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DEPARTMENT OF NURSING

PUBLIC HEALTH NURSING MASTER PROGRAM

EVALUATION OF THE KNOWLEDGE OF TUBERCULOSIS OF NURSES WORKING AT DHI QAR GOVERNOR'S PRIMARY HEALTH CENTERS

Master Thesis

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Çankırı 2021

DHI QAR VALİLİĞİ BİRİNCİ BASAMAK SAĞLIK MERKEZLERİNDE ÇALIŞAN HEMŞİRELERİN TÜBERKÜLOZA İLİŞKİN BİLGİLERİNİN DEĞERLENDİRİLMESİ

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Çankırı 2021

KABUL VE ONAY

ÇAKÜ, Sağlık Bilimleri Enstitüsü'nün 198205313 numaralı Yüksek Lisans öğrencisi Mousa Abdul Al Jabar Hamad, ilgili yönetmeliklerin belirlediği gerekli tüm şartları yerine getirdikten sonra hazırladığı **"DHI QAR VALİLİĞİ BİRİNCİ BASAMAK SAĞLIK MERKEZLERİNDE ÇALIŞAN HEMŞİRELERİN TÜBERKÜLOZA İLİŞKİN BİLGİLERİNİN DEĞERLENDİRİLMESİ"** başlıklı tezini aşağıda imzaları olan jüri önünde başarı ile sunmuştur.

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ACCEPTANCE AND APPROVAL

We testify that the Master student (Mousa Abdul Al Jabar Hamad , Student ID :198205313) at Çankırı University - Institute of Health Sciences -Department of Public Health Nursing has been examined and defended his thesis entitled **(EVALUATION OF THE KNOWLEDGE OF TUBERCULOSIS OF NURSES WORKING AT DHI QAR شGOVERNOR'S PRIMARY HEALTH)** and after fulfilling all the necessary conditions determined by the relevant regulations, We saw, as jury members whose signatures appear below, that the thesis is adequately standing for the degree of master of Science in public health nursing.

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Thesis supervisor:	**Doç. Dr. İlknur GÖL** **Çankırı Karatekin University**	**……** **Signature**
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I confirm the above result
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ETİK BEYANNAMESİ

Yüksek lisans/doktora tezi olarak hazırlayıp sunduğum ”DHI QAR VALİLİĞİ BİRİNCİ BASAMAK SAĞLIK MERKEZLERİNDE ÇALIŞAN HEMŞİRELERİN TÜBERKÜLOZA İLİŞKİN BİLGİLERİNİN DEĞERLENDİRİLMESİ”Başlıklı tez Ahlaki ve bilimsel değerlere göre yazdım.Tezimin fikri /öncülü tamamen bana ve tez danışmanıma aittir.Tez tarafımca ve kendi cümlelerim ve yorumlarım tarafından araştırılmıştır ve yukarıdaki hususların doğru olduğunu belirtirim.

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Date: / / 2021

Student

Mousa Abdul Aljabar Hamad

THE REVIEW OF THE LINGUISTIC EXPERT

I hereby certify that the thesis titled (**EVALUATION OF THE KNOWLEDGE OF TUBERCULOSIS OF NURSES WORKING AT DHI QAR GOVERNOR'S PRIMARY HEALTH CENTERS),** by the Iraqis candidate (M.Sc. student: Mousa Abdul Aljabar Hamad) passport NO. (A13667080) has been reviewed in terms of stylistics and linguistics (grammar and spelling). Therefore, after modifying all the recommended notes, thesis has become free of all linguistic errors and ready to be defended and used to award the degree of M.Sc. in (Community Health Nursing).

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University of Wasit / faculty of arts

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.

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ABBRAVIATIONS AND SYMBOLS

Items	Meaning
TB	Tuberculosis
HIV	Human Immuno Deficiency Virus
WHO	World Health Organization
AIDS	Acquired Immune Deficiency Syndrome
HCFs	Health Care Facilities
TB IC	Tuberculosis Infection Control
IPT	Isoniazid Preventive Therapy
BCG	Bacille Calmette-Guerin
LTBI	Latent Tuberculosis Infection
INH	Isoniazid Therapy
RMP	Plus Rifampicin
HCWs	Health Care Workers
MT	Mycobacterium Tuberculosis
TST	Tuberculosis Test
IGRA	Interferon-Gamma Release Test
CDC	Centers for Disease Control
AFB	Acid-Fast Bacillus
PPD	Purified Protein Derivative
NTM	Non-Tuberculous Mycobacteria

