et al., 2011). Also, "silent" strokes may precede asymptomatic stroke, leading to mild cognitive impairment, and the "silent" strokes are usually not included in the estimated incidence rate (Leary & Saver, 2003). In the United Kingdom, approximately 110,000 people have a stroke each year, which is one of the leading causes of adult physical disability (Chapman & Bogle, 2014). In Canada, nearly 62,000 people suffer from a stroke or Transient Ischemic Attack(TIA) and are hospitalized for treatment each year (Eskes, et al., 2015). The annual cost of stroke is approximately 3.6 billion USD, comprising healthcare costs and loss of economic output (Krueger, et al., 2012).

The burden of stroke in Asia is particularly severe. Besides, the situation is dichotomized in different regions. In northeastern countries such as Korea, Japan, Taiwan, and in urbanized areas of China, stroke mortality and case fatality have been declining in terms of the control of risk

factors and improvements in stroke care; however, declining stroke incidence is rare, which is in part due to the rapidly ageing population (Hong, et al., 2013; Toyoda, 2013).

In the United States, 795,000 people experience a stroke each year, and the ageing of the population combined with reduced stroke mortality lead to increasing numbers of stroke survivors, which highlights the importance of secondary prevention (Go, et al., 2014).

In the Middle East and North Africa stroke is increasingly becoming a major health problem, with projections that deaths from it will nearly double by 2030. The incidence of stroke varied extensively among studies. Studies reported rates from 29.8 per 100000 people in Saudi Arabia to 57 per 100000 people in Bahrain. Furthermore, the 28-day case mortality rate also differed among studies, ranging from 10% in Kuwait to 31.5% in Iran. The rates are comparable with those in the Western world; however, the population of the region is younger. The Middle East and North Africa are lacking in data on the epidemiology of stroke. There is an urgent need to develop strategies to prevent and better care for stroke patients in the Middle East and North Africa (Tran, et al., 2015).

In Palestine, little is known about the prevalence and incidence of strokes. Sweileh, et al., (2008) detailed an age-balanced rate of stroke of 51 per 100,000, in northern West Bank - Palestine. The most predominant risk factors for stroke in Palestine are diabetes Miletus and hypertension. Nevertheless, there is no data about predominant risk factors in distinction of stroke variable and cases stroke patients, within the general population in Palestine. According to Palestinian Ministry of Health report focus mostly as stroke connected with the reasons for death in Palestine. The level of passing credited to strokes in Hebron was 5% in 1995, 10% in 1996 and 1997, and 11% during 1998 (Palestinian Ministry of Health, 1999), demonstrating a yearly increment in the number of

deaths related to strokes. In 2005 stroke mortality climbed to 11% of aggregated deaths (Palestinian Ministry of Health, 2005).

Rehabilitation can be described "as the process whereby an individual is helped to return to a healthy, more independent life. This form is most pertinent in addiction therapy where, by removing the source of addiction, physical well-being is a possibility. However, physical rehabilitation cannot often return a person to their former state of independence and former abilities as they may have a permanent disability or a chronic health condition. Rehabilitation is no longer seen as what others do "to" a patient but how that patient accepts the support of health professionals, physical aids and social networks to adapt to or cope with a different way of life. There are multiple definitions of rehabilitation in the literature which mirror societal views relating to the person, disability and the role of health professionals" (Young, 2007), and these will be revisited in Chapter Two.

Without intervention for modifiable risk factors, the rate of international deaths is expected to rise to 6.5 million in 2015, and 7.8 million each year by 2030 (Strong, et al., 2008). A stroke is a loss of part of the brain function and its caused by an interruption in blood supply to that part of brain tissue, either through a complete blockage of blood supply by a clot or a thrombus called ischemic stroke, or by a rupture of a blood vessel in the brain called a hemorrhagic stroke. This interruption of blood supply results from oxygen, and nutrient supply harms the brain tissue (WHO, 2012; Stroke Association, United Kingdom, 2011).

The function of the brain, which was already controlled from the affected area, will partially or even wholly be lost. Therefore, stroke is considered one of the major causes of long-term physiological and mental dysfunction in adults. This results in various physical, emotional

and socio-economic consequences on affected patients, their families and medical services worldwide (WHO, 2013b; Zorowitz, et al., 2002).

In general, six months after having a stroke the following physical functions show that limitations were still found in stroke patients: 30% were unable to walk without help, while 26% became dependent on daily living activities. Furthermore, the following dysfunction was observed: 50% of patients suffer from hemiparesis, 46% complain from a deficit in cognitive function, 35% have moderate or severe depression, and 29% developed dysarthria or aphasia (Kelly, et al. 2010).

The dysfunction or impairments in the ability to do normal daily activities and brain functions following stroke lead to significant consequences for the life of patients. This is mostly seen by stroke patients and their families as a personal disaster (Thompson, 2011).

1.2 Nurses role in stroke

Nurses are the keys role for all health care professionals working inside hospitals and other health care settings, they always provide support to all patients. In their scope of practice nurses perform, process, and plan patient assessments, the intervention of care needs as well as continuous evaluations for the effectiveness of nursing interventions, are always being made. They generally work within a team of other health care professionals, and they are continually being assisted, they perform a range of delegated tasks according to their job description with and without direct supervision. Together, nurses with other health care professional team interact with each other for caring for large numbers of patients (Vega, 2009).

When care is provided for a patient who is sick, complaining of pain, weakness, immobility, or injured, the key priority is to provide comfort for the patient. It is additionally imperative that the patient's body is secured to guarantee that when their medicinal condition

enhances, the patient will be equipped to continue whatever number of already achievable exercises, as could be expected under the circumstances (Mas&Inzitari, 2015). One part should be taken into consideration, which is to verify that the patient is situated appropriately, that the joints are bolstered, remained portable, and weight zones are ensured (Plant, et al., 2016). These nursing implementations might be fundamental to the aversion of weight sours, muscle or nerve harm complications and contractures, such as these could use up a patient's ability, promoting past development-based activity. Medical caregivers and care partners may likewise assist patients with moving into a bed, moving from place to other place (e.g. from chair tobed) and even walking (prepare), utilizing help where it is required. In blend, this activity might be critical to the patient in order to keep them up with their muscle quality, thus, fully supporting them in their daily living activities (Watkins, et al., 2014).

1.3 Health care in Palestine

Palestine has a population of about 4.7 million people in 2015 (UNFPA,2017). The Palestinian area is strongly associated with the conflict with Israel; the individuals living in Palestine have complained and are suffering from consequences resulted from the political conflicts, one of the consequences resulting from the conflict is poor and inadequate health services (Keelan, 2016). The Israeli occupational forces restrict access to health care services and hospitals – e.g. Some patients need specialized care in hospitals that are in East Jerusalem. Restrictions to access these areas is supported by occupational military regulations and orders, special permission is needed, and many patients, especially elderly patients, and extra vulnerable children, do not get access. Other consequences on health care resulted from the conflict is the lack of extensive resources and restrictions on drug storages (PCBS, 2012). Further, in addition to hindering access to HCS, lacking residency intersects with other political, social, and economic determinants of

these women's health and disrupts normal family life. Lacking residency intensifies poverty (via private health insurance and legal fees, permit extensions) and leads to family separations and risky crossings at military checkpoints into the West Bank for medical treatment. Restrictions on freedom of movement engender fear of deportation and precarity .(Daoud, et al., 2018).

The annual years of healthy life lost per 100,000 people from a stroke in Palestine have decreased by 31.4% since 1990, an average of 1.4% a year (PCBS, 2012). Though this has been the trend overall, adjusting the filters at the top of the visualization shows how the rate of annual years of healthy life lost due to stroke has changed over time for men and women for specific age groups in Palestine.

For male, the burden of stroke among Palestinians, as measured in years of healthy life lost per 100,000 men, peaks at age 80+. It harms men at the lowest rate. Women are harmed at the highest rate at age 70+. At 19641 years of healthy life lost per 100,000 women in 2013, the peak rate for women was higher than that of men, which was 18051 per 100,000 men (Baune, 2013).

1.3 Rehabilitation centers in Bethlehem and Ramallah governorates

1.3.1. Bethlehem Arab Society for Rehabilitation hospital

Bethlehem Arab Society for Rehabilitation was founded in 1960 as one of Leonard Cheshire's homes. Nowadays, it is a non-profit non-government organization that is nationally recognized for the comprehensive medical and rehabilitation services it renders to beneficiaries

from different parts of Palestine, particularly those with disabilities, regardless of their gender, age, religion or social class.

Bethlehem Arab Society for Rehabilitation has worked progressively on its commitment to enhancing the overall quality of life for individuals with disabilities and other vulnerable groups, inspired by its mission for their total inclusion into all aspects of community life, its inception has diligently developed innovative programs and services that meet the emerging needs of the Palestinian community.

1.3.2Khalil Abu Raya Rehabilitation Center

Khalil Abu Raya Rehabilitation Centre was established in 1990, the center was designed with a unique, remarkable, intensive care to meet the increasing number of physical disabilities of injured patients, as a result of the Intifada. It is specialized in dealing with Spinal Cord Injuries, as well as different physical disabilities to comply with the Palestinian Community needs of advanced and high-level rehabilitation services.

1.4 Nurses' role in stroke rehabilitation

Nursing objectives and implementations such as these are described broadly as support of the patient's rehabilitation process, although a lot has been written in rehabilitation nursing, little is identified about specific nurses engagement in the process of 'stroke rehabilitation' and the nurses activities are precisely carried out (Bjartmarz, et al., 2017). Existing evidence doesn't articulate clearly the nurses activities and assistants in health care interact with other health care professionals who also working in patient rehabilitation, such as occupational-therapists and physiotherapists. Indeed, although 'working as a team' in general viewed as the cornerstone of

adequate provision of the rehabilitation process, there is little evidence specifically point out how this implemented with patient's rehabilitation (Watkins, et al., 2014).

According to Bartolo, et al. (2012), nurses care during rehabilitation has significant roles, including therapeutic practice, where fundamental nursing skills are applied, such as coordination, education, empowerment, advocacy, political knowledge counseling, clinical governance, and advice. From that, we come to know from the primary roles of nurses, that they are educators and coordinators. They have rational planning and responsibility for each patient. This responsibility includes giving health information to stroke patients and their relatives as well as getting in touch with all the different aspects of patient care, in all the places of rehabilitation care, including acute care, rehabilitation clinics, primary care, and municipalities (Swedish National Board of Health, 2010). O'Connor, et al. (2001) stated that the nurse role rather than providing common interventions in stroke patient's rehabilitation is working as coordinators for the performance and task of other health care professionals or in case of absence of other team members to replace them. In this, specialized rehabilitation nurses do tasks aimed to promote optimum quality of life for stroke patients (Struwe, et al., 2013).

1.5 Disability post-stroke

The effect of a stroke on any given action could be because of a mix of any of the previously mentioned impedances that may prompt a decline, thus, now and then, patients could lose functional exercises day by day (Young and Forster, 2015). These exercises are portrayed as losing the capacity to perform major practical exercises, for example, strolling, dressing, eating, talking, toileting and corresponding.

Therefore, stroke patients often require the help from their caregiver to assist and supervise them with their activities, or even entirely do such activities for them (Geyh et al. 2004). Within the participation level, the effect of a stroke on patients was mentioned by Miller, et al. (2010) as a problem or an issue that prevents the stroke patients from starting or regaining a societal life, such as returning back for working, since a significant number of stroke patients do not go back to work (Miller et al., 2010). The effect of a stroke on the patients could range from minimum impairment to death.

