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**Perception of Teachers and Students of Nursing Faculties at
National Ribat University**

About The Needs And Role of Nurses In Schools System

A dissertation Submitted in Partial fulfillments of the Requirement for Degree of
Master in Community Nursing

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بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

قال الله تعالى:

(اقْرَأْ وَرَبُّكَ الْأَكْرَمُ الَّذِي عَلَّمَ بِالْقَلَمِ عَلَّمَ الْإِنْسَانَ مَا لَمْ يَعْلَمْ)

سورة العلق

صدق الله العظيم

Dedication

I dedicate this a dissertation

*To God Almighty my creator, my strong pillar, my source of
inspiration, wisdom, knowledge and understanding.*

*To my great parents, who continue to learn, grow and develop and
who have been a source of encouragement and inspiration to me
throughout my life.*

To myself, who challenged all disincentives to get the master degree

*To my beloved brothers and sisters, who leads me through the valley
of darkness with light of hope and support.*

To my friends who encourage and support me.

*To all my family, the symbol of love and giving and all the people in
my life who touch my heart.*

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Abstract

Objective: purpose of this study was to explore the need for school nurses in the Sudan school system and to explore the current role of nurses in school health education and health promotion . The study used a qualitative approach that was guided by implementation literature. ten participants (6nursing students; 4 nursing faculty members) answered open-ended questions and participated in semi-structured interviews .**result:** from the findings, tow themes emerged to identify the current role of nurses in school: “Health educator”, “Health promoter. Four themes were identified based on the potential role of nurses in schools: “Leadership role”, “Care provider role”, “Educator role”, and “Liaison with community”. tow themes were identified based on facilitators and barriers to providing health and physical education in schools: “University and college level support”“Governmental support”. **Conclusion:** This study contributes to our understanding of what are the current and potential roles of nurses in schools .**recommendation :** in this study I recommend to use this information to decision-making processes, formulation of necessary legislation, and government measures towards the implementation of school nursing and physical education , so as to maximize health and wellness in the community.

مستخلص البحث

كان الغرض من هذه الدراسة هو استكشاف الحاجة إلى ممرضات المدارس في السودان النظام المدرسي واستكشاف الدور الحالي للممرضات في التعليم الصحي المدرسي وتعزيز الصحة. استخدمت الدراسة مقارنة نوعية استرشدت بها أدبيات التنفيذ. عشرة مشاركين (6 طالباً في التدريس ، 4 أعضاء هيئة تدريس ترميض) أجابوا أسئلة مفتوحة وشاركوا في مقابلات شبه منظمة. من هذه النتائج ، ظهرت ثلاثة محاور لتحديد الدور الحالي للممرضات في المدرسة: "المعلم الصحي" ، "المروج الصحي. تم تحديد أربعة مواضيع على أساس الدور المحتمل للممرضات في المدارس: "الدور القيادي" ، "دور مزود الرعاية" ، "دور المعلم" ، "الاتصال بالمجتمع". تم تحديد محورين تستند إلى الميسرين والحواجز التي تحول دون توفير الصحة والتربية البدنية في المدارس: "الدعم على مستوى الجامعة والكليات" ، " ، "الدعم الحكومي" ، "و" الطلب على الممرضات يتجاوز العرض ". تساهم هذه الدراسة في فهمنا للأدوار الحالية والممكنة للممرضات في المدارس ، وهن طلاب ترميض مستعدين حالياً لتوفير التنقيف الصحي والترقية لموظفي المدارس والطلاب ، وما هي الميسرات والحواجز الموجودة للتمريض لتوفير التنقيف الصحي والترويج في المدارس. هذه المعلومات يمكن أن تسهم في عمليات صنع القرار ، وصياغة التشريعات اللازمة ، والتدابير الحكومية نحو تنفيذ التمريض المدرسي والتربية البدنية ، وذلك لتعظيم الصحة والعافية في المجتمع .

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Chapter

One

1. Introduction

1.1 Introduction

The health of children and adolescents is of profound importance to the future of the public health system {1}. Childhood obesity is growing very fast and over the past few years it has grown to such proportions that it is considered an equally serious health dilemma in developed and developing countries .

Metabolic health risks, chronic diseases, psychosocial problems, and an increased risk of cardiovascular diseases in adulthood are well documented and have been directly linked to complications of youth overweight and obesity{1}.

School environments have been shown to influence health behaviors and thus they have been identified as an important medium to deliver health promotion, social development, promotion of physical education, and promotion of healthy behaviors to children {1}.

To influence behavior change and promote a lasting and effective changes in, or establishment of, healthy habits in children of this age, a comprehensive school health approach which involves any group directly involved with the education of children has been recommended. These groups would include parents teachers, and other school faculty, as well as other members of community stakeholder groups {1}to date, the Sudan education system has not fully embraced all aspects of the Comprehensive School Health approach.

A recent study recommended that there should be a legal requirement for a full-time qualified school nurse in each school whether government-run or private, along with a comprehensive school health program {1} .

Across the United States and Canada, as well as other countries overseas, school

health coordinators and school health teams that include school health educators, physical education teachers, and school nurses have been CSH facilitators in many schools and districts {1}.

According to the National Association of School Nurses (NASN) (2011) it has been argued that school nurses are important leaders and powerful advocates for children's health and wellness in schools. School nurses bring a public health point of view to the school and work with teachers and school leaders to make changes that affect all students' health {1}.

Qualified professionals, such as school nurses, possess both knowledge and expertise required to promote the prevention of overweight and obesity. Their knowledge and training make school nurses the ideal contact and educational source between school personnel, family, the community, and healthcare providers by being able to advocate health care and a healthy school environment {1}.

As demonstrated above, the importance of a school nurse and their relation to the health of students cannot be understated. However, in Sudan, there are no nurses assigned to the public schools.

Through their presence in the school system, school nurses not only provide for the safety and care of students and staff but are also the ideal teaching source for integrating comprehensive health solutions into the education setting {1}.

In conclusion, it is evident from the role and approach to school health nursing programs in North America, Great Britain, and other countries around the world that Sudan could implement similar approaches. Less research has been conducted in Sudan discussing the need and usefulness for school nursing, and what potential role should be given to nurses in promoting children's health. Within a broader comprehensive school health framework the importance of the school nurse as a key actor cannot be understated, especially because of their potential impact on the overall health and wellbeing of the country' population as a whole.

Through a potential role in the provision of physical and health education at all levels of education and for both genders, school health nurses would bring positive influences to school children and the school staff, and benefit the entire Sudanese community , schools which have less consideration and attention. The lack of adequate health programs or physical activity opportunities is a contributing factor in the obesity and overweight issues, and related health problems in both genders .

1.2. Rationale

The health of children and adolescents is of profound importance to the future of the public health system . The prevalence of obesity was 21.2%,the prevalence of cigarette smoking among adolescent students in Khartoum State was 13.6 ,The prevalence of epilepsy in school children in Khartoum State (4/1000) is higher than that reported previously from Khartoum Province in 1983 (0.9/1000).{25} prevalence of major depressive disorder for the population was 4.2%. and, 11% of the adolescent girls reported severe depression. {25}

Qualified professionals, such as school nurses, possess both knowledge and expertise required to promote the prevention of school health problem School nurses bring a public health point of view to the school and work with teachers and school leaders to make changes that affect all students' health school nurses not only provide for the safety and care of students and staff but are also the ideal teaching source for integrating comprehensive health solutions into the education setting.

in Sudan, there are no nurses assigned to the public schools. A recent study recommended that there should be a legal requirement for a full-time qualified school nurse in each school whether government-run or private, along with a comprehensive school health program {11}

no research has been conducted in Sudan discussing the need and usefulness for school nursing, and what potential role should be given to nurses in promoting children's health.

school nurses are important leaders and powerful advocates for children's health and wellness in schools. School nurses bring a public health point of view to the school and work with teachers and school leaders to make changes that affect all students' health {9}.

1.3. Objective of the study

1.3.1. General objective

To investigate the need and role of nurse in schools

1.3.2. Specific objectives

- Assess potential and current role for nurses to provide health education for students.
- to identify the facilitators and barriers to providing health and physical education in schools
- to identify the current role of teacher in preparing student to provide health and physical education in schools

Chapter

Tow

2.2 . Literature review

For the purposes of this research the literature review has been organized into 5 sections.

The first section, Children's and adolescent health, explores the current, global status of childhood diseases, focusing on the state of children within the African countries, especially Sudan.

In Section second, the role of schools as an important agency for the promotion and delivery of health and safe physical activities for children will examine.

Section three, provides an overview of the Comprehensive School Health model as an approach to health promotion in schools and explains the eight components and the four overlapping action stages that involve the school, health promotion staff, psychological and social services, and the families and community.

Section four discusses the school nurse as stakeholder in providing those services. An existing framework that guides nursing practice in schools (NASN).and discussion of nurses in schools in context.

The final section, five, provides examples of research that has been carried out exploring the benefits of school nurses and the duties that they perform in out of our country.

Children's Health

Historically there are recorded instances of chronic diseases dating back to Neolithic times . However, in the past 20 years the rate of chronic health issues has escalated at an alarming rate globally {12}. Over the past 30 years, the prevalence of chronic conditions in children and adolescents has increased {13}. For example, chronic health conditions among children in the United States have risen from

12.8% in 1994 to an alarming 26.6% in 2006. Foremost among the issues are asthma, obesity, and behavioral and learning problems {14}.