IGRAs	Interferon-γ Release Assays
QFT-G	QuantiFron-TB Gold
CMIR	Cell-Mediated Immune Responses
MDR-TB	Multidrug-Resistant Tuberulosis
N	Number
%	Percentage
F	Frequency
Sd	Standard Deviation
&	And
<	Less Than
=	Equal.
>	More Than.
≤	Less than or equal
≥	More than or equal
S	Significant
M	Mean

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Mousa Abdul-Jabbar Hamad Al-Rikabi, **(DHI QAR VALİLİĞİ BİRİNCİ BASAMAK SAĞLIK MERKEZLERİNDE ÇALIŞAN HEMŞİRELERİN TÜBERKÜLOZA İLİŞKİN BİLGİLERİNİN DEĞERLENDİRİLMESİ)** (Yüksek Lisans), Çankırı2021

ÖZ

Arka Plan: İnsanlık tarihinde bilinen en eski hastalıklardan biri olan tüberküloz halk sağlığı için önemli tehditlerden biridir. Etkili bir tüberküloz kontrolü sağlamak, birinci basamak koruyucu sağlık hizmeti sunan kurumların görevleri arasındadır.Sağlık çalışanlarında tüberküloz riski, genel toplumdan yüksektir. Bu nedenle tüberküloz hakkında bilgi sahibi olmak hem sağlık çalışanları hem de toplum sağlığı için önemlidir.

Çalışmanın amacı: Bu çalışma, DHI QAR VALİLİĞİ birinci basamak sağlik merkezlerinde çalışan hemşirelerin tüberküloza ilişkin bilgilerinin değerlendirilmesi amacıyla planlanmıştır.

Yöntem: Tanımlayıcı tipte bu çalışma, Irak Dhi-Qar Valiliği Al-Rifai Bölgesin'deki birinci basamak sağlık merkezlerinde 0.10.2020-10.03.2021 tarirlerinde gerçekleştirilmiştir. Araştırmanın örneklemini, veri toplama tarihlerinde araştırmanın yürütüldüğü kurumlarda çalışan 18-65 yaş arasındaki 250 hemşire oluşturmuştur.Veriler, araştırmacı tarafından hemşirelerin sosyodemografik özelliklerini beliremeye yönelik hazırlanan soru formu ve tüberküloz hakkındaki bilgilerini belirlemeye yönelik hazırlanan soru formu ile toplanmıştır.Verilerin değerlendirilmesinde tanımlayıcı istatistikler kullanılmıştır.

Bulgular: Araştırmaya katılan hemşirelerin, %44.4'ünün 35-44 yaş aralığında, %57.22sinin evli, %47.6'sının üniversite mezunu ve %53.3'ünün 6-10 yıl arasında mesleki kıdeme sahip olduğu belirlenmiştir. Araştırma grubunun %50'sinin tüberkülozu, %56'sının tüberkülozun belirti ve bulgularını, %53.2'sinin tüberkülozun nasıl önleneceğini, %58.9'unun komplikasyonlarını ve %57.6'sının tüberkülozda kullanılan ilaçları bilmediği saptanmıştır.Hemşirelerin % 3.6'sı tüberküloz tedavisinin 6 ay ve üzeri sure olduğunu bilmektedir. Hemşirelerin,%52.8'inin şüpheli bir hasta ile karşılaşığında koruyucu ekipman kullanmadığı belirlenmiştir. Hemşirelerin tüberkülozdan korunmaya yönelik uyguladıkları ilk üç yöntemin kalabalık iş ortamlarında

havalandırma kullanmak (%52.4), aşılarını düzenli yaptırmak (%50),eldiven kullanmak (%46.0) olduğu saptanmıştır

Sonuç: Araştırmanın bulguları, araştırmaya katılan hemirelerin tüberküloz hakkındaki bilgilerinin iyi olmadığını ve tüberküloza yönelik eğitim gereksinimleri olduğunu göstermiştir. Bu sonuçlar doğrultusunda, gerek mezuniyet öncesi eğitim programlarında gerekse mezuniye sonrası düzenlenecek hizmet içi eğitim programlarında toplumun sağlığını tehdit eden tüberküloza yönelik bilgilendirmelerin yapılması önerilebilir.