1.6 Rehabilitation post-stroke

The reason for rehabilitation process is to reduce the effects of a stroke on the patient by utilizing a wide range of problem-solving approaches and therapeutic strategies and as well as recovery administrations (Duncan et al, 2005). Concerning conditions like stroke, according to Young and Forster (2007) characterized recovery as "a complex set of processes usually involving several professional disciplines aiming at improving the quality of life for people facing difficulties with activities of daily living caused by chronic diseases". Rehabilitation is a multi-disciplinary procedure that incorporates conveying rehabilitation benefits through multi-disciplinary recovery, by situated experts, such as physicians, physiotherapists, psychologists, nurses, speech therapists, occupational therapists and social workers (Nair & Wade, 2003).

Rehabilitation can be done in various settings, including stroke rehabilitation units, home-based care, specialized generic inpatient rehabilitation centers, and outpatient settings (Young & Forster, 2007: Miller et al, 2010;Duncan et al., 2005). According to Stucki, et al.(2002), rehabilitation defined as a treatment system (to treat disabled body functions and structures); a rehabilitative technique (to help conquer impeded body capacities, action impediments and cooperation confinements); lastly a preventive procedure (preventing further side effects and

inability), particularly at the sub-intense stage where restoration will deal with the useful action level through tending to interest, and useful constraints (Miller, et al. 2010).

Many studies identified that critical improvements in body function and personal satisfaction can be accomplished in patients with stroke after intensive and regular rehabilitation (Rosenberg &Popelka, 2000; Ryan et al. 2006: Milinaviciene, et al. 2007). Although the situation is, around forty percent of stroke patients could have varying degrees of functional limitations (Young and Forster, 2007). Further studies and research are basic on picking up the knowledge into the best practice models of counteractive action, serious consideration, and ideal restoration forms with the possibility to diminish the level of post-stroke disability.

1.7 Statement of the problem

Nurses play a significant role in decreasing disability and death in patients who have been affected by stroke. However, some nurses may not have special knowledge and skills or prepared to deal with the challenges of this complex cases, especially in the rehabilitation process (Mason-Whitehead et al, 2013). Many relationships between performance, practice and measurements were mentioned in the previous studies, indicating how educational preparation strengthens and supports nurses' knowledge and practice of their special task as well as to perform their special roles as team members within multidisciplinary health care team and be accountable for their role in stroke rehabilitation (Lindsay et al., 2012).

Regards to stroke patients care an evidence-based practices are developed and implemented to get the best outcome, it is important to develop and implement specific educational programs for nurses to keep them updated with basic knowledge, skills and last evidence-based practice related to stroke rehabilitation, allowing nursing staff to perform a pivotal role as team member in

rehabilitation process in prevention and awareness for current and future patients problems in stroke. Over times, a new area of research focused on a significant links between specialized nurses in rehabilitation related to the health care of patients with stroke specific results in the branch of stroke rehabilitation (Green et al. 2011). Specific education and research on the causes, treatment and prevention of stroke are important to improve outcomes of patients and to decrease the burden of this disorder on the healthcare system (McCormack & Reay, 2013). Ongoing maintenance of skills, education and clinical application are important for success of learning and for assessment and evaluation development (Gocan& Fischer, 2008). Stroke specialized hospitals or centers offers educational preparation for nurses to identify, assessment, monitoring and evaluation of the quality of decisions that directly impact patient health outcomes.

1.8 Significance of the study

A brief review of previous studies and researches, the literature showed that little data and researches related to what is required as well as what the knowledge and attitude of rehabilitation nurses are. Clarification of the knowledge and attitude for nurses as member of the rehabilitation team of patients diagnosed with stroke, may allow the focused direction of nursing education, inform hospital management, support growing understanding of evidence based practice that all may improve and guide clinical practice

For Practice: The rehabilitation nurses work closely with other healthcare team members in the care of stroke patients; they are ideally working toward positive impact in all aspects of patient care to get optimum outcome. This study may identify the clinical practice role of nurses in prevention measurements and health promotions of stroke patients in rehabilitation.

For Research: according to literature review there is very little nursing research related to the knowledge and attitude of the nurses about stroke rehabilitation. This study may assist in provide evidence-based solutions for clinical practice, education and policy development and identifying possible areas of future research. Also, it will be database for future research in topic among Palestinian nurses.

For Education: While maintaining contact with current issues in nursing and the community, Nursing preparation and education should be evidence-based, and the challenges of conducting and promoting health for stroke patients is essential, being an adequate preparation for nurses in clinical practice. If a nurse is inadequately prepared in nurse training, the implementation of education programs may be needed. This study provides information regarding the area of the deficit on the knowledge of rehabilitation nurses about stroke rehabilitation; likewise, it may assist in the identification of educational needs.

For Policy development: Policy development and changes to existing policies arise from the identification of the areas that are of concern within clinical practice. Once these concerns have been substantiated by research, an evidence-based policy can be developed in order to achieve changes in the practice of nursing. Indeed, understanding the knowledge and attitude should increase the knowledge of policymakers, eventually leading to the development of a nursing stroke education program which could be a sustainable program model that can educate nurses in stroke centers.

1.9 Aim of the study

To investigate nurses' knowledge and attitudes regarding rehabilitation roles during the care of patients after stroke.

1.10 Objectives of the study

- To assess the level of knowledge regarding stroke rehabilitation for nurses working in two selected governorates rehabilitation facilities in Palestine.
- To identify the nurses attitudes of practice regarding stroke rehabilitation in two selected governorates rehabilitation facilities in Palestine .
- To identify the relationship, if any, between demographic variables with knowledge and attitudes of nurses working in two selected governorates rehabilitation facilities in Palestine.

1.11 Research questions

- What is the level of knowledge of stroke rehabilitation nurses working in selected rehabilitation facilities in two governorates, Palestine?
- What is the nurses' attitudes toward stroke rehabilitation while working in rehabilitation facilities in two governorates, Palestine?
- What are the significant differences between the knowledge and attitudes of rehabilitation nurses and demographic variables?

1.12 Hypothesis

- There are no statistically significant differences between the participant's level of knowledge and age at a level of significance $\alpha \leq 0.05$
- There are no statistically significant differences between the participant's level of knowledge and experience at a level of significance $\alpha \leq 0.05$
- There are no statistically significant differences between the participant's level of knowledge and Academic degree at a level of significance $\alpha \leq 0.05$

- There are no statistically significant differences between the participant's level of knowledge and work position at a level of significance $\alpha \leq 0.05$
- There are no statistically significant differences between the participant's attitude and age at a level of significance $\alpha \leq 0.05$
- There are no statistically significant differences between the participant's attitude and experience at a level of significance $\alpha \leq 0.05$
- There are no statistically significant differences between the participant's attitude and Academic degree at a level of significance $\alpha \leq 0.05$
- There are no statistically significant differences between the participant's attitude and work position at a level of significance $\alpha \leq 0.05$

1.13 Conceptual definitions

Stroke Rehabilitation Definition

Rehabilitation is a set of interventions needed when a person is experiencing or is likely to experience limitations in everyday functioning due to ageing or a health condition, including chronic diseases or disorders, injuries or traumas. Examples of limitations in functioning include difficulties in thinking, seeing, hearing, communicating, moving around, having relationships or keeping a job. Rehabilitation enables individuals of all ages to maintain or return to their daily life activities, fulfill meaningful life roles and maximize their well-being. Rehabilitation is a highly

person-centered health strategy that may be delivered either through specialized rehabilitation programs (commonly for people with complex needs), or integrated into other health programs and services, for example, primary health care, mental health, vision and hearing programs (Who,2019).

Stroke Rehabilitation is a progressive, dynamic, goal-orientated process aimed at enabling a person with impairment to reach their optimal physical, cognitive, emotional, communicative, and social functional level.

Rehabilitation interventions is a critical component of comprehensive stroke care, being provided in acute and post-acute care settings, as well as in rehabilitation units, clinics, centers, programs, early supported discharge services, and outreach teams. Length of service or stay for stroke rehabilitation varies depending upon the type of service, disability and needs of the stroke survivor and their families, although most stroke rehabilitation interventions will occur within the first six months following a stroke onset. In many stroke patients, these services will continue to be needed beyond the first six months, as rehabilitation is an ongoing process that may transition from inpatient care to the community (Dilworth, 2012).

1.14 Operational definitions

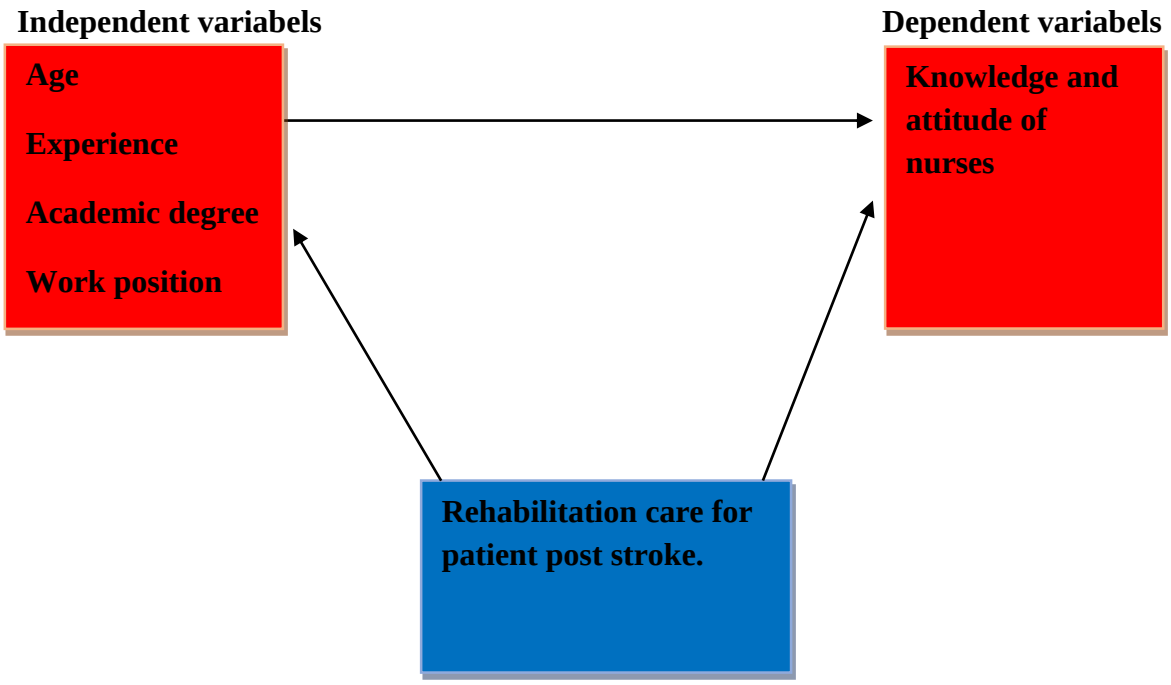
Attitude: The way a nurse thinks and behaves towards stroke patients and rehabilitation. This is measured by 14 questions with the five-point Likert's scale.

Knowledge: The beliefs of the nurses about stroke rehabilitation. This is measured by 20 items, categorized as correct, incorrect or I don't know.

Nurse: The person who has at least a Diploma degree in nursing and is assigned to work in rehabilitation wards.

Stroke patient: The survivor who had a type of cerebral stroke and then, got admitted to rehabilitation medical services.

1.15 Figure 1. Conceptual framwork of the independent and dependent variables that affecting the care of patients post stroke during rehabilitation care treatment .