The WHO states that in 2012-2013 approximately 170 million children worldwide met the standard clinical criteria for overweight or obesity{15}. This same research found the majority of overweight and obese children to be residents of developing countries with those in Eastern Europe and the Middle East reporting the highest prevalence of childhood overweight and obesity {16}.

In Canada, the 2009-2011 Canadian Health Measures Survey (CHMS) found that 31.5% of Canadian children aged 5-17 years were overweight or obese {17}.

While the United States has long been held as a leading example of the exponential growth of obesity in the adult, adolescent, and child populations, developing countries are seeing similar exponential rises in the prevalence of childhood overweight and obesity {18-19}.

Interactions of a multitude of influences that reflect complex processes determine children's health. Behavioral and environmental influences, along with the effects of biological processes, influence change as children grow{20} .

For instance, high prevalence of childhood obesity is a rising concern in Western countries. This high prevalence is primarily attributed to the ongoing decrease in physical activity and increase in energy intake among children. This is coupled with genes and environmental factors{21} .

Social determinants such as gender and lifestyle, and related physical inactivity and poor dietary patterns related to eating habits, have been noted as playing a significant part in influencing and exacerbating the health problems {22-23} .

The prevalence of obesity was 21.2%. Obesity and central obesity have a higher prevalence among Sudan In 2010, overweight and obesity were estimated to cause 3.4 million deaths, 3.9% of years of life lost, and 3.8% of DALYs globally. The rise in obesity has led to widespread calls for regular monitoring of changes in

overweight and obesity prevalence in all populations. Comparative, up-to-date information on levels and trends is essential both to quantify population health effects and to prompt decision-makers to prioritize action. {24}

Most recently a comprehensive in-depth study on the health of adolescents in Sudan was carried out and it covered a number of sensitive topics .This study was the first of its kind in the country.

The prevalence of epilepsy in school children in Khartoum State (4/1000) is higher than that reported previously from Khartoum Province in 1983 (0.9/1000). {25}

In Sudan Only 47 teachers (47%) in the primary schools had any knowledge of the initial procedures to help a child in seizure, presenting reasonable answers, compared to 64 (64%) teachers in the secondary schools. {26}

epidemiological survey in order to measure the prevalence rate of major depressive disorder in girls 12–19 years of age and to relate it to age. questionnaire was administered to 1,107 girls from 3 elementary and 3 secondary schools in Khartoum, Sudan, 272 of whom were selected for intensive interviews. the Results found The estimated prevalence of major depressive disorder for the population was 4.2%. and, 11% of the adolescent girls reported severe depression. A proportion of girls interviewed reported depressive symptoms which did not meet the criteria of Diagnostic and Statistical Manual IV (DSM-IV) for major depressive disorder, and the estimated prevalence of this ‘partial syndrome’ was 8.6%. The findings indicate a high rate of depression. Considering the fact that none of the girls who were identified with major depression reported to the health system {27}

Schools: An Important Setting for Children’s Health

Because children spend the majority of their time in the school, the importance of the role schools play in a child’s life is second only to the influence on their environment in their home life { 28}.

Stephen and Bender saw schools as the single most important agency in society outside of children's families in affecting adolescents' growth. These institutes are ideally situated to assist children through their formative years, teaching them how to live longer, healthier, more satisfying and productive lives. Schools provide an excellent opportunity to enable students to acquire knowledge and skills and increase activity levels among young people. As children and adolescents ideally spend a significant time of their young lives there, educational efforts can be put into action on a regular and continuous basis {29}. Most schools have a mandate, and thus a responsibility to offer developmentally appropriate, adequate, motivating, sufficiently supervised, and safe physical activity programs. These programs should allow participation by all students and should work towards enhancing their physical, social, and psychosocial wellbeing {30}

Studies have indicated that perhaps the best means for promoting health, active lifestyles among young people is a cohesive physical education program {30}

School health education, coupled with an enhanced physical education curricula that includes time spent on moderate to vigorous exercise for children and adolescents, has been demonstrated as contributing to improved health awareness and physical fitness{31}.

However, Study findings provided evidence of a high prevalence of sedentary behavior and extremely low levels of physical activity among both genders, but especially among females between the ages of 14 and 19 {32}.

Cale and Harris both recognized that schools were a critical setting in which to address health promotion. Health Promotion, as described by the WHO is a means by which to enable adolescents to understand and achieve control over their personal health by providing an environment that encourages healthy behavior and healthy choices. {33}

Several studies and reviews have evaluated the effectiveness of intervention programs focusing on promoting health in children and youth in school settings{34-5}

To achieve a successful change in student behavior, however, involvement of the parents, the community, and stakeholders is required. Supportive policies, programs, and specific environments must be included .An essential part of public health initiatives is the Comprehensive School Health approach. Their presence provides great potential in both the short-term effects on the health of children, and on prevention of chronic diseases in the long term {8}.

As of this date in Sudan the government has failed to utilize the schools as a health promotion resource centre.

School nurse role

The National Association of School Nurses identifies 7 core roles that the school nurse fulfills to foster child and adolescent health and educational success. The roles are overarching and are applicable to school nurses at all levels of practice, in all geographic settings, and with all clients. {9}

- The school nurse provides direct care to students. The school nurse provides care for injuries and acute illness for all students and long-term management of students with special health care needs. Responsibilities include assessment and treatment within the scope of professional nursing practice, communication with parents, referral to physicians, and provision or supervision of prescribed nursing care. An individualized health care plan is developed for students with chronic conditions, and when appropriate, an emergency plan is developed to manage potential emergent events in the school setting (eg, diabetes, asthma). Ideally, this health plan is aligned with

the management plan directed by the child's pediatrician and regularly updated through close communication. The school nurse is responsible for management of this plan and communication about the plan to all appropriate school personnel. The school nurse has a unique role in provision of school health services for children with special health needs, including children with chronic illnesses and disabilities of various degrees of severity. Children with special health needs are included in the regular school classroom setting as authorized by federal and state laws. As a leader of the school health team, the school nurse must assess the student's health status, identify health problems that may create a barrier to educational progress, and develop a health care plan for management of the problems in the school setting. The school nurse ensures that the student's individualized health care plan is part of the individualized education plan (IEP), when appropriate, and that both plans are developed and implemented with full team participation, which includes the student, family, and pediatrician. .{9}

- The school nurse provides leadership for the provision of health services As the health care expert within the school, the school nurse assesses the overall system of care and develops a plan for ensuring that health needs are met. Responsibilities include development of plans for responding to emergencies and disasters and confidential communication and documentation of student health information. .{9}
- The school nurse provides screening and referral for health conditions. Health screenings can decrease the negative effects of health problems on education by identifying students with potential underlying medical problems early and referring them for treatment as appropriate. Early identification, referral to the medical home, and use of appropriate community resources promote optimal outcomes. Screening includes but is

not limited to vision, hearing, and BMI assessments (as determined by local policy) .{9}

- The school nurse promotes a healthy school environment. The school nurse provides for the physical and emotional safety of the school community by monitoring immunizations, ensuring appropriate exclusion for infectious illnesses, and reporting communicable diseases as required by law. In addition, the school nurse provides for the safety of the environment by participating in environmental safety monitoring (playgrounds, indoor air quality, and potential hazards). The school nurse also participates in implementation of a plan for prevention and management of school violence, bullying, disasters, and terrorism events. The school nurse may also coordinate with school counselors in developing suicide prevention plans. In addition, if a school determines that drug testing is a part of its program, school nurses should be included in school district and community planning, implementation, and ongoing evaluation of this testing program.{9}
- The school nurse promotes health. The school nurse provides health education by providing health information to individual students and groups of students through health education, science, and other classes. The school nurse assists on health education curriculum development teams and may also provide programs for staff, families, and the community. Health education topics may include nutrition, exercise, smoking prevention and cessation, oral health, prevention of sexually transmitted infections and other infectious diseases, substance use and abuse, immunizations, adolescent pregnancy prevention, parenting, and others. School nurses also promote health in local school health councils. {9}
- The school nurse serves in a leadership role for health policies and programs. As a health care expert within the school system, the school nurse

is a leader in the development and evaluation of school health policies. These policies include health promotion and protection, chronic disease management, coordinated school health programs, school wellness policies, crisis/disaster management, emergency medical condition management, mental health protection and intervention, acute illness management, and infectious disease prevention and management. {9}

- The school nurse is a liaison between school personnel, family, health care professionals, and the community .The school nurse participates as the health expert on the IEP and 504 teams. IEP teams identify the special education needs of students; 504 teams plan for reasonable accommodations for students' special needs that impact their educational programs. As the case manager for students with health problems, the school nurse ensures that there is adequate communication and collaboration among the family, physicians, and providers of community resources. This is a crucial interface for the pediatrician and the school nurse to ensure consistent, coordinated care. The school nurse also works with community organizations and primary care physicians to make the community a healthy place for all children and families.{9}

School nurse activities

The range of school health services varies by school district. The following health services are the minimum that should be offered, according to the American Academy of Pediatrics (AAP) manual School Health: Policy and Practice:

- Assessment of health complaints, medication administration, and care for students with special health care needs;
- A system for managing emergencies and urgent situations;

- Mandated health screening programs, verification of immunizations, and infectious disease reporting; and
- Identification and management of students' chronic health care needs that affect educational achievement.