Anahtar kelimeler: Bilgi, Hemşire Korunma, Tüberküloz

Mousa Abdul-Jabbar Hamad Al-Rikabi, **(EVALUATION OF THE KNOWLEDGE OF TUBERCULOSIS OF NURSES WORKING AT DHI QAR GOVERNOR'S PRIMARY HEALTH CENTERS**) (MSc), Jankiri 2021

ABSTRACT

Background: Tuberculosis, one of the oldest known diseases in human history is one of the major threats to public health. Providing effective tuberculosis control is a duty of institutions providing primary preventive health care services. The risk of tuberculosis infection in health care workers is higher than in the general population. For this reason, it is important to have information about tuberculosis for both health professionals and public health.

Purpose of the study: This study was planned to assess the knowledge of nurses working in primary health care centers of DHI QAR GOVERNORSHIP about tuberculosis.

Method: This descriptive study was conducted in primary health care centers in Al-Rifai District, Dhi Qar Governorate, Iraq, between 10.10.2020-10.03.2021. The study sample consisted of 250 nurses between the ages of 18-65 working in the institutions in which the research was conducted at the date of data collection. Data were collected through a questionnaire prepared by the researcher to determine the social and demographic characteristics of nurses and a questionnaire designed to determine their knowledge of tuberculosis. Descriptive statistics were used to evaluate the data.

Results: 44.4% of the nurses participating in the study were found to be between 35-44 years of age, 57.2% are married, 47.6% are university graduates, and 53.3% have professional seniority between 6-10 years. It was determined that 50% of the study group did not know about tuberculosis, 56% did not know the signs and symptoms of tuberculosis, 53.2% did not know how to prevent tuberculosis, 58.9% did not know its complications, 57.6% did not know about the drugs used in tuberculosis. 3.6% of nurses know that the treatment for tuberculosis is 6 months or more. It was determined that 52.8% of nurses did not use protective equipment when encountering a suspicious patient. It was determined that the top three methods that nurses used to prevent tuberculosis were using ventilation in crowded work environments (52.4%), getting vaccinations regularly (50%), and using gloves (46.0%).

Conclusion: The results of the study showed that the nurses participating in the study did not have good knowledge of tuberculosis and that they had training needs for tuberculosis. In line with these findings, reporting of tuberculosis that threatens community health can be recommended, both in undergraduate education programs and in-service training programs to be organized after graduation.

Keywords: knowledge, prevention nurse, tuberculosis

CHAPTER ONE

1. Introduction

Tuberculosis is one of the top ten causes of death and a main cause of death even more than (HIV / AIDS). Million people are suffering from TB.at 2017 and 1.3 million people died because of it. Tuberculosis has caused an estimated 300,000 deaths of HIV-infected patients in 2017 in which the highest number of new cases of TB occurred (Mahmood & Hameed, 2019)

In Southeast Asia and the Western Pacific regions, the largest number of new cases of tuberculosis occurred in 2017 with 62% of new cases followed by the African region with 25% of new cases. Iraq is one of the countries with a low tuberculosis risk, and it is the 108th internationally and the seventh among countries with a strong tuberculosis prevalence in the eastern Mediterranean regions. According to information from the WHO, the incidence of tuberculosis in Iraq is 45/100,000 people (i.e., the estimated new cases of tuberculosis reach around 15,000 every year), whereas the rate of increase is 74/100,000 and deaths are 3/100000 (Mahmood, 2019)

Tuberculosis is an extremely contagious disease caused by Mycobacterium tuberculosis. Illness also affects the lungs, progressing to tuberculosis, and often certain areas of the body such as the circulatory system, the central nervous system, the lymphatic system, the urogenital system, the digestive system, the bones and skin joints that contribute to pulmonary tuberculosis. Tuberculosis is rapidly becoming a global health problem and the leading cause of death in infectious diseases In 2015, one million deaths from four hundred thousand tuberculosis were recorded worldwide in the 2016 WHO survey ("Global Tuberculosis Prevention," 2006). In particular, 10 percent of them were babies, while 90 percent were adults. (Mohamud, 2018)