Chapter 2: Literature review

2.1 Introduction

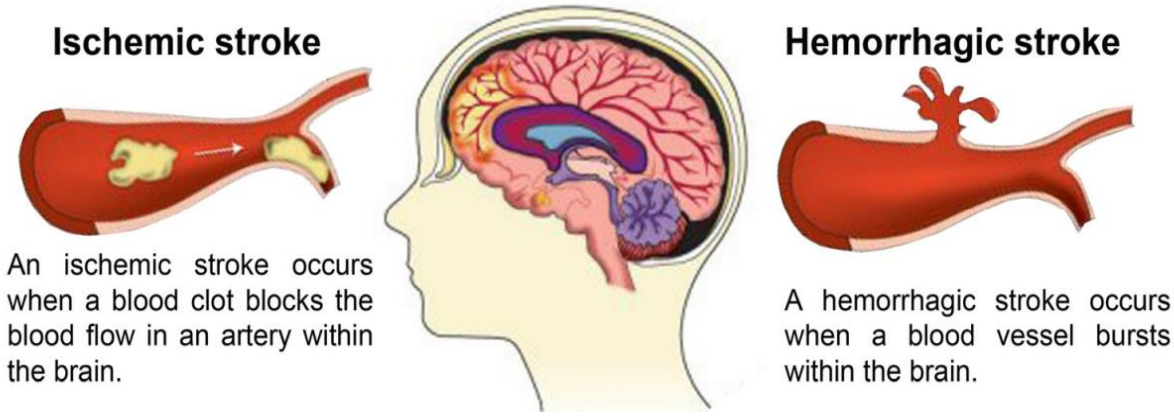
This chapter investigates the relevant literature review and previous studies related to the key terms distinguished in chapter 1. The literature review provides a solid background in achieving the research project. It helps lay the foundation for the study and can inspire new research ideas. The early literature review of the report provides readers with the background to understand current knowledge about the subjects as well as highlights the importance of the new study.

2.2 Overview of Stroke

Stroke considered one of the significant reasons for death around the globe. In survival patients, most of stroke patients continue their life with neurological deficiencies, this making stroke as one of the significant reasons for handicap and disability worldwide and tremendous socioeconomic burdens. Stroke is characterized as a neurological shortfall caused by a cerebrovascular reason caused by of an obstruction of blood stream to the cerebrum and afterward, named either ischemic or hemorrhagic (Figure 1) (Donnan et al. 2008).

Hemorrhagic stroke is brought about by a seeping inside the brain tissue when artery blast. Diminishing of blood supply in ischemic stroke can result from thrombosis or embolism (Mergenthaler and Meisel. 2012).

Figure 2. Different types of stroke.



*Stroke is classified either ischemic or hemorrhagic. Adjusted from central of diseases control and preventions (*National Center for Chronic Disease Prevention and Health Promotion, *2017)*

2.2.1 Ischemic stroke

Morethan 80% of all strokes are classified as ischemic (Moskowitz, et al,. 2010).

2.2.2 Pathophysiology

Lack of blood flow in brain during ischemic stroke prompts oxygen and glucose insufficiency. As an outcome, a course of cellular and molecules occasions is activated, which resulted in ischemia that cause brain cell damages. In ischemic part, the part affected in the brain immediately influenced by the stroke, the inadequacy in oxygen and glucose prompts vitality disappointment and absence of adenosine triphosphate. Without adenosine triphosphate, neurons can't safeguard their ionic slope over the cell membranes; in this manner, cytoplasmic amassing of sodium and calcium prompts the loss of layer respectability and in the long run cell passing. In the peri-infarct, the tissue encompassing the ischemic center, blood flow is adequately decreased to cause hypoxia and capture physiological capacity. Notwithstanding, it isn't sufficiently extreme to cause irreversible cell damage lead to necrosis.

Also, guarantee blood flow from neighboring tissues keeps the blood stream over the limit. In this way, peri-infarct is a unique region where neuronal harm grows all the gradually and slowly, leaving a period for a helpful chance to safeguard kicking the bucket neurons. The cell passing systems in the peri-infarct region is a functioning procedure for the most part reliant on the initiation of caspase-dependent and caspase-independent apoptotic pathways, which add to deferred ischemic cell damage for the most part because of inflammation and free radical arrangements (Moskowitz, et al. 2010; Carmichael, 2016; Fisher and Saver, 2015).

Spontaneous recovery

Interference of blood flow in ischemic stroke resulted in brain cell damage and hindered cerebrum work. Consequently, stroke patients may encounter weakness or loss of some physical activity or paralysis, memory interruptions, impaired speech or aphasia and loss of vision,

(Moskowitz et al, 2010). However, stroke additionally triggers cautious components to check cell harm, and there is proof for a development advancing part in peri-infarct (Carmichael et al. 2005). In this manner, the greater part of the stroke patients gives some level of unconstrained recuperation over the time following their initial stroke. For example, an investigation on arm weakness indicated that 80% of patients accomplished their greatest arm work inside three weeks and 90% of patients inside nine weeks of stroke beginning (Cramer et al., 2017). Such investigations give data about examples of spontaneous behavior's recovery, but however give constrained bits of knowledge into fundamental molecular and cellular mechanism (Cramer et al., 2017; Nakayama et al. 2018).

Besides, because of the loss of neurons with high specific function, the post-stroke condition is probably not going to be as with pre-stroke condition. Also behavior assessment can't recognize whether improved functional capacities to reflect real recovery, recovery reflects improved execution without thinking about the level of pay or real recovery (Murphy and Corbett, 2009). It ought to be noted again that post-stroke recovery is not completed. Accordingly, understanding the basic components is fundamental to create or improve stroke recovery procedures. Comparative examples of improved useful results are likewise seen in animals' models of stroke. animals' results have indicated that a lot of profoundly intelligent procedures, for example, angiogenesis, neurogenesis and up regulation of fix related molecule, for example inflammatory markers and development factors go about as basic recovery mechanism (Zhang and Chopp, 2015).

2.2.3 Stroke Phases

In view of the pathological properties, the event of unconstrained recovery and timing of post stroke, a stroke is commonly grouped into three clinical phases: the acute phase, the subacute phase and chronic phase (Bernhardt et al., 2017). In animals' research's, post-stroke phase has the same patterns of human patients but in animal are commonly a lot shorter (Murphy and Corbett, 2009). The significant effect includes neuron loss of function, ischemic injury, neuro-inflammation, cerebrum edema, dead cell evacuation, endogenous versatility, improved function, and impairments. The term and neurotic seriousness of the three phases vary among human. The variety relies upon specific conditions of patients, for example, area and size of the stroke, the presence of cerebrovascular collateral blood circulation, age of patient, gender and other comorbidities (Zhao and Willing, 2018). As mentioned before, a cascade of cell and molecular mechanism contributes to post-stroke recovery and stroke pathophysiology to make the final stroke result.

2.3 rehabilitation Nursing

Use of fitting resources is basic in the health care system in order to improve the quality of health care for individuals (IOM, 2001). The Certified Registered Rehabilitation nurse (CRRN) is a restoration or rehabilitation nursing specialty in which nurses exhibited a combination of experience and specific knowledge in this special practice specialty. The estimation of the CRRN was delineated in a multi-site study by Nelson et al. (2007) that demonstrated an opposite relationship between the quantity of CRRNs and Length OfStay (LOS) in inpatient rehabilitation centers. Nelson's examination demonstrated a 6% decline in LOS for a 1% expansion in CRRNs. Rehabilitation nurse work in an assortment of jobs over the continuum of health care services. To help patients in accomplishing maximum outcome, rehabilitation nurses act as case manager, utilizing their ability to effectively communicate between patients and their families, also between

the patient and there habilitation team, Also act as educators for patient and their families, to maximize the outcome of rehabilitation and minimize patients disabilities. They supporting the ideal use of treatments and community resources. in their role as case manager, the rehabilitation nurses incorporate psychosocial factors utilizing disease management concepts. They keep up a point of view of the direction of the ailment and recuperation for complex therapeutic issues and the consideration continuum over the life expectancy with related social insurance assets. The rehabilitation nurses help patients in adjusting to a modified way of life while providing therapeutic situation to patients and their families. The rehabilitation nurses design and actualizes therapeutic techniques that depend on evidence-based nursing practice related to self-care in which promote psychosocial, physical, and spiritual wellbeing. The rehabilitation nurses are an educator, health care-givers, collaborators, and advocator (ARN, 2006).

The rehabilitation nurses give direct health care, health instructions, and training patients on self-care, including safe medications control; nutrition, sleep, wellbeing; and self-care of bowel, bladder and skin care. The rehabilitation nurses perform activities that prevent client's complication, maintenance of client's function and restore client function. They explicitly carry over instructed and working on during treatment. The rehabilitation nurses act as advocators for patients and families (Ronda G, Hughes, 2011).

2.4 Members of Rehabilitation team.

According to Association of rehabilitation nurses (2011) rehabilitation nurses are basic supporters of the patients with disability and chronic conditions, and they are interestingly prepared to lead rehabilitation team coordination, including transitional healthcare. Rehabilitation is furnished by other healthcare professionals who cooperate with another team members to work with the patients

and their families to create focused objectives and goals for patient care plan. This group approach esteems all individuals, with the patient and family in the focal point of the team.

The composition of the rehabilitation team relies upon the necessities of the patients and the healthcare setting. People with chronic and handicapping status must be served in the PAC setting that incorporates the arrangement of administrations to streamline wellbeing results and personal satisfaction. Not every rehabilitation team will comprise of agents from every one of these professions.

2.5 Role of rehabilitation nurse in stroke care (ARN, 2011)

The role of nurses, as mentioned and described, is having a significant role in Communication, vision, and cognition. In detail, let us mention the tasks of nurses.

Communication

The effect of stroke on patients may go from mild to sever. In a general sense, stroke may affect a patient's capacity to successful communication, just as affecting their vision and psychological capacities in an assortment of ways. A stroke patient may encounter correspondence difficulties, for example, dysarthria, dyspraxia and additionally aphasia. As indicated by the Stroke Affiliation (2012), aphasia is a condition liable for the greater part of the language issues of stroke patients. The patient may experience issues in discourse, getting, perusing and composing. The condition might be classified as receptive (failure to understand) or expressive (failure to express themselves). Dysarthria, then again, causes shortcoming of the muscles that are responsible of speech. These may influence muscles of the mouth, voice control muscles, lips tongue, breath. Thusly, this may prompt encounters of slurred discourse or influence voice quality, volume, and clarity (Jones, et al. 2012).

Finally, stroke patients may develop dyspraxia, which makes it hard for a patients to move muscles in the right request and arrangement to deliver the sounds required for clear discourse and way to express words. nurse intervention includes assessment of the patient's condition and assist for referrals to proficient language teachers or speech therapist. nurses may likewise bolster patients with handy activities to reestablish correspondence or obtain elective relational abilities, for example, the utilization of motions, correspondence diagrams just as helping patients to learn and enough utilize electronic assistive devices (Jones et al. 2012).