The AAP recognizes the need for appropriate management of student health conditions in its policy statement, “Guidelines for Administration of Medication in School.” It also recognizes the need for policies for emergency medical situations that can occur in school and the school nurse's role in developing and implementing these policies. The school nurse serves as an extension of traditional community health services, ensuring continuity, compliance, and professional supervision of care within the school setting.^{9}

School health services team

The school nurse functions as a leader and the coordinator of the school health services team. The team may also include a school physician, licensed practical nurses, health aides and clerical staff, school counselors, school psychologists, school social workers, and substance abuse counselors. The health team may also expand to create a coordinated school health team that integrates health services, health education, physical education, nutrition services, counseling/psychological/social services, healthy school environment, health promotion for staff, and family/community involvement. Occupational therapists, physical therapists, and speech-language pathologists may also be part of the school health team. A pediatrician often fills the school physician role, because pediatricians are knowledgeable about general pediatrics, school health, and adolescent health. School physicians review guidelines, policies, and programs related to health care in schools. In some schools, a pediatric or family nurse

practitioner functions as the school nurse and may provide additional services. Unlicensed assistive personnel (unlicensed individuals who are trained to perform as an assistant to the licensed nurse) may be part of the school health services team. Although they may possess state certification in medication administration as a nursing assistant or other nursing tasks, they must be trained and supervised by the school nurse in accordance with state nurse practice laws to perform delegated nursing tasks. Under this approach, the school nurse has the responsibility to decide which nursing tasks may be delegated and to whom within the school setting, in accordance with state laws and regulations. Some schools may have a school-based health center in or adjacent to the school, which may provide primary care and psychosocial services. The school nurse coordinates the activities of the school health services team with the child's primary care physician and/or with the school-based health center to provide continuity of care and prevent duplication of services^{9}

professional preparation for school nurses

The AAP supports the goal of professional preparation for all school nurses and recommends the use of appropriately educated and selected school nurses to provide school health services. The National Association of School Nurses has determined that the minimum qualifications for the professional school nurse should include licensure as a registered nurse and a baccalaureate degree from an accredited college or university. There should be a process by which additional certification or licensure for the school nurse is established by the appropriate state board. The AAP supports national certification of school nurses by the National Board for Certification of School Nurses.^{9}

Comprehensive School Health Approach

Comprehensive School Health integrates school-based health promotion into a framework that expands beyond classroom-based health education models and integrates the education and the whole school environment {8}. The process includes the application of holistic approaches to the provision of health and social services that have been found to be beneficial to the psychological wellbeing of the individual {35} .

This approach to health promotion in schools is referred to in Canada as Comprehensive School Health (CSH). This is synonymous with the term Health Promoting Schools (commonly used in Europe and Australia) or Coordinated School (used in the United States) {8}The Ottawa Charter for Health promotion in 1986 provided an overarching framework for CSH{29}. Since then 43 countries have begun implementing this program {36}.

Allen sworth and Kolbe expanded the traditional ‘three-component’ model in 1987 and went further, pioneering an eight-component Comprehensive School Health Program which incorporated the following: health education, physical education, school health services, school nutrition services, school counseling, psychological and social services ,healthy school environment, health promotion for staff, and family and community involvement. This framework shifted from ‘comprehensive’ to ‘coordinated,’ according to fetro so as to stress the interrelationship of the various components{37} .Comprehensive School Health school programs facilitate improved academic achievement, which can lead to fewer behavioral problems. Students are assisted in developing skills necessary to physical and emotion health that they will carry into adulthood {38}.

The mission statement of the CSH is to recognize that healthy young people learn better and achieve more. It posits that schools can directly influence students’ health and behavior, in part by encouraging healthy lifestyle choices, and

promoting students' health and wellbeing. It incorporates health into all aspects of school and learning, linking health and education issues and systems {35} .

To achieve these ends it needs the participation and support of the families and the community as a whole. The framework of CSH is designed to assist educators, health practitioners, school staff, the students, and all others in working to create an environment that is conducive to learning, working, and playing {35}

The Joint Consortium for School Health (JCSH) classifies what they refer to as the four pillars for CSH (see Figure 2). These four pillars are: (a) teaching and learning;(b) social and physical environments; (c) healthy school policy; and (d) partnerships and services.

Figure



Figure 1. The Pillars of Comprehensive School Health from the Joint Consortium for School Health {39}

The designated first pillar, teaching and learning, applies to a form of student centered learning, combined with teacher training, applying resources, activities, and provincial and territorial curriculums. Knowledge and experiences appropriate to each age level assist students in building skills that improve their health, well-being, and learning {35}

The second pillar refers to the school community; social and physical environments that engage with students to develop programs and fair opportunities for all with students increasing their sense of engagement in the learning process. This leads to an improvement in health{15}.

Through this program the social environment is addressed; the quality of relationships between the staff and students, with the emotional well-being of the students being improved. This spills over into the students' relationships with their families, along with the community. A part of this program includes physical environment; improvements to school buildings, the grounds, and the play space and equipment inside and outside of the school. Basic amenities such as proper sanitation and air cleanliness also play an important factor {35}

The third and essential cornerstone for all CSH models deals with the implementation of policies that support health in schools. These policies are not one-size fits all. They must be developed, implemented, and tailored to suit each school, providing specific activities, guidelines, and practices to promote and support students' well-being and achievement through a respectful, caring, and welcoming school environment {35}

Forming the fourth pillar of CSH is Partnerships & Services, includes developing partnerships between the school and the students' families .These connections promote supportive working relationships among the schools as well as between schools, other community organizations, and representative groups. Community services and school-based services that support and advance the health and well-being of both student and staff form this portion of the model and this includes nurses that visit or work in the schools {35}

By providing access to school services prior to, or after school hours community facility usage and health professional engagement in the local community are improved in a significant way {8}The effectiveness of comprehensive school based

intervention programs that promote health in children and youth has been evaluated through a number of studies and several systematic reviews. The results provide positive evidence for this approach. {34}

School Nurse is a Major Player Providing School Health Services

Some authors have suggested that the placement of a full-time school nurse is crucial to the role of establishment of comprehensive health services for children and youth in schools {40} In the west, the tradition of school nursing has its roots in the inspections of public schools by health professionals in the early twentieth century as a means of controlling and preventing the spread of contagious disease and of upholding certain standards of health{41}.

Eventually, as the threat of contagious diseases like mumps and rubella receded, this role changed into one focused on mental health, lifestyle, and disability and chronic illness{41}.

According to the National Association of School Nurses (NASN), a US agency evolved from the Department of School Nurses (founded July 4, 1968), has seven “core roles”:

- The provision of direct health care treatment of injuries and acute illness.
- Establishing health care leadership roles within school environments.
- Performing health screenings and engaging in early identification techniques.
- Creation and maintenance of a healthy school environment.
- Providing and assisting with health education programs.
- Development of in-school health care policies.
- Acting as liaison between various stakeholders, such as parents, school staff, and other health professionals.{9}

As is evident, this is a strong community leadership role as well as a necessary

touchstone for physical and mental health in environments devoted to other endeavors

(i.e., academic learning) but that nevertheless are only able to function with consistently high levels of student and teacher health {42} These roles are also supported in Canada by the Canadian Community Health Nursing Standards of Practice which outline the role of the public health nurse in working in settings such as schools within the broader standard of promoting health; prevention and protection {43} .In Canada the role of the school nurse is currently provided by public health nurses or nursing practitioners that visit the schools. In Saudi Arabia in 2006, the Ministry of Education established a policy that each girl's school should employ one nurse to promote health for children and school staff {44}

The National Association of School Nurses (NASN) developed the Framework for 21st Century School Nursing Practice, introduced in June 2015, to reflect current school nurse practice {9}. Feedback was requested, and obtained from practicing school nurses in a variety of methods. A review of current needs and healthcare topics concerning school-age children, the health care climate, evidence-based literature, and critical skills necessary to meet student health challenges was undertaken at the development stage of the framework{9} .

Ultimately the determination was to provide the school nurses with a resource guide which was intended to assist them in their practice helping students with their health, staying safe, and being prepared to learn . {9}. The 'Whole School, Whole Community, Whole Child' model has been aligned with NASN's 'Framework for 21st Century School Nursing Practice as demonstrated in Figure 2. This calls for a collaborative and coordinated approach to the learning process, as well as student health (ASCD & Centers for Disease Control and Prevention [CDC], {9} . The concept is to surround the student, their families, and the school community with a nonhierarchical ,but overlapping set of principles: Care

Coordination, Leadership, Quality Improvement, and Community Public Health. A fifth principle, Standards of Practice, surrounds the rest, providing the integrity of evidence-based, clinically competent, quality care {9}.