The possibility of tuberculosis infection raises health care Facilities (HCFs), in particular those which do not have successful anti-infection capability in their last location.TB infection control (TB IC) in HCFs remains an important public safety to reduce the risk of transmission, the World Health Organization (WHO) has devoted many Educational Guidelines to combat infection that will reduce the risk of transmission (Jayaraj et al., 2019)

Effective implementation of disease control practices (tuberculosis) has found that reducing TB infections has been effective in protecting health care workers from tuberculosis. In 2009, alegislation was introduced by the World Health Organization to tackle tuberculosis infection in primary health care institutions. Identifying, for example , that people with tuberculosis (screening) symptoms are to be isolated(separating Patients with the illness), the presence of bacteria is managed, the amount of time the TB patient stays in clinical treatment facilities is minimized , medical resources and health care services to be supplied, including high HIV antiretroviral therapy and isoniazid preventive therapy (IPT) for HIV positive health staff, environmental laws (e.g. ventilation device Ultraviolet UV systems, at least in the event of inability to obtain Adequate ventilation) have to be enacted and the provision of personal protection devices (e.g. micro respirators) must be ensured .Furthermore, in terms of occupational health, these prevention mechanisms are also the least dangerous, while they are low in the management system and have been proven to be successful in mitigating the spread of tuberculosis . (Alele et al., 2019)

Numerous studies have shown that tuberculosis poses a significant occupational danger in low and middle-income countries for health care workers (nursing staff).Tuberculosis prevalence among health care professionals (nursing staff) is calculated to be 8 • 4 per cent higher in countries with severe burden (> 100 cases/100,000 people) (95 per cent CI).2 • 7% 14.0%) of the general population. (O'Hara et al., 2017)

Countries with high prevalence of the disease, the expanded WHO vaccination program calls for BCG vaccination in the first week of birth, and in Iraq as part of the nationa vaccination programme, the BCG vaccine is systematically given to every newborn within the first seven days of birthRegardless of the status of the BCG vaccine and local tuberculosis outbreaks, exposure of the disease has been frequently documented to nursing workers at PHC centres. The WHO aims to develop a prevention protocol to prevent the transmission of tuberculosis to health care workers WHO aims to stop tuberculosis and illustrate approachesTuberculosis reduction by 90 per cent and tuberculosis by 95 per cent by 2035. To achieve these proportions in the tuberculosis programme, it is necessary to minimize LTBI tanks by utilizing tuberculosis preventive care, states The WHO has three methods for LTBI: six months of isoniazid therapy

(INH), three months of INH plus rifampicin (RMP), or a three-month weekly rifapentin plus INH(Almufty et al., 2019)

According to the WHO, Iraq is one of the seven countries with the highest disease burden in Eastern Mediterranean area with a TB incidence of 42 per 100,000 person, representing 3 per cent of all patients with TB Timeframe .This can be attributed to the fact that there is a high rate of TB cases in Iraq without routine screening of LTBI for HCWs. The risk of revitalizing tuberculosis and its transmission is a potential threat, so this study is important in Dhi Qar Governorate to determine the prevention of tuberculosis among HCWs (Almufty et al., 2019)

Assessment of current knowledge about TB prevention among nurses lays the foundations for an informed development awareness program and monitoring future progress in pest reduction. The World Health Organization 2020 considered landmarks in strategic disease control by 35 percent and the rate of the absolute number of deaths from tuberculosis decreased by 20 percent. A comprehensive analysis of 31 researches from 14 countries revealed a lack of background information. Recommendations and national protocols were found for international nurses to acquire sufficient knowledge. In all the 31 studies, regimens of treatment were (8-100 per cent) or duration of treatmentwere (5-99 per cent). Junior and his colleagues (2013) indicate that there were myths related to tuberculosis treatment and other education personnel and concluded that the main errors in tuberculosis and the lack of preventive information indicate deficiencies in the preparation of HCW (Mousawi & Alwash, 2017)

To identify and correct potential problems and shortcomings, it was important to conduct awareness and behavioral surveys on TB prevention among health workers who take care of TB patients. Health workers may be seen as front-line TB disease fighters, health partners and the main focal point of society to be introduced to the regional TB prevention program. This includes doctors, nurses, nursing technicians, and other health professionals associated with this study but the focus will be placed on nurses for their critical role in TB prevention (Minnery et al., 2013)

1.2. Importance of thesis

Tuberculosis remains one of the most critical problems for patients and the general safety. Nurses play a crucial role in TB prevention and care and through enjoying health skills.