Vision

Stroke patients may have visual perception issues, presenting noteworthy difficulties in the general recovery process. Issues related with vision may blurred or diplopia, the patient's powerlessness to see with one side, absolute visual deficiency, or failure to read. in general, visual impairment or having low vision may make patients experience huge difficulties exploring their condition. Nurse’s responsibility include additionally for basic alert is taken to help them to adapt to their circumstance to giving help with the evaluation of patient visual perception issues and making proper referrals where essential. Also nurses likewise need to rehearse coming up next: Being affable when acquainting themselves with the patient, utilizing their names and furthermore acquainting the patient with different roommate. They may then considerately enquire what the patient can see without making suspicions just as guaranteeing the patient is remembered for all talks relating to the proposed techniques and restorative plans. After their time with the patient, nurses need to demonstrate to the patient when they are leaving the room and bid farewell. It is likewise important that medical caretakers make sure to put the patients' "identifier sign" over the patient's bed or entryway, make vital changes in accordance with the lighting, make huge names on the patients' pill container or utilize material checking, for example, braille. Patients ought to

be educated before any procedure is done on them, and their own things ought not be pointlessly moved. Where essential, nurses ought to encourage patients to have a radio, talking watch, clock, or braille with the goal that they can likewise monitor time (Barrett &Muzaffar, 2014)

Patients with visual deficiency or low vision ought to be helped with mobility. Nurses need to assist patients with getting focused to their rooms and surrounding environment. As opposed to giving headings from a separation, nurses should start by evacuating any obstructions that might be on the pathways and help walk the patient one next to the other, supporting them to increase tactile prompts while working out separations. At long last, patients with visual deficiency or low vision frequently need a medical attendant's help with dinners. It is basic for medical caretakers to be discernible when perusing the menu to the patient and to enable the patient to browse the assortments expressed. Attendants ought to likewise intentionally depict the substance of the plate, either utilizing the clock-face strategy or different strategies (SIGN, 2010).

Cognition

Among stroke patient cognitive challenges may develop in wide range in post-stroke. The impacts of stroke may make a patient experience issues with memory, data handling, consideration, mental adaptability, thinking, language, arranging, association and direction. For instance, patients may have agnosia, influencing just the utilization of faculties, and along these lines losing their capacity to perceive things. Then again, they may experience the ill effects of prosopagnosia, a condition identified with the patient's powerlessness to recollect individuals; or even endure "disregard", which brings about inability to perceive one's body, making patients chance upon things occasionally.

Stroke may likewise prompt the patients' powerlessness to think, coming about because of a harmed right sided of brain. Other stroke related issues of the memory may include patients' powerlessness to plan or do confused errands, which is called apraxia. It could likewise cause dyspraxia, a condition where the patient may experience issues in doing straightforward errands, for example, dressing or in any event, preparing cup of tea. Stroke patients may likewise encounter troubles with social discernment, making it hard to comprehend social circumstances, for example, pleasing another person's perspective, practicing tolerance, and realizing when to add or contribute in a discussion. Nurses may help with initial screening and appraisal of patients, additional to helping in encouraging cognitive recovery is to assist patients with reestablishing or make up for function lost capacities (Barrett and Muzaffar, 2014; Jones et al. 2012)

Mood and emotional disorders

SIGN (2010) identify that there is relationship between stroke with depression and anxiety related to health care sitting stays, social humiliation or even fear from falling. Also , patients may encounter challenges in controlling their feelings, that lead to uncontrolled tendencies, for example, crying or laughing. Utilizing suitable preparing and help from clinical psycho-therapists, nurses may intercede by performing institutionalized screening evaluations of depression and anxiety and for disturbances in emotions. Furthermore, nurses may help in exhorting the physician on the signs of emotional disturbances identified, alongside the potential complexities which could help in the correct administration of recommended antidepressant drug, after legitimate evaluations and correspondence to patients of their conceivable reactions. The expert multi-colleagues must build up trust with patients and their family members to upgrade the advancement of adapting and recovery process (Theofanidis and Gibbon 2014;Kim 2012; SIGN 2010).

Patient centered care

Understanding patient care centers around improving the patients' wellbeing results whereby the patients are additionally effectively associated with the consideration procedure. nursing care consideration is important for the administration of stroke to advance the personal satisfaction for stroke patients. From three of the chose articles, the nurses consideration was expected to assist patients with adapting to the confusions that were realized by stroke. The nurses focused on exercises that could prevent secondary injury and other complication to the patients. These ways for management of stroke were given by patient’s needs. The team including nutritional management, bladder care, management of pain, pressure ulcer care.

Dietary consideration

nutrition is the way toward taking the nutrients from the foods one eats, because of body needs. Although it must be in appropriate amounts to help give energy to the body and in this manner giving the body reason for good wellbeing. Absence of enough nourishment or insufficient nourishment admission may prompt diminished invulnerability in the body, and the individual might be progressively risk for infections and impairment in mental health status and emotional wellness and could even prompt lower efficiency (WHO 2014; Perry et al. 2014).

Stroke can big impacts and affect a patient eating habits, properties, and process, leading to critical changes in their general nutritional status. According to Perry, et al. (2014), it was seen that many stroke patients experience troubles in keeping up an upstanding stance.

Their chewing and swallowing abilities additionally become halfway or forever weakened because of the loss of affectability in the mouth which could, along these lines, create eating conditions that may prompt inadequate dietary admissions. A swallowing issue referred to as

dysphagia happens because of a stroke in up to 65% of stroke patients. As per thinks about, on the off chance that it isn't all around oversaw, it could prompt poor sustenance and expanded incapacity. Therefore, patients may encounter starvation, consequent loss of body tissues just as muscle and body quality. Poor dietary admission debilitates the patient's safe framework, rendering them increasingly helpless to contaminations and careful recuperating of wounds.

Generally, the recovery and rehabilitation direction of patients is profoundly reliant on nutrition's. Nutritional support among the most basic segments of nursing intercessions for patients in stroke care. As an initial step, nurses complete evaluations and tests to decide whether there is eating or swallowing troubles. The results of these tests and assessment caused and arranged nurses to suitably get ready for mediations that helped patients towards dealing with their nutrition (Perry, 2014)

Many studies mentioned that nurses would encourage patients to help their appetite and thus, diminish nourishment wastage (WHO 2014; Perry et al. 2014). They would utilize material prompts, arranged eating just as support of the ideal conduct to upgrade feeding results. Nurses would likewise exhort patients on appropriate oral cleanliness to destitute mouth contaminations. It was additionally seen that nurses have an obligation to prepare patients with the goal that they could think about their teeth freely. Different nurses, relatives and guardians could likewise be instructed to help patients in such manner. Likewise, nurses would guarantee that patients have fitting false teeth and that their teeth were all around adjusted for simplicity of biting and gulping (Perry 2014; WHO 2014).

Usually, according to studies on stroke patients relieved that patients require help with feeding because of the loss of sensory nerves and mobility (Barrett &Muzaffar 2014; Jones et al.

2012). Nurses ought to guarantee that tables and other essential feeding equipment's are reachable and are properly situated so patients have simple access while sitting. Patients ought to likewise be helped to put on assistive gadgets, for example, glasses, dentures, and portable amplifiers to ease correspondence while eating nourishment. The lighting of the room and the development of practical space encompassing the patient is likewise indispensable to encourage simplicity of development where the patient may require help, or on account of gulping trouble, a dire intercession can help spare a real existence (Barrett &Muzaffar, 2014; Jones et al. 2012).

Management of Bladder and incontinence

Stroke patients can't deal with their bladders because of loss sensation due to nerves damage in the framework which neglect to impart instantly to the mind when the time has come to destitute or pass out. This can have serious social, emotional, and medicinal consequences on a stroke patient's life. Stroke patients encountering challenges in dealing with their bladder may feel socially confined because of dread of unfavorable urine spillage just as awful scents. Likewise, they may, because of incontinence, create restorative confusions, for example, skin breakdown, contaminations and urosepsis. (Jamieson, et al. 2010).

Cournan (2012) advocates for an individualized and exhaustive bladder the executives program and proposes the accompanying intercessions that nurses could attempt to help patients: For one thing, there is a need to lead a far reaching history of a patient's bladder control, symptomatic workup, history of incontinence, treatment just as techniques utilized. This, thusly, turns out to be helpful for the interdisciplinary group while building up their individualized arrangement of care. Also, the utilization of coordinated and incited voiding as a technique of bladder the executives is vital. In coordinated voiding, patients who can't freely perform toileting

exercises are upheld to do as such through the assistance of nurses at explicit time interims, and it is, hence, a procedure started by the parental figure. Then again, brief voiding includes the utilization of uplifting feedback to empower patients when they demand help with the need to void (Cournan, 2012).

Thirdly, washroom preparing was proposed as a procedure to assist people with recovering their feeling of freedom by having patients endeavor utilizing the latrine with no help. A thorough program is instituted to help patients toward figuring out how to get to washrooms utilizing assistive gadgets, for example, grabbers, comes to, pull-ups, notwithstanding dealing with their attire and in any event, performing routine cleanliness rehearses. At long last, there is a need to assist patients with performing pelvic floor works out, which includes a progression of cadenced withdrawals of the pelvic floor muscles. This fortifies the pelvic floor muscles and thusly, decreases incontinence (Peacock, 2010).

Management of pain

The muscle-skeletal impacts of loss of motion and delayed idleness regularly make stroke patients exposed to pain. Patients may have headache, hemiplegic shoulder torment, and focal post-stroke pain. It was seen from the article that it is basic for nurses to start discourse and utilize approved pain evaluation instruments to figure out where patients are encountering pain.

The most ideal method for deciding the pain is through the patients themselves. This can be accomplished by making a protected situation for the patient and afterward bit by bit getting some information about their status and the degree of agony they might be encountering. facial appearances and movements while walking can likewise clarify the degree of pain. On account of dementia stroke patients, nurses should focus on the patient's torment by mentioning a few basic

objective facts. These incorporate watching anxiety, pressure, dread, stressed developments, touchiness, solidness, gripped clench hands, savagery during care, yelling, repulsiveness, crying, firmly shutting of the eyes, quick breathing, or brevity of breath.

Administration of drugs prescriptions to facilitate patient's pain is additionally a basic intervention, remembering the hour of administration, the most proper way and the quickest course to be utilized to control the drug. The affectability and innovativeness of nurses while thinking about patients are fundamental. Utilizing other basic strategies, for example, keeping the patient from noticing their agony through fascinating discussions, incitements, and intriguing games that the patients may appreciate or in any event, giving the patient a nibble they may like, for example, frozen yogurt can help a great deal in pain the board. In any case, a few intercessions may at present get the job done for nurses with respect to torment the executives (Simeone, 2014; Kerr, 2012).

nurses should know about its signs and indications just as incorporate continuous assessment as part of usual practice. Subsequently, nurses need to impart reports about torment to the multidisciplinary group for suitable activity and attempt to advise both the patient and their family members. Likewise, patients ought to be fittingly alluded to authority associates for hemiplegic shoulder torment frequencies. Additionally, nurses are likewise encouraged to utilize helpful situating and dealing with systems to limit torment and forestall confusions (Kerr, 2012).

Caring for pressure area

Caring for pressure area is a basic nursing practice for stroke patients, assessment and evaluation for pressure ulcer is a skill in basic nursing practice that structures a basic part of a standard nursing plan of patient’s care. It isn't remarkable for stroke patients to create pressure wounds ulcer of extensive stretches of fixed status, particularly in clinical setting where not

qualified well and staffing are inadequate. routine skin assessments, just as early portability after the beginning of bed repression, is recommended to avoid the improvement of weight ulcers, atrophies, and joint contractures (Cavalcante et al. 2011;Pinnock,2015).

Nurses need to guarantee that patients have reasonable bed froth sleeping cushions, dispatched with air to avoid pressure injuries if a patient gets debilitated while they are sleeping for an all-encompassing period. They additionally need to routinely change the patient's body position while they are sleeping to keep away from a lot of weight on one region notwithstanding putting delicate pads between the parts that press against one another. Nurses do exercises, for example, review of the skin, cleaning and applying preventive creams or powders on the powerless territories. In a joint effort with physiotherapists, nurses help in building up a rehabilitation program that enables the patient to recapture their development and, in this way, diminishing the time spent on lying or plunking down for a really long time (Cavalcante et al. 2011; Pinnock,2015).