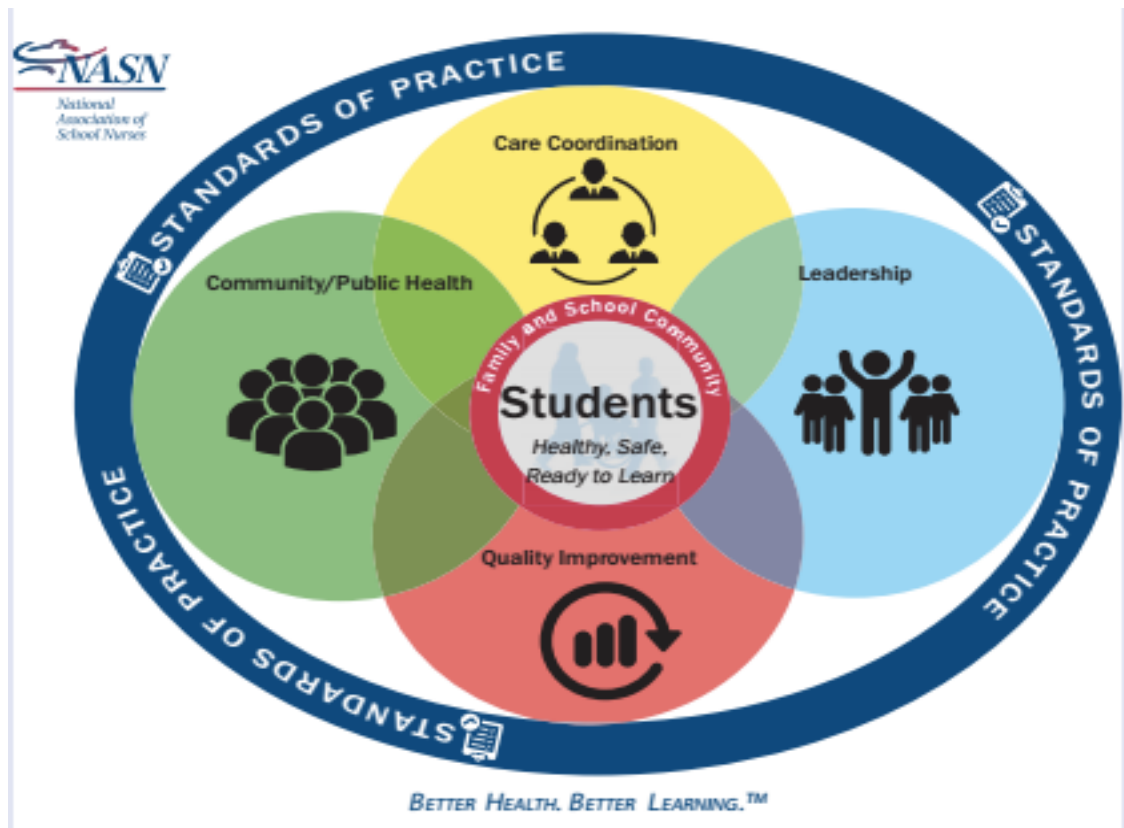


Figure 2. Framework for 21st Century School Nursing Practice {9} .

The first principle in the framework of Care Coordination encompasses 12 principles: Case Management, Chronic Disease Management, Collaborative Communication, Direct Care, Education, Interdisciplinary Teams, Motivational Interviewing/Counseling, Nursing Delegation, Student Care Plans, Student-centered Care, Student Self-empowerment, and Transition Planning{9} .

The second framework principle of Leadership breaks down into Advocacy, Change Agents, Education Reform, Funding and Reimbursement, Healthcare Reform, Lifelong Learner, Models of Practice, Technology, Policy Development and Implementation, and Systems-level Leadership {9} .

The third principle, Quality Improvement, covers Continuous Quality Improvement, Documentation/Data Collection, Evaluation, Meaningful Health/Academic Outcomes, Performance Appraisal, Research, and Uniform Data Set {9} .

The fourth principle in the framework, Community Public Health, is broken out to include Access to Care, Cultural Competency, Disease Prevention, Environmental Health, Health Education, Health Equity, Healthy People 2020, Health Promotion, Outreach, Population-based Care, Risk Reduction, Screenings/Referrals/Follow up, Social Determinants of Health, and Surveillance {9}.

The fifth and final principle is the Standards of Practice. These are the controlling integrity factors, covering Clinical Competence, Clinical Guidelines, Code of Ethics, Critical Thinking, Evidence based Practice, NASN Position Statements, Nurse Practice Acts, and the Scope and Standards of Practice {9} .

Best Health Delivery - School Nurses

School nurses can be effective in delivering health promotion not only to children, but also for children to their families and community. A study published by Wright (2012) revealed that children, especially girls, were found to be below the recommended physical activity guidelines, this inactivity leading to obesity.

They researched the impact of a nurse-directed and coordinated, culturally sensitive school-based, family-centered lifestyle program that focused on activity behaviors and body mass index. The researchers employed a six-week program that met weekly, providing 45 minutes of structured physical activity and 45 minutes of nutrition education class for parents and children {45}

A questionnaire was distributed through which the researchers measured physical activity behavior, combined with anthropometric measures on height, weight, body mass index, resting blood pressure and waist circumference. The intervention phase collected a baseline prior to the completion of a 4-month intervention phase, and included a 4-month and 12-month post-intervention follow-up. Results determined that nurse-led intervention decreased TV viewing in boys, while in girls it increased daily physical activity, physical education class attendance, and decreased body mass index z-scored from baseline to the 12-month follow-up {45}

Another role for school nurses is the delivery of evidence-based obesity prevention to students. A study recently undertaken examined the effects of partnering a school nurse with a senior-level nursing student, with the aim of having the nursing student assist in delivering evidence-based obesity prevention health messages. The program, Let's Go 5-2-1-0, coached Fourth and Fifth Grade students throughout the school day, with two nursing schools and two elementary schools participating. Self-reported health habits were collected along with measurements of PA and BMI percentile to form a baseline{46} . Students in School A were studied in September 2009, while students in School B were studied in January 2010. In April 2010, at the end of the school year for both schools, findings were compiled that included statistically significant increases in PA levels and reported improvements in child health habits {46}. The findings indicate school nurses have a positive impact in helping to prevent obesity in schoolchildren. Cowell's findings demonstrated that future research could clarify how the willingness and ability of school nurses to engage in obesity prevention. At the same time, additional research will need to address issues of resources {47}. Ideally the school nurse would be an ongoing resource contributing to the health message each year ,introducing new strategies where required {46} .

It is clear that children and adolescence in Sudan are at risk and that the comprehensive school health approach is a viable framework for action on health risk factors in the schools. Although the role of the Sudanese nurse has been explicated, implementation of an initiative policy to place school nurses in schools has not been implemented . With evidence emerging that nurses can play an effective role in prevention a need for more information on what is currently going on and how nursing students, faculty and current nurses see their future role. there also appears to be a need to explore the potential role for the school nurse in providing health education as one component of their school health promotion efforts.

Chapter

Three

3. Methodology

3.1.Type of the study

A pragmatic qualitative approach was chosen for this study to address the research questions and capture participants' knowledge and experiences as well as revealing the context and meaning of their actions {48}. This method is flexible, reliable and valuable as the first step in developing interventions . The approach focused on gaining insight into the attitudes and beliefs of nursing students, nursing faculty members and nurses about the need for, and their potential role in, school health education and promotion.

3.2.Area of the study

This study was conducted in the faculty of nursing at Al ribat university faculty of nursing science

3.3.Study population

3.3.1.Inclusion criteria

All participants were over the age of 20 years. Nursing student in their 4th year of studies, Nursing faculty working and teaching full-time at the University of Al ribat at community nursing department .

3.3.2.Exclusion criteria

All participants were under the age of 20 years. Nursing student in their first , second and third year of studies, Nursing faculty working and teaching full-time at the University of Al ribat at other nursing department .

3.4 sampling and Sample size

Non probability sampling The recruitment of participants stopped after data from 10 people (n = 6 nursing students; n = 4 nursing faculty) had been collected and reviewed.

3.5 Data collection and method

Participants were randomly assigned a number linked to their role following ethical approval from the University of Alribat Research Ethics Board. To protect the participants' privacy the focus groups were assigned specific numbers (faculty1-4, students 1-6), while the individuals were given pseudonyms.

Data were gathered using audio record , two qualitative interview methods (one-on-one and focus group) using semi-structured open-ended questions{50}. It was important to understand how participants viewed their world. It was necessary to learn their terminology, as well as attempting to capture the complexities of their personal perceptions and experiences, especially as it linked to the proposal of embedding (School Health Nurses) into the education system (. The questions of the semi structured interviews were based on interview guidelines, using a set of questions prepared ahead of time by the researcher. The development of these interview questions was based on the research questions and generated from the school nursing literature {51}and from conceptual frameworks in the implementation literature {52}

In-person interviews (one-on-one or focus group) were selected as the data collection method where possible because face-to-face interviews create a more personal connection than simply perusing a questionnaire or speaking with a prospective participant over the phone {53}. These types of interviews allow researchers to not only generate a personal connection with the individual with the participant, but also afford the researcher the opportunity to pick up on important

nonverbal cues{53}. Focus group interviews are useful in generating a rich understanding of participants' experiences and beliefs . Open-ended questions encourage unsolicited information from participants, drawing out personal experiences in the participants' own words {48}.

3.6 Statistical analysis

Audio recordings of the interviews were transcribed for ease of in-depth analysis of the data that had been collected.