Tuberculosis is really important and requires to be addressed. Nurses are responsible for managing and avoiding infection. The nursing staff must be specialist, first tier and conscientious citizens during the special treatment of the victim, to protect themselve They are also entitled to pass on health training to the patient when among the family members and other relations.this research is necessary to expand the awareness of the role of nurses of the methods to be employed in clinics and to ensure prevention. (Peshawar, 2018)

Nurses are the most insecure of primary health care staff due to their elevated exposure risk and other workplace risks as a result to their close contact with patients .(Mbacy et al., 2010) The World Safety Organization highlighted the need for key workplace risk education, particularly, due to rising instances of occupational injuries. (Salih, 2018)

Since health care professionals are responsible for informing and encouraging therapeutic behaviors that can help minimize TB transmission, they can minimize forward transmission, increase safety, and save lives through raising the awareness of TB patients as well as through other supportive actions.Besides, we ought to provide existing and reliable information to encourage healthy clinical strategies regarding tuberculosis prevention and control , illness avoidance and wellbeing promotion educators. (Mohamud, 2018)

Additionally, the present study helps to identify the cognitive sources that may encourage transmission of TB, its control or treatment after infection. The results will serve as a basis for uncovering problems, constraints and the ability to leverage and direct capital and actions to develop TB control programs. The results will serve as a basis for exploring problems, constraints, the ability to leverage and direct capital and the appropriate procedures for the development of programs. (Al-Otaibi B, 2019)

1.3. The Problem of thesis

Tuberculosis (TB) is the primary health challenge worldwide that causes ill health in millions of people every year. The disease was ranked among the top ten causes of death worldwide in 2015 (WHO, 2015). This is given by the fact that the disorder can be treated with early evaluation and commitment to appropriate care. To reduce health problems caused by tuberculosis the national TB control plan is integrated into the central healthcare network,

whereby patients are reported, evaluated, and dealt with by secondary healthcare personnel in cases of tuberculosis. (Mohamud, 2018)

1.4. The purpose of thesis

Determining the level of knowledge of tuberculosis among nurses in primary health care centers in Dhi-Qar, Iraq

1.5. Reserch questions

1. What is the level of knowledge of tuberculosis among nurses in primary health care centers in Dhi Qar, Iraq?

1.6. The limits of the study

The sample of the study is limited to 250 nurses working in primary care units in Dhi Qar, Iraq. Accordingly, the results of the study cannot be generalized to all nurses. The research is limited to the date it was conducted, the data collection form used for the purpose, and the answers given by the nurses

CHAPTER TWO

2.1. Definition

Tuberculosis is an infectious disease caused by bacteria named, Mycobacterium tuberculosis (MT), generally from the period throughout life, and decide whether Tubers in different parts of the body. MT has ancient roots .It has been around for over 70,000 years, and at the present time, it affects nearly 2 billion people worldwide .About 10.4 million new cases of tuberculosis rapidly in a year, One percent of the world's population has TB. She is at risk of developing an infectious disease Tuberculosis has long been associated with high death rates Nowadaysit is evaluated over the years to compensate for 1.4 million TB deaths After HIV (Barberis et al., 2017)

2.2. Etiology

Tuberculosis is an infectious disease caused by Mycobacterium tuberculosis. Throughout the past, the disease was called "consumption" because of the way an infected person eats, according to the scientific dictionary of the Mediterranean dictionary. Tuberculosis is a specific disease caused by Mycobacterium tuberculosis, Bacillus tuberculosis infection, which may affect the most prevalent sources of the disease are the lungs, Harris, Maher and Graham (2004), who argue that the probability of contamination depends on the vulnerability of the host, the level of exposure and the degree of infection with the indicator event. Once a person inhales the infectious aerosol, the bacilli are in the alveoli where they multiply and the immune system either removes the bacilli or inhibits the growth of the bacilli within the primary lesion, in which case the host is assumed to harbor primary TB infection (LTBI). 5--10 percent of cases, even though the bacilli overexpress the immune system (Codjoe. 2017)