Patients' care plan

In general, there are clinical rules that set out standards for the nature of care in the dealing of general or special disorders and diseases. Such rules are to be found in clinical pathways that give basic proposals to setting out plans of care for stroke patients. It is contended that the result of any clinical mediation for an upgraded personal satisfaction of stroke patients is to a progressively significant degree reliant on how the nursing care conveyance is sorted out (Struwe et al. 2013).

General care plan

A nursing plan of care assumes an essential job in improving the probability for wanted wellbeing results of stroke patients and must, along these lines, be far reaching and exceptionally

individualized. This arrangement of care is a well-explained venture that is created in a few interfaces, from admission to post-release. The arrangement of care stipulates the everyday intercessions and consistent observing of changes in the rehabilitation procedures of stroke patients (Potter and Perry, 2010; Kerr, 2012).

As indicated by (Struwe et al. 2013), it is indicated that in specialized stroke units plays an essential role in caring for stroke patients, and are regularly considered the "highest quality level". They, in any case, alert that specialized stroke units are never an end into themselves. It is suggested that team work in a multidisciplinary approach is all around incorporated inside the association structure of the stroke unit for it to be increasingly successful and productive in releasing its basic function. The multidisciplinary team might be included of rehabilitation nurses, doctors, and other therapists.

Rather than "primary nursing", where one nurse is capable and responsible for specific patient inside a set of time, multidisciplinary team working in cooperative way, each member is liable for a number of patients, frequently with an assigned nurse as a leader for the team. This improves the nature of care for patients since the team can associate around the patient's assessment, shared information and furthermore exhibit exhaustive individual medications, plan of care, and care plan objectives.

A nursing plan of care must anticipate, directly from the hour of admission, a suitable plan that encourages congruity for caring post discharge. Homecare meetings with the multidisciplinary team, with patient, family and home care may shape a basic part of the post-discharge plan. This may encourage basic leadership with respect to the patient's future consideration and conceivable home modifications that are basic for the patient's dynamic wellbeing results. The assigned nurse

may assume a basic job in encouraging how homecare gatherings are sorted out and led, just as huge sickness explicit data is given to both the patient and their families. Data sharing likewise frames a fundamental segment for a nursing plan of care (Kerr 2012; Struwe 2013).

Patient support and guidance

Parke, et al. (2015) states that "self-management is a core of responses for of health care system worldwide", for the most part planned for enabling people with disability conditions to create aptitudes for better management of basic assignments for surviving. This requires a combined exertion and collaboration from nurses, relatives' caregivers, families, and the patient himself.

The significance of positive attitude frame of mind and immovable responsibility among stroke patients is underlined for fruitful rehabilitation. Nurses need to encourage and help stroke patients to look for idealism and optimum health. Patients frequently should be valued and energized for what small amount victories they make. As a rule, nurses can offer wholesome instruction, help with meal plans, conduct change and fabricate certainty and strength among stroke patients to more readily adapt to their condition. This help ought to likewise be stretched out to relatives and different parental figures. Nursing care is a basic support by which patients lean for help while attempting to grapple with the truth of the biophysical and enthusiastic effect of their condition. Patient direction, help and support go far in helping stroke patients building their self-efficacy.

Nursing professional competence

According to Struwe, et al. (2013) in their study relived that staff competence as a basic segment of improved health care quality given by nursing staff. Their study repeated the

requirement for continuous staff training to upgrade nurse specialized in stroke care. Having adequate knowledge, abilities and skills is basic for the early determination of signs, symptoms, and side effects, performing assessment and tests, as well as dealing with stroke complications. Nurses must have and ceaselessly update their insight into quality gauges just as their capacity to start individualized tasks for healthful consideration, torment the executives, release forms, just as other clinical entanglements identified with stroke.

Multidisciplinary team work are likewise viewed as basic as a feature of the profession development of the nursing staff. All together for assigned stroke units to work effectively, the sharing of information among interdisciplinary team is central. Nurses, in this way, should have mindfulness just as to open thankfulness to different orders, Subside (2012).For example, physiotherapy, nutrition, counseled, among others. Valuation for different team members and their commitments upgrades the nurse's capacity to organize better the multidisciplinary group notwithstanding keeping up the cohesiveness in the assigned stroke unit. Subside, (2012) recommended that team building and team working improves abilities of team; upgrades trust and limits potential conflict between team members (Diminish, 2012).

2.7 Previous studies

Previous studies “the role of nursing in the rehabilitation of stroke patients”

Goldstein et al. (2009) conducted a study on stroke associated with know-how amongst uninsured Latino immigrants in Durham, North Carolina, United States. Keeping up with the examined information on stroke risk factors and symptoms is a vital prerequisite for improving prevention and reducing remedy delays. They selected a convenient sample of seventy-six uninsured Latino Spanish speaking individuals from a community primarily based on fitness care

management use from the Durham community, in North Carolina, between January and March 2007. They then concluded that stroke associated information could be particularly negative within the uninsured Latino immigrant population. Novel methods had to improve focus and prevention in this excessive-risk institution.

A study in the USA shows that the prevalence rate of recent or recurrent stroke is approximately 795,000 per year, and stroke prevalence for individuals over the age of twenty years are predicted at 6.5 million. Mortality charges within the first 30 days after a stroke have decreased because of advances in emergency medicinal drugs and acute stroke care, further, there is robust evidence that is prepared to put up-acute inpatient stroke care, brought in the first four weeks with the aid of an interdisciplinary healthcare group, consequence in an absolute reduction in the number of deaths, nurses often play an imperative role in care coordination in the course of the healing continuum. As an example, potential observationalists looked at fifty-four US rehabilitation centers with a geographically stratified random sample which determined that there was a 1% growth inside the number of certified rehabilitation nurses on units which turned into about 6% decrease in patient period of stay, this finding suggests that the cost-added gains of nurses are with this uniqueness of expertise. (Eliane et al. 2010).

According to Hawkey& Williams (2007), nurses are worried in eight predominant roles in rehabilitation care: fundamental nursing competencies, schooling, healing practice, coordination, advocacy and empowerment, clinical governance, counselling, advice and political expertise, which means that nurses are coordinators and informants. They are responsible for making necessary plans for every affected person. This responsibility entails imparting records to stroke survivors, their families and relatives as well as getting in contact with distinctive aspects in the affected patient care, in acute care, rehabilitation clinics, primary care, and municipalities

(Swedish countrywide Board of fitness and Welfare, 2000). Kirkevold (1997) and O'Connor et al. (2001) asserted that nurses' role in rehabilitation care for stroke survivors is to coordinate the performance of other specialists or to update different team participants in their absence, rather than to provide commonplace interventions. In this, rehabilitation nurses play a position in selling the quality of life of stroke survivors (Hawkey& Williams, 2007).

Long et al. (2005) determined that one of the difficulties articulated by the method of nurses is that it became such that patients categorized nurses and different specialists, such as physiotherapists into particular roles.

Rehabilitation has been mentioned as "fingers-off" rather than "fingers-on" nursing (long et al. 2005). However, this fails to acknowledge the role nurses play in the physical components of rehabilitation or even the mental and religious factors of an individual's model, which can be vital factors on patient-focus and holistic technique to care for all patients who are suffering, especially the elderly (RCN, 2009).

Since the 1950s, nursing literature has emphasized the importance of rehabilitation in nursing professional activities (Kirkevold, 2010). Nurses play an essential role, as they are available 24 hours per day and are well placed to oversee rehabilitation activities. These activities are carried out by the patient with the support of his or her family and the multidisciplinary team. Activities should increase in intensity as the patient improves. Education about the benefits of early rehabilitation and their role should be provided for health professionals, health care assistants, patients, and their families. This article stresses the importance of prioritizing stroke rehabilitation in the acute setting and emphasizes the nurse's role. A stroke rehabilitation prescription chart is discussed (Hartigan, 2013). GeetaShiroor (2010), presented a descriptive

study assessing the effectiveness of planned teaching programs on the knowledge and attitude of nurses regarding sensory alterations in patients admitted in the ICU for selected hospitals in Pune city. It showed that the knowledge of nurses regarding sensory alterations for ICU patients before and after planned teaching programs proved that 66% of nurses had a poor knowledge score regarding sensory alterations in patients admitted in the ICU, before the planned teaching program. However, there was a significant increase in the knowledge level of nurses after the planned teaching program regarding sensory alterations in patients admitted in the ICU. 91% of nurses had a positive attitude regarding sensory alterations.

The nurses' role in rehabilitation was the overarching theme to emerge from the research. The concepts of enablement and maintenance independence were extremely important, and participants were aware of the need to encourage residents to do things for themselves.

There is evidence that the contribution of nurses to rehabilitation procedures has now been valued and regarded as an equal contribution, and this was not the case previously, nurses were not valued or regarded as members of the same rehabilitation crew. Furthermore, non-nurse experts have been to some extent ignorant of the expectancies that the nurses held for the nursing role (Benson &Ducanis 1995, Dalley&Sim 2001, Chilvers 2002, long et al. 2002). Furthermore, older adults regularly do not accomplice nursing with the rehabilitative role, and they do not count on nurses to even help (Audit commission 1992, lengthy et al. 2002).

Khemnar (2013) conducted a study to assess the knowledge and attitude of staff nurses regarding the care of unconscious patients, with a sample size of 200 staff nurses, the content validity of the tool was done by experts from the field of nursing, clinical psychology, intensive care medicine, and surgery. The tool consisted of demographic profile, structured knowledge

questionnaire and a modifiable attitude scale, the major findings of the study were; Description of the knowledge score for nurses on the care of unconscious patients proved that 63% of staff nurses have an average knowledge score while 33.50% of staff nurses had a good knowledge score, regarding the care of unconscious patients. Description of the Attitude score for nurses on the care of unconscious patients proved that 63% of staff nurses have highly positive attitude scores, while 37% of staff nurses have moderate positive attitude scores. Description of the Correlation between knowledge and attitude scores for nurses on the care of unconscious patients specified that the increased knowledge scores showed positive attitude scores. Description of knowledge and attitude scores on demographic variables showed that there is no association between the age of the staff nurse, total clinical experience and ICU experience with regards to knowledge, regarding the care of unconscious patients. The knowledge and attitude were slightly better in nurses who were having > 2 years of experience, but it was not statistically proven. Lastly, there was no association between knowledge and frequency for the care of unconscious patients. However, nurses who were caring for unconscious patients weekly showed a more positive attitude.

Chapter three: Research Method

3.1 Introduction

This chapter describes the methods and procedures employed by the researcher including determination of the methodology, study design, description of the sample for the study, and preparation of the study tool, including validity and reliability measures. Also, the chapter includes a description of the procedures employed by the researcher in executing the study and a discussion of the statistical treatments used in the data analysis.

3.2 Study design

The descriptive cross-sectional study design was used to achieve the aim of the study "to investigate nurse's knowledge and attitudes regarding rehabilitation roles while caring for patients after stroke in two governorates in Palestine."

3.3 Study Site and Setting:

This study was conducted in Bethlehem and Ramallah Governorates, including two centers for rehabilitation. These being;

1. Bethlehem Arab Society for Rehabilitation hospital

Bethlehem Arab Society for Rehabilitation is a large health Institution contains nine general inpatients departments: (Surgical, medical, rehabilitation, day care, Pediatrics rehabilitation, intensive care unit, cardiac care unit, emergency and operational department). All these departments may have stroke patients and receive care by nurses with a total number of 120 nurses in the hospital with a diploma and Bachelor degree. The rehabilitation department is the largest one of them it can accommodate thirty-three patients with different cases of stroke and spinal cord Injuries who have disabilities and received nursing and rehabilitation services by

a multidisciplinary rehabilitation team inside the hospital such as physical therapy, occupational therapy, speech therapist, visual rehabilitation, Psychotherapist and social workers.