To analyze the data, data analysis strategies typically used in grounded theory were used. The first step is open coding which was used to identify concepts, and their properties and dimensions .Each of the four transcripts was coded and coding categories in separate papers for each group broke out the results. From there the information was compiled from the four groups, by coding, in a codex of four themes, complete with subthemes, categories, and sub-categories. During this step, data were examined and compared for similarities and differences. The conceptually similar open codes were then grouped into higher order concepts or categories {54}

The open coding step provided the groundwork for another analytic step called axial coding. The step of axial coding was used to explain the properties and dimensions of categories and sub-categories .This step also involved reviewing the context for the selected quotes used to establish the various categories and their sub-categories. The various categories and subcategories were worked through to remove redundant and very similar headings to generate the refined list of categories, which cover all aspects of the interview . This step recommends underlining the relevant words and phrases, giving each one a unique color {54}.

Since the interview guides are similar for all the interviewees, certain categories and sub-categories were determined based on the roles of school nurses outlined by

the National Association of School Nurses (NASN). These categories and subcategories included prevention and management; health promotion, and healthy school environment; and consultation with other school professionals.

This process is also important for defining what conditions, actions, interactions, and consequences would prove the simplest or most challenging aspects that affect the implementation of school nursing in Sudan related to the provision of health education and physical education.

Coding entailed the identification of specific groups of information that consist of related themes. These themes emerged from phrase frequency use, incidents, types of behavior, and unfamiliar terms within each interview . After establishing the themes, the findings were worked through for interpretation and given meaning. This is done based on the conceptual frameworks from the implementation literature {52}. The factors identified by NASN and CSH literature were compared with the themes, sub-themes, and categories. The various themes and sub-themes were determined by categories and sub-categories, which are described and supported by transcript quotes in the following chapter.

3.7 .Ethical consideration

* The purposes and objectives of the research were explained to the participants in clear simple word.

*Participant completely voluntary to participate in the interview.

*Participant had right to withdraw at any time without any deprivation.

*Participant had right to benefit from the researcher knowledge(advising) and the investigation results were returned to participants.

Chapter

Four

4. Results:

4.1 Current Role of Nurses in Sudan Schools

there are no nurses assigned to the public schools. two themes emerged from the data that identified their current role of nursing student. These themes: the roles “Health educator”, “Health promoter”. The theme of educator emerged from coded data, which fit into four subcategories illustrated in Table1. Each of health promotion themes emerged from only one category. The key data for this theme and sub-themes are displayed in Table 1 and discussed following.

Table 1 Current Role of Nurses in Sudan Schools

THEMES	Categories	Sub-Categories
Health educator	Increasing health awareness of students and school staff	Growth and development Healthy lifestyle and healthy eating Personal hygiene and daily needs Benefit of physical Activity
Health promoter	Controlling Communicable diseases	

Theme 1: Nurse's Role as Health Educator

Participants in this research stated that they were ideally situated as only nursing students to perform the role of health educator within the school .

...we didn't have special curriculum or course about school health we just teach how student to provide health education and promotion .

For example, one student said, "...we visit schools, and our role is health educator...", yet they had very little to do with actual health education. Student nurses visit the schools and community to provide health education no specific curriculum It is only that nursing students provide information to students during their education and only the university contact with manager of school to arrangement

Increasing health awareness of students and school staff. The majority of the participants, 8 participants out of 10, responded that nurses (nursing students) educated students and school staff about growth and development, healthy lifestyle, and healthy eating, as well as personal hygiene and daily needs.

... how to teach the students with different age groups the importance of growth and development and the importance of health nutrition, the important of exercise and rest, the importance of personal hygiene... (Faculty member 1).

In addition, 4 participants from the 10 stated that nurses instructed the students in the requirements regarding personal hygiene self-care and personal attitude as Faculty member 3 observed: "...she teaches them personal hygiene. It is very important because school always complain about physical hygiene.

Theme 2: Nurse's Role as Health Promoter

At the present time the role of the nurses focuses on controlling communicable diseases. immunization is carried out at the Primary Health Care centers and campaign.

Faculty member "1" addressed preparation of nursing students during their university nursing education to understand what their role will be within the community, along with the reasons and importance of their duties in promoting healthy life-styles and preventing health problems: "...There is a university here preparing the students. And also, we are preparing the students to know their role in health promotion. Because you are not just only treating, you are preventing when we are promoting health..."

4.2 Potential role of nurses in Sudan schools

The second research question explored the "Potential role of nurses in Sudan schools." Four themes were identified based on the findings and data analysis of this question (see Table 2): "Leadership", "Care provider", "Health educator", and "Liaison with the community." These significantly overlapped with the themes from question one addressing current role. Leadership was a unique theme with two subthemes and categories. The theme of care provider emerged from 2 subthemes, 2 categories, and 4 subcategories. Two subthemes, 4 categories, and 3 subcategories established the educator theme. Liaison with the community emerged as an overarching concept from 2 categories and 3 sub-categories. Data for these themes is displayed and discussed following.

Table 2 Potential role of nurses in Sudan schools

THEMES	Subthemes	Categories	Subcategories
Leadership role	<p>Planning</p> <p>Leadership for development and evaluation of school health policies</p>	<p>Prevention & management</p> <p>Health promotion & healthy school environment</p> <p>Consultation with other school professionals</p>	<p>Obesity</p> <p>School violence</p> <p>Stress and anxiety</p> <p>Protecting chronic and communicable Diseases</p> <p>Physical education Teacher</p>
Care provider role	<p>First aid</p> <p>Health screening</p>	<p>Dealing with incidents and accidents</p> <p>Detecting and inspection for early health hazard of students</p>	<p>Contusions and other Injuries</p> <p>Recognition of mental health issues and challenging behavior</p> <p>Monitoring and Follow up assessment of physical and growth development</p>
Educator role	Physical educator	<p>Physical education as nursing curricula subspecialty</p> <p>Knowledge about Importance of physical activity</p>	

	Health educator	Increase health awareness of students and school staff	Prevention and controlling chronic and communicable diseases Proper posture First aid
Liaison with Community		Coordinating linkage between the medical home, family and school Improve access to social and health care professional	Communication between teachers and administration Communication with Family

Theme 1: Leadership Role

Participants in this study highlighted prevention and management, health promotion and healthy school environment, and consultation with other school professionals as potential roles of nurses. Two subthemes emerged from data that are planning and leadership for development and evaluation of school health policies.

Planning.

A necessary part of the nurses’ roles needs to focus on developing a plan for ensuring health needs. As one Faculty member asserts:

...As I told you like chronic disease and communicable diseases like flu or some problem that can spread among students, she will be able to detect... protect these health problem and should be also to plan how to protect the spread or outbreak these communicable diseases among students as well as among the teachers... (Faculty member 1).

In addition, faculty member 3 suggested that they could undertake the leadership position in developing and evaluating school health policies when she said: "...make assessment for each school first to know their need and according for this assessment we make our plans."

Prevention & management. Six participants asserted that the prevention and management as a potential role of nurses would include coordination of a plan dealing with education about and methods for combating obesity, school violence, and stress and anxiety experienced by students and faculty, applied through intervention and knowledge.

Obesity. Four participants stated that the nurse should handle the prevention of obesity through ongoing classroom instruction into causes, effects, and avoidance. Faculty member 3 discussed the importance of having a school nurse to provide preventative measures with regards to the health of students that could include intervention in extreme cases when she said: "I mentioned before that health education very important and also, prevention of any problem and treat actual problem if it is present, for example obesity or there is another health problem..." The presence of a school nurse during school time is necessary to combat obesity as Faculty member 3 said,

"...It is important to have school nurses during school time because of the promotion and prevention of any health problem for example, obesity..."

School violence. One of the participants spoke about the issue of violence among students and the need for prevention and control programs of such health issues as illustrated in the quote, “also the school nurse be useful for students and teachers in two ways ... for children school, how to prevent and control problem such as violence. Violence is present most important health problem in our school...” (Faculty member 4).

Stress and anxiety. Two participants focused on how stress affects many students. They spoke about how it is necessary to have nurses in place because nurses can prepare and implement a plan to help students to cope with stress and anxiety. For example, Faculty member 3 said:

...in fact, the majority of the school from my experience, need emergency first aid for example, bleeding, fracture and everything related to first aid about nutrition and hygiene care growth and development and changes in adolescent and how to deal with stress...

3 participants pointed to fainting and the academic stress and anxiety that students experience during exams time and how the presence of school nurses is necessary to deal with such situations when she said: “...the presence of school nurses is necessary for the purpose of ...fainting caused by anxiety especially during exams...”

Leadership role in the development and evaluation of school health policies.

The majority of the participants talked about leadership roles that nurses can play in promoting health of students and ensuring a healthy school environment, and how nurses in consultation with other school professionals would provide development of health promotion and healthy school environment.

Health promotion & healthy school environment. A large number of participants addressed how through promotion of health, combined with a healthy

school environment, nurses would protect students with chronic diseases, promoting an environment to prevent the distribution of communicable diseases.

Protecting against chronic disease and communicable diseases. Nine participants addressed the ability of school nurses in preventing and controlling communicable and chronic diseases. They also highlighted that nurses can set up the plan to control the spread of these diseases as Faculty member 1 said:

...as I told you like chronic disease and communicable diseases like flu or some problem that can spread among students, she will be able to detect... protect these health problem and should be also to plan how to protect the spread or outbreak these communicable diseases among students as well as among the teachers...