2.3. Pathogenesis of TB Infection

Infection occurs when a person inhales tubercle bacilli-containing droplet nuclei that reach the lungs' alveoli. Alveolar macrophages ingest these tubercle bacilli, and the majority of them are killed or suppressed.When macrophages die, a tiny number of them may multiply intracellularly and be discharged. If alive, these bacilli can move to more distant tissues and organs via lymphatic routes or the bloodstream (including areas of the body in which TB disease is most likely to develop: regional lymph nodes, apex of the lung, kidneys, brain, and bone). The immune system is primed for a systemic reaction as a result of this dissemination process. Farhat et al. (Farhat et al., 2013)

2.4. Types of tuberculosis

2.4.1. Latent TB

A number of individuals develop the disease while others are infected with an inflammatory immune response. Such citizens are asymptomatic but have latent TB infection and cannot be diagnosed with mycobacterium bacilli. 5-10% of people with LTBI are expected to develop TB during their lifespan. Reservoirs of LTBI pathogens hinder attempts to eliminate TB worldwide. Persons with LTBI usually get accurate TB skin tests. (Mahaye, 2016)

LTBI patients suffering from tuberculosis would have no TB in their skin, so they cannot transmit the infection to anyone. A person with LTBI is not considered to have TB. The LTBI cycle begins when macrophages absorb extracellular rods and progress to other white blood cells.This results in an immune response that destroys or envelops white blood cells with some bacilli that lead togranuloma formation. LTBI was established at this stage. Adermatological Tuberculosis Test (TST) or an interferon-gamma release test (IGRA) may be used to diagnose LTBI. This can take 2 to 8 weeks after the original tuberculosis diagnosis, so that the body's immune system may communicate with tuberculin and diagnose TST diagnosisAnd to IGRA. The immune system usually stops the multiplication of TB bacilli within weeks of infection and prevents further development.(Farhat et al., 2013)

2.4.2. Active TB

Active TB is often marked as pulmonary or non-respiratory. Pulmonary tuberculosis includes tumors of the lymph nodes within the endoscope or throat, larynx, nasopharynx, and paranasal sinuses. The main disease is characterized by pleural effusion due to recent pollution by infection with mycobacterium (i.e. during the previous 24 months) from contamination of mycobacterium. Non-breathing tuberculosis applies to the other areas of the diseases. Incidence levels were estimated as instances for every 100,000 population.(Lafreniere et al., 2017)

2.4.3. Chronic TB

Tuberculosis may become chronic upon diagnosis, as tubercle bacilli remain latent in the tissues and the weakening of the immune system is doubled. This gradually extends into the hilum of the lungs until the cycle stops. When the disease is stopped, the course can be extended and marked for a long time. Clinical symptoms are classified according to the form of tuberculosis. Primary TB is the first infection of mycobacterium TB. It is usually seen in children but also occurs in adults, distinguished in the lungs by the development of a primary complex consisting of small peripheral pulmonary foci with spread to hilar or paratracheal lymph nodes, and may lead to cavitation or cure with scarring. (Mahaye, 2016)

2.5. Transmission of Tuberculosis

Mycobacterium tuberculosis is delivered in airborne droplet nuclei with a diameter of 1-5 microns, according to the CDC).When people with pulmonary or laryngeal tuberculosis cough, sneeze, shout, or sing, infectious droplet nuclei are formed. These tiny particles can stay suspended in the air for several hours depending on the atmosphere. Mycobacterium tuberculosis is spread through the air, not through direct contact with the skin. When a person inhales droplet nuclei harboring Mycobacterium TB, the droplet nuclei acquire admission to the alveoli of the lungs through the mouth or nasal passages, upper respiratory tract, and bronchi. (Mahaye, 2016)

2.5.1. Factors that can determine the possibility of the transmission of tuberculosis

Factor	Description
Susceptibility	Susceptibility (immune status) of the exposed individual
Infectiousness	The number of tubercle bacilli that a person with tuberculosis expels into the air determines his or her infectiousness. Patients who vomit a large number of tubercle bacilli are more infectious than those who discharge few or none.
Environment	Environmental factors that affect the concentration of M. tuberculosis organisms
Exposure	Proximity, frequency, and duration of exposure

2.5.2. Environmental Factors that Enhance the Probability that M. tuberculosis will be transmitted

Factor	Description
Concentration of infectious droplet nuclei	The more droplet nuclei in the air, the more probable that M. tuberculosis will be transmitted
Space	Exposure in small, enclosed spaces
Ventilation	Inadequate local or general ventilation that results in insufficient dilution or removal of infectious droplet nuclei
Air circulation	Recirculation of air containing infectious droplet nuclei