2. Khalil Abu Raya Rehabilitation Center

Khalil Abu Raya Center in Ramallah works to create integrated, harmonized and comprehensive rehabilitative and medical environment , available to the injured and patients with disabilities in high quality and model could be modeled locally and internationally. It's main goal is to Provide specialized rehabilitation services to patients with disabilities related to stroke (CVA) and spinal cord injuries in the Palestinian society. Abu- Raya has a rehabilitation department for Men and woman who received nursing care with a total number of 16 nurses (different with diploma and bachelor degree). the center contains sections for multidisciplinary rehabilitation team such as physical therapy, occupational therapy, speech therapist, visual rehabilitation, and social worker.

3.4 Sampling & sample size calculation

The population was full time nurses had at least diploma degree working in 2 rehabilitation care facilities in two governorates in Palestine (Bethlehem and Ramallah) the total nurses number of the two facilities were 136 nurses include both males and females. A non-probability convenience sampling technique was used. The sample was based on convenient sampling method because it is difficult to locate all the nurses for the administration of the questionnaire.

The sample size was calculated with the significant level of 5%, a power of 90% population proportion regarding nurses knowledge (50% not sure). The total population size was 136 nurses this means that 91 nurses are needed for this study, the sample size was (N=107).

3.5 Selection criteria

Inclusion criteria:

- Full time nurses had at least diploma on nursing.
- Nurses who had at least 6 months experience of work with stroke rehabilitation patients.

Exclusion criteria:

- Part time nurses.
- Nurses who refuse to participate in the study.

3.6 Data Collection Tool

A self-administrative questionnaire was used as the instrument to collect the data from nursing staffs in both rehabilitation facilities. It is composed of three sections (Annex1): The first section consisted of demographic data which included (age, income, marital status, position, academic degree, and experience). The second section was the knowledge part, adopted from the study of Gibbon, 1998 with 20 items and 3 choices for potential answers (yes, no, I do not know). The third section was the attitude part, also adopted from the study of Gibbon, 1998 where 14 items were included, the answer was of 5 choices, Likert scale (strongly disagree, disagree, neutral, agree, and strongly agree).

3.7 Reliability

Pilot Study

A pilot study was conducted on 10% of the sample size, whereby responses were excluded from the data utilized and analyzed in this study. It was conducted to determine the clarity of the questionnaire, to estimate the time required for the data collection. The reliability scale (Cronbach

alpha) for the knowledge and attitude parts were computed, 0.76 was for the knowledge part, and 0.84 was for the attitude part.

3.8 Ethical consideration and accessibility

The study follows the World Medical Association Declaration of Helsinki Ethical Principles for Medical Research on humans (World Medical Association, 2013).

The Permission from the administration was obtained to access the departments (annex 3). Informed Consent form (annex 4) was used to ensure the agreement for nurses to participate in the study after a full explanation about confidentially, privacy and their right to withdraw at any time during the filling of the questionnaire.

3.9 Fieldwork:

After getting approval from Al-Quds university ethical committee, the approval letter was then taken from the university to the rehabilitation centers then an approval to conduct the study was taken from the head nurse and administration, after that the aim and objectives of the study were explained to the supervisors and nurses before they filled the questionnaire.

Several visits have been conducted to wards in which data collection was conducted to maximize number of nurses included. The data was collected for two weeks during February 2018, throughout the three duty shifts; morning, afternoon and night shifts.

The study purpose was explained to every nurse, ensuring an agreement for participation was given before filling the questionnaire.

The questionnaire was first distributed in the Bethlehem Arab society, and then at Abu-Raya center, data was collected by the researcher only.

3.10 Statistical methods and data analysis:

After completing data collection, data entry was started using the Statistical Package for Social Science (SPSS) version 22. The answers of participants on the Knowledge part were converted to two choices; correct and incorrect Also, the answers (Yes) recoded to one and (No) to two, for hypothesis testing. The attitude part, using the Likert-scale by recoding answers to numeric values. One point is given for (strongly disagree) answers, two points given for (disagree) answers, three points given for (Neutral), four points given for (agree) answers, and five points given for (strongly agree) answers.

A scale was used to describe the findings of data regarding, l of the attitude as do you mean positive? Was considered: 75%-100% (4-5), moderate was 50%-74%(3-3.9), low was 25%-49% (2 – 2.9), and very low was <25%(<2). The answers of the participant on the attitude part were then converted into three choices (disagree, neutral, agree).

The statistical analyses were performed by the SPSS. Statistical measures calculated were Frequencies and percentages, Means (averages) and standard deviations were produced for all domains to measure perceptions of respondents, Mean and Standard Deviation. Chronbach alpha coefficient. The one-way analysis of variance (One Way ANOVA) test was used for the purpose of determining the relationship between the dependent variables (knowledge and attitudes) and independent variable scores along with the different respondent characteristics. Additionally, the Paired Sample T-test was used to test the differences between knowledge and attitude.

3.11 Study variables

Independent variables

Demographic data of nurses that include; age, workplace, years of experience, academic degree, position, monthly income, marital status.

Dependent Variables

Knowledge and attitudes of nurses working in rehabilitation centers? concerning stroke rehabilitation in Palestine.

3.12 The limitations of study

The writing process for this study was restricted by several limitations.

Limited access to relevant existing literature: There is many studies that were not allowed access due to the lack of rights to use them; some of them had to be purchased online, leaving out a significant number of articles outside the database that could have otherwise enriched this study.

Scarcity of similar studies: There was little research found on nursing knowledge and attitudes toward stroke rehabilitation. Most of the articles described stroke as a disease and its effects on the patient's, some articles just described the roles of other health care professionals such as physiotherapists and nutritionists.

Chapter four: The study findings and discussion

4.0 Introduction

This chapter presents an analysis of the data collected to investigate nurse's knowledge and attitudes regarding rehabilitation roles during the care of patients after stroke in two specialized centers in Bethlehem and Ramallah in Palestine then the main findings of the current study will be discussed in relation to the aim and objectives of the study with reference to the literature. This study is the first survey carried out in Palestine to investigate nurse's knowledge and attitudes regarding rehabilitation roles during the care of patients after stroke.

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The analysis is the process of organizing and synthesizing data to answer the research questions and test hypotheses. After carefully collecting data, the research was faced with the task of organizing the individual pieces of information so that the meaning is clear, interpretations of the process for making sense of the results and the examining of this implication.

The data were analyzed according to the objectives of the study

The investigator collected the data for analysis, using a self-administrative questionnaire.

The data were collected and presented under the following headings.

Table 1: Demographic characteristics of participants (N=107)

Variable		Frequency	Percentage
Age	25-29 years old	33	30.8%
	Less than 25	23	21.5%
	30-34 years old	20	18.7%
	40 years old and above	19	17.8%
	35-39 years old	12	11.2%
Workplace	Bethlehem Arab Society for rehabilitation	90	84.1%
	Abu-Raya rehabilitation center	17	15.9%
Years of Experience	(1-5 years)	41	38.3%
	(16 and above)	21	19.6%
	(6-10 years)	20	18.7%
	Less than one year	14	13.1%
	(11-15 years)	11	10.3%
Academic degree	Diploma	56	52.3%
	Bachelor degree	48	44.9%
	Master	3	2.8%
Position	Practical nurse	50	46.7%
	staff nurse	38	35.5%
	head of the nurse	10	9.3%
	senior nurse	9	8.4%
Monthly income	2000 – 3000 Nis	50	46.7%
	3000 -4000 Nis	36	33.6%
	4000-5000 Nis	9	8.4%
	less than 2000 Nis	7	6.5%
	more than 5000 Nis	5	4.7%
Marital status	Married	67	62.6%
	Single	38	35.5%
	Withdrawn	2	1.9%

Table 2: Knowledge of rehabilitation nurse regarding Stroke rehabilitation (N=107)

)	Questions	Correct answers
1.	The Bobath rehabilitation technique has improved the quality of recovery.	**81.3%**
2.	Activating (medically stable) stroke patients early helps recovery.	**81.3%**
3.	The key to success is a highly motivated patient.	**77.6%**
4.	The member of the multidisciplinary team should have common goals and use the common language.	**75.7%**
5.	The activity of Daily Living measurement Scales is useful for monitoring progress.	**73.8%**
6.	The patients should be encouraged to walk as soon as they feel able.	**67.3%**
7.	The positioning of the patient is a key element to rehabilitation.	**63.6%**
8.	Patients who regain bladder control are more likely to have a good recovery.	**63.6%**
9.	Most stroke recovery is spontaneous.	**49.3%**
10.	The nurse's role is one of the counsellors and motivators and not the therapist.	**44.9%**

11.	The aim of Stroke rehabilitation is a training of the unaffected side to compensate for the affected side.	**41.1%**
12.	Most stroke recovery occurs within 4 weeks of the initial stroke.	**40.2%**
13.	Stroke patients should be encouraged to do things only using their good side.	**40.2%**
14.	The patient's affected hand should be supported in a supine position.	**39.3%**
15.	The pattern of recovery is similar in most hemiplegic stroke patients.	**39.3%**
16.	Intensive stroke rehabilitation is ineffective	**38.4%**
17.	Long term goals are more effective than short term goals.	**35.5%**
18.	Stroke patients should be advised to 'take it easy.	**31.8%**
19.	The nurse's role is to provide supportive care whilst therapists treat the patient during the rehabilitation phase.	**28%**

Table 3: Attitude of rehabilitation nurses toward stroke rehabilitation (N=107).

No	Questions	Disagree	Neither agree nor disagree	Agree	Mean ±Std. deviation
1.	Patient activation is an important part of nursing care and all types of nurses should participate.	21.5%	22.5%	56%	3.34 ±1.02
2.	I strengthen the stroke patient's self-confidence.	34.6%	22.4%	43%	3.3 ±1.21
3.	I would very much like to work in long term care.	24.2%	26.2%	49.5%	3.25 ±1.03
4.	The motivation to participate in patient activation increases the more you learn.	30%	18.7%	51.3%	3.15 ±1.19
5.	Relatives should participate in the activation of the stroke patients while the latter are still on the ward.	34.6%	20.6%	44.8%	3.05 ±1.22
6.	I like working with old people.	31.8%	28%	40.2%	3.04 ±1.11
7.	I feel that it is meaningful to work with stroke patients.	28%	29%	43%	3.02 ±1.18
8.	Stroke patients are often uncooperative.	28%	29%	43%	3.02 ±1.031
9.	Incontinent stroke patients should have catheters to a greater extent.	35.5%	28%	36.5%	2.98 ±1.08
10.	It is impossible to devote more time to stroke patients unless the staffing level is increased.	41%	20.6%	38.4%	2.90 ±1.12
11.	Stroke patients are uninteresting e.g. Compared to patients with myocardial infarction.	44%	24.3%	31.7%	2.79 ±1.09
12.	Stroke patients take too much time in nursing work and other patient groups are neglected.	46.7%	26.2%	27.1%	2.74 ±1.11
13.	Activation of the task of the physiotherapist and occupational therapist and should not be an additional load on the nurse ward staff.	41.4%	14%	34.6%	2.69 ±1.09
14.	It is unrealistic to practice activation and rehabilitation in general, medically, and care for the elderly ward.	49.5%	29%	21.5%	2.58 ±1.05

4.1 Inferential Statistics for Hypothesis Testing:

Table (4): One-way ANOVA between knowledge and age:

Table 4 revealed that there are no statistically significant differences between the participant's level of knowledge and age (P-value = 0.224).So, age of nurses not significantly affect their level of knowledge so we reject hypothesis and accept the null hypothesis which was there is no significant relationship at $\alpha \leq 0.05$ between age and level of knowledge.