Physical education teacher. Faculty member 1 spoke about the need for a nurse to be a part of the school staff to consult with other school professionals, in particular as an assistant to the physical education teacher.

...In schools, there will be a teacher related to this physical education but if the nurse is there she will integrate with the teacher and she will enhance the role of the teacher who are doing physical education because she will give tips of student about the importance of physical education to their health and growth, and development, so there will be integration and linking between the nurse and teacher who are to assigned the physical education...

Theme 2: Care Provider Role

Two subthemes, first aid and health screening emerged from the data that identify dealing with incidents and accidents and detection and inspection for early health hazard of students as potential roles of nurses.

First aid.

Accidents do happen in the school environment, and students with chronic diseases also suffer attacks. While no some schools have teachers trained to respond with

basic first aid, there are instances where a qualified nurse or nursing student is better able to assess and treat the problem. Seven participants addressed the issue of having qualified nurses in place to deal with accidents. With their education and experience nurses are in the best position to respond to and treat injuries when they occur.

Dealing with accidents. Nurses are qualified to handle injuries, especially those dealing with bleeding, fractures, and contusions. They are also knowledgeable about the best ways to deal with unexpected collapse due to health-related issues or medical conditions. Contusions and other injuries. Of the 10 participants, 5 spoke out concerning the need for a nurse or student nurse to be part of the school faculty to provide prompt first aid when there are students suffering injuries. They are trained to stabilize patients. This is especially important if the patient will require transportation to a hospital for further treatment.

...In fact the majority of the schools, from my experience, need emergency first aid; for example, bleeding, fracture, and everything related to first aid... (Faculty member 4).

Unexpected collapse. Five participants mentioned the need for qualified nurses and student nurses to be available to deal with students who might suffer from diabetes related issues such as hypoglycemia, or other medical conditions. The following are examples of their comments.

Also, the existence of nurse in school is important ...when students suddenly fall down from hypoglycemia or another medical condition, nurse is qualified to deal with these students... (Nursing student 6).

...The presence of school nurses is necessary for the purpose of first aid, the cases of diabetic falls, injuries, fainting caused by anxiety especially during exams... (Nursing student 3).

Health screening.

Some participants talked about the potential role of the Sudan school nurses in the health screenings, detecting and inspection of children for early health conditions.

Detecting and inspection for early health hazards. Through their nursing education, nurses are able to recognize mental health issues and challenging behavior in its developmental stages. They are qualified to follow up with parents and teachers on the causes, as well as suggesting methods for rectifying the problem before it escalates. Also, nurses are able to monitor and assess physical and growth development of students. The participants highlighted these specific categories that summarize their role in the detection and inspection of health hazards.

Recognition of mental health issues/challenging behavior. Mental health and other challenging behavioral issues can manifest very slowly and be difficult to detect. Four participants spoke about the need for professional nurses in the school system because they are qualified to recognize mental health issues and other challenging behaviors.

...some nurses can help in dealing with a child or student, especially students who are in kindergarten, because the nurse can recognize the attitude of children with abnormal behavior, so that the nurse can give advice to the teacher about how teacher can deal with this children... (Nursing student 2).

Regarding the school nurse role and scope of function is very useful for the students and the teachers and affecting both, affecting the students' health because through school nurse, we can make early inspection for the health hazard of students... (Faculty member 4).

Monitoring and follow up assessment of physical and growth development. Of the 10 participants 4 discussed the need for a qualified nurse to be in the school because of their ability to assess the physical and growth development of students.

This would be a direct follow-up from the initial school entry health requirement examination to monitor and assess each student's health and wellbeing throughout their school years. According to Faculty member 2, "... it is very important to put nurses in schools for health education and continue or follow up for students' health and should be dealing with students; environment from accident, to control diseases or anything..."

Theme 3: Educator Role

Two subthemes, physical educator and health educator emerged from data categorized as physical education as nursing curricula subspecialty, knowledge about importance of physical activity, and increase health awareness of students and school staff

Physical educator role.

Qualified nurses and nursing students are ideally qualified to teach the importance of physical activity and to create necessary programs. According to Nursing student 4, "I think that nurses can provide physical education because she is knowledgeable and she knows which type of exercise is suitable for students who have chronic diseases".

Importance of physical activity. The potential role of the nurses may focus on trying to provide information about the importance of physical activities and how exercises impact on health and prevent chronic diseases such as obesity. Six participants out of 10 addressed the concerns of physical education, the need for a proper exercise routine, and how daily exercise can prevent health problems. The following is an example of their comments. "...She must also provide information about the role of the important of physical education such as exercise, daily exercise to prevent obesity..." (Faculty member 4).

Health educator role.

Health education is an essential responsibility in nursing carrier. As a health educator nurses can increase health awareness among students and school staff.

Increasing health awareness of students and school staff. Eight participants addressed the need to teach about First Aid including CPR, and how to react to someone who is suffering an attack of epilepsy, hypertension, and other common health crisis. They also highlighted (see following quotes) that nurses can also instruct students on how to react to and cope with a family member who might be suffering from diabetes or hypertension. Diabetes has become almost epidemic among the Sudanese population, especially in young adults and students. Nurses can teach and reinforce the importance of prevention and controlling chronic and communicable diseases.

...The most important subject the school nurse must be; teach the student about prevent and control communicable diseases, diabetes most health problem among students and teachers and people... (Faculty member 4).

Theme 4: Liaison with the Community

The participants highlighted coordinating linkage between the medical home, family

Coordinating link between medical system, family, and school. According to one faculty member, there is a real issue with not having nurses assigned to all of the schools. There is a real need within the school system to have nurses in place, especially when taking into consideration their qualifications and what the variety of areas that nurses can address if they are given the support, authority, and the equipment to fulfill a real position.

...there are no nurses in schools, I do not know the schools that has a nurse, but from my point of view if the nurse has to be there, so should be qualified and should be specialized as community nurse, so she will able to help a students and

school staff even an administrative to benefit her being there because she will be related to community... (Faculty member1).

Communication with family. One of the teachers mentioned the fact that the nurse in the school system is necessary to monitor students for behavioral issues, and communicate with family to treat problem or with social worker. ...sometimes consulting if there is any health problem and communicate with family to treat some problem or maybe do social worker, if it is present on hospital they can collaborate together and work together to treat and also consult... (Faculty member2).

4.3Facilitators and barriers

The third research question covered “Facilitators and barriers to providing health and physical education in schools.” Within the facilitators the research uncovered two themes: university and college level support, and school health services. School health services developed two subthemes: Private schools and Public schools.

Tow barrier themes were identified and explored following: Government support, and demand for nurses exceeds supply. The themes, sub-themes, and categories, are presented in Table 3.

Table 3 Facilitators and barriers

THEMES	Subthemes	Categories
Facilitators		
University and college level support		Providing practicum at community and schools Providing courses related to health promotion
barriers		
Governmental	support Lack of financial support and infrastructure Lack of regulation	No equipment on clinic Budget no supplements for providing health education No space and equipment to provide physical education No existence school nurse in schools. Lack linkage between Ministry of Education and Ministry of Health

The above table sets out and explores the various facilitators and barriers that currently exist within the Sudanese school system with regards to physical education and health education

Theme 1: University and College Level Support

Within the nursing field of nursing education university and college courses are broken down into theoretical and practical. This is enforced through exposure at the community and school level where the student nurses have the opportunity to attend patients in real life situations.

Providing practicum in communities and schools. The university provides courses that are related to the health promotion and education for use within the community. This course is broken into two parts: theoretical and practicum. Three faculty members and three student nurses outlined the current Nursing Curriculum in the university at this time, which includes a Community Nursing course. The following is an example of their comments:

...I think it is related to that, in what way our university prepares our nurses, as I told you here we have community nursing course, we are providing the students with all of the subjects in the theoretical part, and in the practicum part... (Faculty member 1).

...they will go for home visits, they will go for the schools, they will go for pediatric. We will prepare the students with different areas of the community. And particularly to the schools we are getting our students there, we are educating them how to deal with students with their different age groups, what are the important topics they can teach. During this course, this course for 4th year students, during this course student will be a group and will be rotated it special schools, not all schools, particular schools which are welcome that our student go to schools... (Faculty member 1).

Three of the student nurses described visits to schools while training where they practice health education in the various schools and health care units even though there is no specialized course, ensuring they receive not only training in the hospitals, but also in the various schools and health care units. The following

excerpt is an example of the description they provided of their education...During these courses, we visit schools to do training there. We don't have a special course in health education or promotion in our university.

However, the University gives us activities to practice health education on schools and health care units. This is a good point from our university, so we are not only trained in hospital but also we work in schools and health care units... (Nursing student 4).

Providing courses related to health promotion. Some courses are provided at the college level related to health education and health promotion, such as the Growth Development, Community Nursing and Pediatric courses. Three student nurses explained how they develop and expand their knowledge base through supervised practical application. "...Actually, we are taking courses of growth development, community and pediatrics, all of these courses are related to health promotion..." (Nursing student 3).