ANOVA	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	0.089	4	0.022	1.386	0.244
Within Groups	1.633	102	0.016		
Total	1.722	106			

Table (5): One-way ANOVA between knowledge and experience:

Table 5 revealed that there are no statistically significant differences between the participant's level of knowledge and experience (P-value = 0.144).So, nurses experience not significantly affect their level of knowledge so we reject hypothesis and accept the null hypothesis which was there is no significant relationship at $\alpha \leq 0.05$ between level of knowledge and experience.

ANOVA	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	0.111	4	0.028	1.755	.144
Within Groups	1.611	102	0.016		
Total	1.722	106			

Table (6): One-way ANOVA between knowledge and Academic degree:

Table 6 revealed that there are no statistically significant differences between the participant's level of knowledge and Academic degree (P-value = 0.907).So, nurses academic

degree not significantly affect their level of knowledge so we reject hypothesis and accept the null hypothesis which was there is no significant relationship at $\alpha \leq 0.05$ between academic degree and level of knowledge.

ANOVA	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	0.003	2	0.002	0.098	0.907
Within Groups	1.719	104	0.017		
Total	1.722	106			

Table (7): One-way ANOVA between knowledge and work position:

Table 7 revealed that there are no statistically significant differences between the participant's level of knowledge and work position (P-value = 0.907). So, nurses work position not significantly affect their level of knowledge so we reject hypothesis and accept the null hypothesis which was there is no significant relationship at $\alpha \leq 0.05$ between work position and level of knowledge.

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	0.008	3	0.003	0.164	0.921
Within Groups	1.714	103	0.017		
Total	1.722	106			

4.2 Inferential Statistics for Hypothesis Testing on Attitudes

Table (8): One-way ANOVA between attitudes and Age:

Table 8 revealed that there are no statistically significant differences between the participant's attitudes and age (P-value = 0.483). So, nurses age not significantly affect their level attitudes so we reject hypothesis and accept the null hypothesis which was there is no significant relationship at $\alpha \leq 0.05$ between age and nurses attitudes.

ANOVA	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1.441	4	0.360	0.873	0.483
Within Groups	42.066	102	0.412		
Total	43.507	106			

Table (9): One way ANOVA between attitude and experience:

Table 9 revealed that there are no statistically significant differences between the participant's attitude and experience (p value = 0.521). So, nurses experience not significantly affect their level attitudes so we reject hypothesis and accept the null hypothesis which was there is no significant relationship at $\alpha \leq 0.05$ between experience and nurses attitudes.

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1.340	4	0.335	0.810	0.521
Within Groups	42.167	102	0.413		
Total	43.507	106			

Table (10): One way ANOVA between attitude and academic degree:

Table 10 revealed that there are no statistically significant differences between the participant's attitude and academic degree (p value = 0.741). So, nurses academic degree not significantly affect their level attitudes so we reject hypothesis and accept the null hypothesis which was there is no significant relationship at $\alpha \leq 0.05$ between nurses academic degree and nurses attitudes.

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.250	2	.125		
Within Groups	43.257	104	.416	.300	0.741
Total	43.507	106			

Table (11): One-way ANOVA between attitude and work position:

Table 11 revealed that there are no statistically significant differences between the participant's attitude and work position (p value = 0.808). So, nurses work position not significantly affect their level attitudes so we reject hypothesis and accept the null hypothesis which was there is no significant relationship at $\alpha \leq 0.05$ between nurses work position and nurses attitudes.

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.406	3	0.135		
Within Groups	43.101	103	0.418	0.323	0.808
Total	43.507	106			

Based on the findings, it is demonstrated that nurses have moderate to inadequate knowledge about the signs and symptoms, complications, and management of stroke rehabilitation.

4.3 Demographic characteristics of the study population

Out of the total sample (N=107), 30.8% of the participants were 25-29 years old, 84% were from the Bethlehem Arab Society for rehabilitation, and 16% were from the Abu-Raya rehabilitation center. The respondent's ages ranged from 21 to 66 years old and included younger and older nurses. However, most of the respondents were less than 30 years old, which indicates that the nursing community in Palestine is young, this is consistent with results of study conducted in north West Bank in which number of nurses age less than 30 years was 64% (Ayed, 2015). The highest percentage of respondents had less than six years (51.4%) experience, which is in line with the previous comment, the young nursing population in Palestinian hospitals. When compared to other studies it found that nurses with less than seven years of experience were 21.7% in Jordan (Abu AlRub, 2006) and less than six years of experience were 24.7% in Iran (Shafiezadeh, 2011). Most of the participants were married, which is similar to the findings of the Palestinian Nursing Association (2007). When compared to other studies, it has been found that married nurses were 70.0% in Jordan (Abu AlRub, 2006) and 24.9% in Japan (Suzuki et al. 2004). More than 44.9% of the participants had a bachelor's degree in nursing while few (2.8%) had postgraduate degrees (higher diploma or Master's degree) which is also similar to the findings of the Palestinian Nursing Association (2007). By contrast, only 4% of Egyptian nurses had a bachelor's degree in nursing (Amr et al., 2011).

According to job title 90.7% of participants were Direct care nurses, while head nurses and vice head nurse were represented by 9.3%, in this study.

4.4 Knowledge of rehabilitation nurses regarding Stroke rehabilitation

Table 2 below shows that the most correct answers in descending order were: 81.3% answer correctly that The Bobath rehabilitation technique which has improved the quality of recovery (Therapy based on the Bobath Concept aims to regain motor control and function of the hemiparetic side after stroke without promoting compensation. Facilitation of typical movement components (which includes strategies to maintain muscle and joint alignments) and task-specific practices using specific manual guidance have been identified as critical elements of the Bobath Concept (Buurke et al. 2008); Activating (medically stable) stroke patients in the early period, while helping during recovery, 81.30%; The key to success, is a highly motivated patient, 77.60%; Members of the multidisciplinary team should have common goals and use the universal language, 75.70%; Activity of Daily Living measurement Scales are useful for monitoring progress, 73.80%; The patients should be encouraged to walk as soon as they feel able, 67.30%; Positioning of the patient is a key element to rehabilitation, 63.60%; Patients who regain bladder control are more likely to have a good recovery, 63.60%; Most stroke recovery is spontaneous, 49.30%; The nurse's role is of a counsellor and motivator and not the therapist, -44.90%; The aim of Stroke rehabilitation is the training of the unaffected side to compensate for the affected side, 41.10; Most stroke recovery occurs within 4 weeks of the initial stroke, 40.20%; Stroke patients should be encouraged to do things only using their good side, 40.20%; The pattern of recovery is similar in most hemiplegic stroke patients, 39.30%; The patient's affected hand should be supported in a supine position, 39.30%; Intensive stroke rehabilitation is ineffective, -38.40%; Long term goals are more effective than short term goals, 35.50%; Stroke patients should be advised to 'take it easy', 31.80%; The nurse's role is to provide supportive care whilst therapists treat the patient during the rehabilitation phase, 28%.

4.5 Discussion related to nurses level of knowledge

The nurse is an integral part of the interdisciplinary rehabilitation team, whose goal is to meet the needs of patients and families by restoring the patient to an optimal level of health as well as improving his or her quality of life. It is a well-organized team that results in a reduction of deaths, disability, and the need for long-term institutions.

The results regarding the Bobath rehabilitation technique indicates good knowledge regarding the Bobath Concept, which is the most popular treatment approach used in stroke rehabilitation. It improves the quality of recovery. Most of the participants answered correctly to activating (medically stable) stroke patients beforehand helps in recovery, this is supported by the primary goals of stroke management which are to reduce brain injury and promote maximum patient recovery. For stroke patients, rapid detection and appropriate emergency medical care are essential for optimizing health outcomes. When available, patients are admitted to an acute stroke unit for treatment. These units are specialized in providing medical and surgical care aimed at stabilizing the patient's medical status, in addition to performing aid in the development of an appropriate care plan. Current research suggests that stroke units may be useful in reducing in-hospital fatality rates and the length of hospital stays. Once a patient is medically stable, the focus of their recovery shifts to Rehabilitation (Zhu et al., 2009).

Most of the participants answered correctly that the key to success is a highly motivated patient. This is supported by the study of Niall et al. (2011) which found that motivation was a frequently used concept and was described as an essential determinant of rehabilitation outcome. Motivation was attributed to patients based on their demeanor (proactivity was equated with Motivation, passivity with lack of Motivation) and their compliance with Rehabilitation (compliance was indicative of Motivation, noncompliance as a lack of Motivation). These criteria were found to

have blurred boundaries. The determinants of Motivation were located partly in personality but also in social factors. Central among the social factors were aspects of the professionals' behaviors who were taken positively and negatively to affect Motivation. Participant nurses reported treating unmotivated patients differently from motivated ones, especially if these unmotivated patients were elderly. The Motivation was described as a potentially dangerous label.

Most of the participants gave the wrong answer to the statement that the aim of stroke rehabilitation is the training of the unaffected to compensate for the affected side. In which Rehabilitation of a stroke focuses on the affected to compensate the unaffected side as well as making it stronger, not making the unaffected side weak.

Most of the participants gave wrong answers to the statement; that the nurse's role is one of the counsellors and motivators and not the therapist. In this statement most of the nurses' focus was on the counsellor and motivator role of a nurse while not considering therapy as a quality and role for nurses, yet, according to the definition of nursing care "as all activities performed by nurses that aim to promote health, prevent complications, and promote functional independency in patients (Miller et al, 2010). According to Miller et al. (2010), patient care is often in the hands of nurses who are usually in closer contact with hospitalized patients as compared to other members of the multidisciplinary team who are less involved in the care of stroke patients.

Most of the participants gave the wrong answer to the statement; that long term goals are more effective than short term goals. We come to know that the opposite is correct; the short-term goal in Rehabilitation is more effective because it deals with patient status. It is supported by the study of Siegert& Taylor (2011), where it describes that goal setting is an essential component of Rehabilitation. It provides a framework for people and the associated rehabilitation professionals

to work together to support the patient back to their pre-injury lifestyle, or as close as possible. However, Rehabilitation can focus on short-term task-oriented goals. Focusing on internal motivating factors and a range of goals may provide a higher level of personal satisfaction and Motivation.

Most of the participants agreed with the wrong statement that stroke patients should be advised to 'take it easy'. Because stroke patients often require emotional support from healthcare professionals, especially in the early days of the diagnosis (Winstein et al., 2016). According to Aadal et al. (2013) Rehabilitation of stroke patients should be a personal journey for stroke patients themselves. Stroke patients are required to develop a positive attitude towards the outcomes of Rehabilitation based on trust and hope. However, healthcare professionals are urged to facilitate the process of recovery by supporting a patients' efforts in regaining functional independence and by providing them with the necessary information.

Most of the participants agreed with the correct statement that the positioning of the patient is a crucial element to Rehabilitation. According to Anne et al. (2012), a recommended strategy to discourage physical complications of stroke and to improve recovery is to encourage "reflex-inhibiting" patterns of posture. While there is a consensus among clinicians that encouraging such positions is therapeutic and may enhance recovery, it is believed that only consistently proper positioning will be enough. It has been demonstrated that hospitalized stroke patients often spend long periods in passive pursuits on the ward, such as sitting unoccupied, lying down, or watching television, and very little time in active Rehabilitation. Thus, the primary responsibility for attending the positioning of patients lies with the nursing staff, who are the only group of health professionals continuously present.

Most of the nurses who participated agree with the false statement, that the nurse's role is to provide supportive care while therapists treat the patient during the rehabilitation phase. The first part of the statement is correct regarding the support, but the nurse is an active practitioner who has many roles rather than only supporting in the management of stroke patients (Kirkevold, 1997). These roles include providing nursing care, giving emotional support, and coaching stroke patients to be independent (Tyrell, et al., 2012). Also, nurses are involved in communicating information between patients and other healthcare professionals regarding teaching, coordinating, and supervising the patients' care (Aadal et al., 2013).

Most of the participants agree with the false statement that the pattern of recovery is similar in most hemiplegic stroke patients. This is mainly due to the recovery, which is a unique process for each patient because recovery depends on many factors, including, the initial severity of impairments in addition to individual characteristics, such as Motivation, social support, and learning ability, which are key predictors for stroke recovery outcomes. Also, responses to treatments and the overall recovery of functions are highly dependent on the individual (Teasell et al. 2014).

Majority of participants agree with the false statement that intensive stroke rehabilitation is ineffective, yet, according to Connell, et al., (2018) the evidence-based for stroke rehabilitation recommends intensive and repetitive task-specific practice, as well as aerobic exercise.

Majority of participants agree with the correct statement that the members of the multidisciplinary team should have common goals and should use the universal language. This is because Rehabilitation should include assessing and planning activities for patients by members of the

multidisciplinary team, to put plans and goals and to determine the responsibilities toward their same goal (ANHMRC, 2010).

The overall knowledge among participants related to stroke rehabilitation is low to moderate, according to this study, this considered to be a deficient level of knowledge, especially for nurses who work in rehabilitation wards, and since this is somewhat of an identity attached to the nurses. This is consistent with the study of Shehata, et al. (2016) in Egypt, where the level of knowledge and attitudes towards stroke at Cairo University Hospitals' show the working staff to be relatively poor. Clinical workers seem to have better knowledge, yet, still inadequate enough to effectively improve public stroke awareness. In addition, the study of Victor et al. (2012) in Nigeria shows results of poor knowledge among nurses toward the Rehabilitation of elderly patients with stroke and with only a few nurses who answered all the knowledge questions correctly while doubting on the cure for stroke. Also, the study of Du, et al. (2016), which showed that about one third (33.8%) of caregivers did not have adequate knowledge of how to properly care for stroke patients; in fact, a significant number of caregivers demonstrated inappropriate and insufficient knowledge in several areas. It is assumed that the provision of regular training, by rehabilitation experts, will improve the professionalism and knowledge of the caregivers, and positively affect patient outcomes.

4.6 Attitude of rehabilitation nurses toward stroke rehabilitation.

Table 3 below shows the attitudes of nurses toward rehabilitation, the mean of attitude in descending order was: Patient activation is an important part of nursing care, all types of nurses should participate, - 3.34; I strengthen the stroke patient's self-confidence, - 3.3; I would very much like to work in long term care, - 3.25; The motivation to participate in patient Activation

increases the more you learn, - 3.15; Relatives should participate in the Activation of the stroke patients while the latter is still on the ward, - 3.05; I like working with old people - 3.04; I feel that it is meaningful to work with stroke patients, - 3.02; Stroke patients are often uncooperative, - 3.02; Incontinent stroke patients should have catheters to a greater extent, - 2.98; It is impossible to devote more time to stroke patients unless the staffing level is increased, - 2.9; Stroke patients are uninteresting, e.g. Compared with patients with myocardial infarction, - 2.79; Stroke patients take too much time of a nurses work and other patient groups are neglected, - 2.74; Activating the task of the physiotherapist and occupational therapist, and should not be an additional load on the nurse ward staff, - 2.69; It is unrealistic to practice activation and rehabilitation on general medical, care of the elderly ward, - 2.58.

The total mean of the attitude score was 3, neither agreeing nor disagreeing These statements had the most positive attitude: First, ‘Was patient Activation an important part of nursing care and that all types of nurses should participate”, got a mean result of 3.34; and second, “I strengthen the stroke patient's self-confidence”, with a mean result of 3.3.

The statements with the most negative attitudes were: "First, it is unrealistic to practice activation and rehabilitation in general, medically, and care for the elderly ward", results with a mean of 2.58; and the second, "Activation is the task of the physiotherapist and occupational therapist and should not be an additional load on the nurse ward staff", results with a mean of 2.69.

4.7 Discussion related to Nurses attitude toward stroke rehabilitation

Over time, nurses' attitude toward stroke patient rehabilitation has not been adequately measured. Rehabilitation content has not been a priority in nursing education. The attitudes of

nurses play a significant role in the provision of quality healthcare services provided for patients with stroke. This quantitative research measured the attitudes of nurses toward patients with stroke in two rehabilitation centers.

The attitudes part was measured using the Likert scale from 1 to 5, One indicating strongly disagree and five, indicating strongly agree.

The current study found that most participants had a passion for providing good care to stroke patients. However, even though the desire to provide care was strong, this is not surprising given that nurses are in the helping profession and often their personal well-being is related to their caring roles. This is consistent with many previous studies (Dahlke & Phinney, 2008; Lou & Dai, 2002; Millisen et al., 2004; Rogers & Gibson, 2002).

4.8 Hypothesis

According to the results taken from the survey regarding age, academic degree, income, and marital status of nurses, it seemed that these factors did not affect the participants' knowledge and attitudes about stroke rehabilitation. Also, it was noted that years of nursing experience did not demonstrate a relationship with the level of knowledge and attitudes. These results have some similarities with the results taken from other studies, Aadal, et al. (2013) indicates positive attitudes toward patient care and negative attitudes toward patients who do not respond to treatments and emerging changes reflecting a development in the nurses' responsibilities and contributions in conducting rehabilitation after a stroke.

4.9closing summary

The findings demonstrate that nurses have inadequate knowledge about basics principles of rehabilitation for stroke patients in many aspects, including patient teaching, uniqueness of cases,

intensive Rehabilitation, and the time and duration of patient improvement. Also, nurses who were not oriented well enough in all states of a nurse's role may not consider themselves to have an active role in stroke rehabilitation. Specific nurse education programs should be conducted to fill this gap.

In regards to the attitudes, the current study found that most participants had a passion for providing proper care to stroke patients.

It was noted that demographic variables and years of nursing experience did not demonstrate a relationship with the level of knowledge and attitudes.

There is strong evidence that nurses should develop and integrate stroke-specific rehabilitation knowledge and skills in their practice, as well as additional stroke-specific training to integrate rehabilitation principles in their care.

This study was conducted on a rehabilitation matter, in private centers/service facilities, conducting a similar study on governmental hospitals/service facilities for acute stroke rehabilitation is recommended and should include all nurses who work with adult patients in various wards and departments.

Conduct the same research employing qualitative methods for the study of nurses' knowledge, attitudes, and experience.

To extend the same study on knowledge of nurses in regards to dealing with stroke in secondary level prevention in order to decrease the stroke complications.

To investigate the satisfaction of nurses while dealing with stroke care in Palestinian health care facilities.

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List of Annexs

Annexe I: The questionnaire

Dear Nurses :

I am a graduate student from AL-Quds University, inviting you to participate in my study about Nurses' knowledge, attitude and practice toward inpatient rehabilitation with Stroke, in order to complete the requirement of the master's degree in public health of nursing.

Your participation in responding to the questionnaire contributes to the development of scientific research, and your information will be confidentially used for only scientific research purposes.

Thank you very much for your participation

Prepared by:

Nivine George Elias Juha Al-Shatleh

Supervisor:

Dr. Farid Ghrayeb (PhD)

1. Demographical data:

Please circle the number that best matches your choice in the following:

2. Age:

a. Less than 25 b. 25-29 c. 30-34
d. 35-39 e. 40 and above

3. Workplace:

a.

4. Years of Experience:

a. Less than one-year b. 1-5 years c. 6-10 years
d. 11-15 years e. 16 and above

6. Academic degree:

a. Diploma b. Bachelor degree c. Master

7. Position:

a. Practical nurse b. staff nurse c. senior nurse d. head of nurse

8. Weekly work hours: ……..

9. Monthly income:

a. less than 2000 Nis b. 2000 – 3000 Nis c. 3000 -4000 Nis
d. 4000-5000 Nis e. more than 5000 Nis

9. Marital status:

a. single b. married c. withdrawn d. other ……..

10. Number of Staff in the ward ……..

Part One: Knowledge

No	Questions	True	False	I don't know
1	The Bobath rehabilitation technique has improved the quality of recovery.			
2	Activating (medically stable) stroke patients early helps recovery.			
3	The key to success is a highly motivated patient.			

4	The aim of Stroke rehabilitation is the training of the unaffected side to compensate for the affected side.			
5	The nurse's role is one of counsellor and motivator and not the therapist.			
6	Long ten goals are less effective than short term goals.			
7	Stroke patients should be advised to 'take it easy'.			
8	The positioning of the patient is a key element to rehabilitation.			
9	The nurse's role is to provide supportive care whilst therapists treat the patient during the rehabilitation phase.			
10	The pattern of recovery is similar in lost hemiplegic stroke patient.			
11	Intensive stroke rehabilitation is ineffective.			
12	The member of the multidisciplinary team should have common goals and use the universal language.			
13	Most stroke recovery occurs within 4 weeks of the initial stroke.			
14	Patients who regain bladder control are more likely to have a good recovery.			
15	Stroke patients should be encouraged to do things only using their good side.			
16	Most stroke recovery is spontaneous.			
17	The patient's affected band should be supported in a supine position.			
18	The patients should be encouraged to walk as soon as they feel able.			
19	The activity of Daily Living measurement Scales is useful for monitoring progress.			

Part Two: Attitude

No	Questions	strongly disagree	disagree	neither agree nor disagree	agree	Strongly agree.
1	It feels meaningful to work with stroke patients.					
2	I like working with old people.					
3	Carrying out an activity on his /her own strengthens the stroke patient's self-confidence.					
4	Stroke patient is often uncooperative.					
5	Stroke patients are uninteresting e.g. Compared with patients with myocardial infarction.					
6	I would very much like to work in long term care.					
7	Patient activation is an important part of nursing care and all types of nurses should participate.					
8	It is impossible to devote more time for stroke patients unless the staffing level is increased.					
9	Activation is the task of the physiotherapist and occupational therapist and should not be an additional load on the ward staff.					
10	The motivation to participate in patient activation increases the more you learn.					
11	Stroke patients take too much time in nursing work and other patient groups are neglected.					
12	Incontinent stroke patients should have catheters to a greater extent.					
13	Relatives should participate in the activation of the stroke patients while the latter is still on the ward.					

14	It is unrealistic to practice activation and rehabilitation on a general medical/care of the elderly ward.					

Annex II: Task Facilitator letter

بسم الله الرحمن الرحيم

Al Quds University
Faculty of Health Professions
Department of Nursing
Jerusalem –Abu Dis

جامعة القدس
كلية المهن الصحية
دائرةالتمريض
القدس– أبوديس

التاريخ: 2018/1/29

حضرة السيد خالد المطور المحترم
مدير مركز خليل ابو ريا للتاهيل

الموضوع: زيارة علمية لتوزيع استمارات بحث

تحية طيبة وبعد

نرجو من حضرتكم السماح للطالبة نفين جورج جحا ورقمها الجامعي 21511739 من برنامج ماجستير ادارة التمريض – جامعة القدس، بتوزيع استمارات بحث بعنوان "مدى معرفة التمريض عن علاج مرضى الجلطات الدماغية" في مركزكم الموقر، لاستكمال متطلبات درجة الماجستير وذلك ابتداءً من 2018/2/1 ولغاية 2018/2/20 ، علما ان المعلومات ستكون سرية ولاغراض البحث فقط.

وتفضلوا بقبول فائق الاحترام والتقدير

د. فريد اغريب
مدير دائرة التمريض– جامعة القدس