Theme 2: Governmental Support

Lack of financial support and infrastructure.

Barriers to establishing a proper physical education and health education program with the school system encompass a number of problem areas. To begin with, there is no assigned budget for the implementation of such a program. While there are no clinics in the schools, there is no equipment. There are no supplements such as projectors or computer connections for providing health education, nor is there space and equipment to provide physical education in the girls' public schools.

No equipment no clinic. Three participants said that although schools might not have a clinic . They lack proper equipment.

... not all schools will have a clinic, if there is clinic in schools, it

will be just a room without nurse. But where is qualification and what is there in that room? Nothing. Also, there is no equipment in clinic. Even the equipment they will not have. Schools -do not cover to the clinic... (Faculty member 1).

No budget and no supplement for providing health education. Three participants addressed the lack of adequate equipment and there are no funds available with which to rectify the problem. Faculty member 3 reinforced this, saying "...barriers include unavailability equipment to provide direct care and explain about the health education, difficulties in accessing schools to provide health education, absence of financial support to provide health education...".

No space and equipment to provide physical education.

Six participants responded that there is frequently neither the space for physical education, nor the necessary equipment to implement exercise.

Faculty member 3 suggested, "they have to provide place for physical education, and also, need the equipment to do exercise...". Nursing student 7 added "...I think the major barrier is spaces and equipment. Most of schools are not provided with the equipment of physical exercises..."

Lack of Regulation. At present there are no assigned school nurses within the public school system. There is a lack of existing connection between the Ministry of Health and the Ministry of Education.

No existence of school nurse. there is a need for all public and private schools to have a nurse on. Three participants spoke about this lack of school nurses in public schools. The following excerpt is an example of their comments:

...but I am not sure that all the schools there is a school nurse. Maybe some schools have nurses, but not all schools are covered to provide these things. All schools should be covered by school nurses to help the student as well as teachers... (Faculty member 1).

According to participants, all schools should have a properly designated and outfitted clinic, and this would have to be implemented if nurses are assigned to all of the schools. Also, one faculty member highlighted that the role of nursing in schools is very limited and not well defined. She commented that the university only communicates with the schools management to define the topics that need to be provided to students.

The following comment represents her concern:

...the role of nurses school. It's is very limited and maybe not well defined. It is only that nursing students provide information to students during their training and only the university contact with manager of school to arrange the needs and topics that nursing student could provide ... Only that. I think that good participation between University and Ministry of Education to achieve objective community courses. (Faculty member 2).

Lack of linkage between Ministry of Education and Ministry of Health

no assigned nurse in school. According to this faculty member, the Ministry of Education needs to take a serious stand on this issue. She suggested the following:

...clinics at schools are not activated. There should be communication, there should be a link between schools and the Ministry of Education to get this point as a serious point, or to think about this point to put a nurse school in each schools, and this is school nurse...and there should be link between Ministry of Health and Ministry of Education because these nurses are related to Ministry of Health, and the place related to Ministry of Education... (Faculty member 1).

Chapter

Five

5.1 Discussion

The need for enhanced health promotion efforts that serve school has been identified{55}. Many researchers and school health experts have identified the school as an important setting for intervention because children spend much of their day there, for approximately two thirds of the year from age 5 until late adolescence {28}. In addition, these experts also emphasize that schools have the infrastructure, trained professionals and the responsibility to provide health education{42}.

The comprehensive school health model provides a framework for understanding the scope of potential health promotion efforts in schools. Included in the categories for action are Health Services within which the role of the School Health Nurse falls. Further supporting a role for nurses in the community broadly and schools specifically is the 21st Century School Nursing Practice framework {9}. With an identified gap in school health promotion and physical activity provision for children in schools the aim of this study was to explore the current and potential role of nurses in school health education and promotion . Interviews encompassed current nursing students, members of the nursing faculty, and a number of key themes emerged. I compare the key themes that emerged and discuss them in the context of the aforementioned frameworks and the existing literature. The key themes that emerged that are related to the current and potential role of the school health nurse in the schools supported their role in providing health education, health promotion, liaising with the community, leadership, and in providing care. Each of them will be discussed.

5.1.1 Current role of nurses in Sudan

Theme 1: Nurse's role as Health Educator

This theme highlighted that nursing students, faculty felt that “Increasing health awareness of students and school staff” was a primary role for school nurses. Most of the participants in this study stated that nurses presently educated students and school staff on the importance of the role of healthy lifestyle and healthy eating in relation to growth and development, along with good personal hygiene and daily needs. supported this as well and suggested that health education programs can effectively be achieved through school nurse health personal, education within in school curriculum and knowledgeable parents {56} .

Finally, according to the National Association of School Nurses (NASN) one role of the school nurse is providing and assisting with health education programs .

As previously mentioned this would also be considered in a Community/Public Health principle in accordance with 21st Century School Nursing Practice Framework {9} .

Theme 2: Nurse's Role as Health Promoter

nursing students as part of their practicum , primarily focus controlling communicable diseases through visits to the schools according to four participants in this study.

To promote the health Examinations should be carried out include general physical examination and vaccinations by the visiting nurse in a part-time capacity as a school health worker . Ideally, these visits are supposed to occur every 2-3 visits/month {56}. However, according to one of the nurses in this study, these visits are actually carried out only three times within the course of a school year .And immunization carried out by campaign and primary health care .

Allen advocates that improved student outcomes occur where schools have a full-time school nurse, as noted in studies in Canada and the U.S.A. and a report by

NASN reinforcing the need for integrating health solutions into the education setting.^{9}

This level of health promotion requires integration with the local community/students' families, in particular with their parents, and coordinated with the Public Health Services as directed by the 21st Century School Nursing Practice Framework developed by NASN (2016). In addition to this, the two facets of the Pillars of Comprehensive School Health^{12}, which are teaching and learning, and partnership and services, substantiate and emphasize this requirement. The support for this role indicates that efforts to implement this may be well received by nurses.

5.1.2 Potential role of nurses in Sudan schools

The second research question that emerged from the perspectives of the participants concerned the potential role of nurses in schools. The theme was identified during the collection and analysis of the data related to this question as being: “Leadership role”, “Care provider role”, “Educator role”, and “Liaison with the community”.

Theme 1: Leadership Role

The first theme in the potential role of the nurses in Sudan schools was that of a leadership role. This theme highlighted that nursing students, faculty strongly believed that “Prevention and management,” “Health promotion and healthy school environment,” and “Consultation with other school professionals” was a primary role for them. Some participants discussed that the potential role for nurses in the school system was to educate students about obesity and weight gain, as well as other issues like school violence and dealing with stress and anxiety. This agrees with a study published by Wright (2012) in Europe where school nurses provided effective delivery for health promotion and prevention of health problems. {45}

In this case study the presence of a full-time nurse in the school provided an effective intervention infrastructure (fully professional staff time) towards preventing health problems and behaviors related to . Another area of focus for the participants in this study was student stress and anxiety {45}. This is reinforced by a related study in Saudi Arabia that identified a high rate of depression among adolescents, with females ranking 19% higher than their male peer. Nurses possess the competencies to provide emotional support and can facilitate a process for assisting students in understanding the range of normal stress reactions. At the same time nurses can teach students ways with which to cope with trauma, disaster, or the day-to-day stress of schooling and home life {56} .

Policies the third pillar of the health promoting schools framework supported by the Joint Consortium for School Health in Canada (2012) highlights these leadership activities within the area of healthy school policy which integrates decision-making processes and rules, procedures and policies, and management practices. Finally ,NASN set out role of the school nurse in the Framework for 21st Century School Nursing under the principle of Leadership, and established how it linked to the other four principles in the model. in conjunction with NASN's (2016) model, the need for health promotion leadership and health education in the school curriculum is critical and nursing students, faculty and current nurses support this role.{9}

Theme 2: Care Provider Role

Nurses also identified the role in providing health care and first aid in the schools; dealing with accidents and health issues among students and school faculty and acting as an on-site First Responder in the case of an accident or other emergency. This was substantiated by a majority of participants in this study who stated that it was essential to have a qualified nurse in each school to assist in protecting students and applying proper first aid when necessary.

Moreover, participants believed that school nurses are invaluable as they are able to detect, through a screening process, early health hazards developing in students, because they are qualified to carry out health inspections. Many times a child will develop a health issue during their school years. Such problems often go undetected by the family.

The prevalence of obesity was 21.2%,the prevalence of cigarette smoking among adolescent students in Khartoum State was 13.6 ,The prevalence of epilepsy in school children in Khartoum State (4/1000) is higher than that reported previously from Khartoum Province in 1983 (0.9/1000).{25}prevalence of major depressive

disorder for the population was 4.2%. and, 11% of the adolescent girls reported severe depression.

Through having a trained health care worker in the school such as a nurse or nursing student who is cleared to detect and carry out inspections, such health issues arising in students can be detected earlier and treated more expeditiously. Health education placed second in their consideration {11} .

This is reinforced by findings by NASN that school nurses engage in screenings of vision, hearing, BMI, mental health, and other screening procedures {9} .

It appears from the literature and study participants alike that this is an appropriate and needed role for the school nurse. If this was provided the third and fourth component of Comprehensive School Health of healthy school policy, and Partnership and Services, are addressed by promoting health and well-being, shaping a respectful, welcoming and caring school environment.

Theme 3: Educator role

nursing students in this study clearly saw their potential role as health educator in schools. As a part of this role some also indicated they had the appropriate education to provide health education. Beyond physical education, a majority of participants in this study stated that it was extremely important for staff and students to be provided with basic instruction in first aid.

A study found that of teachers who had witnessed an epileptic seizure 64.1% did not know the proper first aid treatment, approximately 84% needed more information about epilepsy, and 86.7% needed instruction on giving proper first aid to someone suffering an epileptic seizure.

Nurses are trained to competently respond to emergencies.{56} Because they are qualified to instruct first aid they can teach Basic First Aid and refresher courses. This falls under NASN's Framework directives as part of the principles of Care

Coordination and Community/Public Health, which advocate teaching students, faculty, and the community in treatment, and management of chronic health issues.

Theme 4: Liaison with Community

nursing students in this study clearly saw liaison with the community as a key role for the school nurse. In referencing the community they appeared to mean the public health system and the family rather than a broader group of community stakeholders. They felt that health issues diagnosed in a student need to be shared between the nurse and the family, as well as with the student's school. This nurse should coordinate a link that connects the medical system with the family and the school, the better to facilitate knowledge of what issues, if any, need to be addressed and monitored.

As substantiated by NASN school nurses provide an important, coordinated link between the medical home, the family, and the school.^{9} They can provide families with referral information, as well as available community resources, improving access to comprehensive health care.

They advance changes to health; collaborating with school staff, parents, and the community to ensure the safety and health of the students. Participants in this study highlighted how school nurses would improve access to social and health care professionals. This fits within the principles of Community/Public Health as set out by the 21st Century School Nursing Practice framework. Pillar Four of the Comprehensive School Health model also supports and promotes working relationships among schools, and among schools, other community organizations, and representative groups.

5.1.3.Facilitators and Barriers

This study focused on the current and potential roles of school nurses including their role in health education, health promotion, providing leadership, and liaising with community. Facilitators and barriers to implementation of these roles were explored and three themes emerged. These themes are “University and college level support,” “School health services,” “Governmental support,” and “Supply and demand.”

Theme 1: University and College Level Support

Participants in this study stated that currently supporting the role of the school nurse through university and college level education, which advances student nurses’ practice at communities and school. This includes provision of growth and development courses.

However ,as Jradi (2013) observed in their research there is no integration of public health education and associated competencies at this time because it is not part of the existing nursing curriculum. the faculties failure to implementing public health education and training within the nursing curriculum {56}. One possible approach that would facilitate the implementation of nurse led health education and health promotion in the schools is to enhance physical health studies within the Public Health courses that are part of the nursing curriculum. By enhancing this component within the nurses’ education it will raise the awareness and skill level, which in turn could influence access to this in the schools.

Theme 2: School Health Services

A key barrier to a more role in health education and promotion in the schools identified by participants in this study is lack of services. the majority of the schools did not have a nurse in Sudan. because most schools cannot afford to hire a nurse, investment from the government would facilitate action. global comparison

of where school nurses are used carried out by MacDougal indicated that in Canada 56.3% of schools had access to nurses in the school system, while in the U.S. the presence of nurses in the schools was 41.3%, with a total of 74.6% having a registered nurse visit at least once a week {42}.

Theme 3: Governmental Support

At this time, according to study participants, the Sudan government isn't providing clinics in the public schools that often there were no proper facilities and equipment. Financial resources are integral to changes in nursing education and the provision of adequate space, equipment, and staff for school health services.

Conclusions study reached in Saudi Arabia stressed the need to establish a fully equipped school health clinic in each school, to include regular visits by an assigned school physician, along with coordination between the established school health team and the local community {11}.

Another barrier under the theme government support is the existence of regulations or restrictions that have an impact. Understandably, and raised nurses are preferred, not only because it is assumed they can provide a higher quality of nursing care for the Sudanese population, but they are also much more capable of efficiently communicating with patients and families {56}.

5. 2conclusion

- At this time, the role of school nurse in Sudan is extremely limited, especially as the nurses connect to the schools.
- No visits by nurses
- nonexistent space and equipment and also
- no specific curriculum about school health teaches in universities. In other countries, notably, the U.S., and some of the European nations, nurses play a significant role in the primary school system. These countries have developed a Comprehensive School Health system that often incorporates access to nurses in the schools. This idea of a Comprehensive School Health system is foreign to the Sudan education system.
- The enormous potential for nurses in the schools as a full-time. providing leadership as well as in the role as educator, “health and physical educator,” is currently unrealized despite its potential.
- there are many barriers to realizing the nurses’ potential in the school system, particularly when it comes to providing health education .

5.3 Recommendations

- Ministry of health and education policy is required for the recruitment of full-time qualified school nurses, to be placed in each of the schools, both government and nongovernment run, as a basic support for school health programming .In conjunction with the placement of the nurses it appears important that fully equipped school health clinics and spaces and equipment for activity to be established in each school. Coordination between the school health team and the community to address the health and physical needs
- Government should establish and maintain a Comprehensive School Health program that emulates the tried-and-true systems presently operating in countries such as in Canada and Great Britain.
- More research must be carried out on child and adolescent health.
- establishment of a comprehensive Public Health course in the nursing curriculum at Universities that includes a combined Health and Physical Education. specialty for teacher and nursing student should be undertaken as soon as is practical.

Chapter

Six

6.1 References

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Appendix 1

Letter invitation for nursing Students

Good day

My name is maram Mohamed abaker and I am contacting you because I am nurse currently a graduate student in community health nursing at the University of Shandi in Khartoum qualitative study called “Exploring the Need and Role for the School Nurse in Sudan Schools”.

The purpose of the research is to explore the current and potential role of nurses in school health education and health promotion . Primarily the research would like to explore the attitudes and beliefs of nursing students and nursing faculty members at a ribat university. The research will also explore the potential role of nurses in the provision of physical and health education’.

There are differences between the organization of schools and health promotion an exploration of the context in Sudan for nurses involvement in school health promotion is needed.

Your participation in this research must be completely voluntary. If you do decide to participate, you may withdraw at any time without giving a reason or any explanation.

If you choose not to participate in the study, your grades and evaluation in your courses will not be impacted.

I am hoping that you might agree to participate either in a focus group or individual interview that will take about 15 -30 minutes of your time.

Thank you for considering this request

Appendix 2

Letter invitation for faculty members

Good day

My name is maram Mohamed abaker and I am contacting you because I am nurse currently a graduate student in community health nursing at the University of Shandi in Khartoum qualitative study called “Exploring the Need and Role for the School Nurse in Sudan Schools”.

The purpose of the research is to explore the current and potential role of nurses in school health education and health promotion . Primarily the research would like to explore the attitudes and beliefs of nursing students and nursing faculty members at a ribat university. The research will also explore the potential role of nurses in the provision of physical and health education’.

There are differences between the organization of schools and health promotion an exploration of the context in Sudan for nurses involvement in school health promotion is needed. I am hoping that you might:

- a. agree to participate in the faculty interviews and,
- b. allow me to come into your university classes to recruit nursing student participants Essentially I would like to conduct qualitative focus group or individual interview (based on your availability) (1-5) with nursing faculty and a focus group or individual interview (n=8-10) with students.

Thank you for considering this request.

Sincerely,

Maram Mohamed abaker

Appendix 3

Nursing Students Interview Guide

How could the presence of school nurses be useful for students and teachers' health?

- Do Sudan schools have a school nurse?
- What can nurse do on schools?
- If any student suffered from chronic diseases, can teacher provide care for her?

What do you think about the role of nurses in Sudan schools?

- Do nurses visit schools?
 - How often do nurses visit schools?
- What do nurses do there in schools?

Which subjects do you think a school nurse could teach?

- Can nurse teach about nutrition?
- Can nurse teach physical education?
- Can nurse teach first aid?

In what way has your university education prepared you for providing health promotion and health education?

- Do you visit schools?
- Do you have special curriculum for health education and health promotion?
- What role can nurse do to prevent chronic diseases?

What are the facilitators and barriers to providing direct nursing care and health education in Sudan schools?

Is there suitable setting and equipment to providing health services in schools

Appendix 4

Nursing faculty members interview guide

How could the presence of school nurses be useful for students and teachers' health?

- Do Sudan schools have a school nurse?
- What can nurse do on schools?

Liaison with the community

If any student suffered from chronic diseases, can teacher provide care for her?

What do you think about the role of nurses in Sudan schools?

- Do nurses visit schools?
- How often do nurses visit schools?
- What do nurses do there in schools?

Which subjects do you think a school nurse could teach?

- Can nurse teach about nutrition?
- Can nurse teach physical education?
- Can nurse teach first aid?

What are the facilitators and barriers to providing health education and health promotion in Sudan schools?

- Do nursing students visit schools to give health education during their study?
- Does your university provide a specific curriculum of health education and promotion for nursing students?
- Do you think that government should employ nurses to schools?

In what way has your university prepared nurses for providing promotion health and physical education?

- Do you visit schools?
 - Do you have special curriculum for health education?
 - What role can nurse do to prevent chronic diseases?

What are the facilitators and barriers to providing nursing care in Sudan schools?

- Is there suitable setting and equipment to providing health services in schools?