Specimen handling	Improper specimen handling procedures that generate infectious droplet nuclei
Air pressure	Positive air pressure in infectious patient's room that causes M. tuberculosis organisms to flow to other areas

2.6. Diagnosis of Tuberculosis

2.6.1. AFB Test

Despite its low sensitivity, direct sputum smear is the most used method for detecting MTB. The Ziehl Neelsen technique has been the most widely used method for detecting Acid Strong Bacilli for generations (MTB). Sputum selection is a time-consuming method that requires the individual to remove the specimen two to three times over two days with poor sensitivity (78%) and high accuracy (99.9 percent) The outcomes of the study demonstrate that with the emergence of smear microscopy optimization in low-resource nations, the application of bleach microscopy to boost case identification of MTB. Sputum is digested with domestic chlorine and focus in a centrifuge, the pellet is stored in the solvent, then smeared and air dried. Heat is used to cure the bleach smear, then the AFB technique is used to stain it.(Sudha, 2016)

2.6.2. Chest Radiograph

Because pulmonary tuberculosis is the most frequent form of the disease, a chest radiograph is useful for TB disease diagnosis. Chest anomalies may indicate pulmonary tuberculosis. The usual view for detecting TB-related chest abnormalities is an anterior-posterior radiograph of the chest. A lateral view may be beneficial in some circumstances, particularly with children. (Aseeri and colleagues, 2017)

2.6.3. The Tuberculin Skin Test (TST)

First introduced in 1890, the TST is an intradermal injection of purified protein derivative (PPD). The PPD is a crude antigenic mixture, shared among M. tuberculosis, M. bovis, and other non-tuberculous mycobacteria (NTM).The test measures in vivo a delayed-type hypersensitivity reaction based on immunological recognition of mycobacterial antigens in exposed individuals. Mycobacterial antigens are injected below the epidermal layer, causing infiltration of antigen-

specific lymphocytes and the elaboration of inflammatory cytokines. This inflammatory reaction results in the characteristic indurated area at the site of injection.(Drobniewski, 2015)

2.6.4. Interferon-γ Release Assays (IGRAs)

The T-SPOT (by Oxford Immunotec Limited, Abingdon, UK) and the Quantiferon -TB Gold (QFT-G, by Qiagen GmbH, Hilden, Germany) are two in-vitro ex-vivo tests for detecting cell-mediated immune responses (CMIR) to peptide antigens that mimic mycobacterial proteins. With the exception of tuberculosis complex organisms, all BCG strains and most non-tuberculous mycobacteria lack these antigens, ESAT-6, CFP-10, and TB7.7 (p4) (used solely in QFT-G). (Douglas & Sutton, 2010)

2.7. Signs and Symptoms of Active TB Disease

The signs and symptoms of active tuberculosis disease vary depending on the affected place to some extent (s). Although tuberculosis is most commonly associated with the lungs, it can affect any part of the body. Multiple places might be affected by tuberculosis at the same time (metastatic TB). The following are some of the most prevalent signs and symptoms of active tuberculosis disease: Fever is number one. 2. Sweats at night 3. Loss of appetite / weight loss 4.exhaustion The following are common signs and symptoms of lung illness (pulmonary tuberculosis): 1.Cough for a minimum of 2 to 3 weeks.2.Chest X-ray abnormalities (for instance, upper lobe infiltration, Cavity), 3.Hemoptysis (blood in sputum). (Communicable et al., 2016)

2.8. Knowledge of Nurses Towards tuberculosis

A detailed understanding of how TB is transmitted is very important. (Steinberg, 2014) Poor awareness among health care workers regarding TBPC measurements will increase the risk of TB transmission within health centers. (Shrestha et al., 2017) Temesgen & Demissie (2014) recorded that 63.2% of health professionals were with strong TBIPC skills overall.Mirtskulava et al(2016) observed a strong association between awareness and practice for TBIPC criteria among clinicians and nurses, but a significant variance in awareness was detected when the group of practitioners was examined. The doctors' scores were higher than those of nurse. (Role et al., 2018)

2.9. Nursing Role in Preventing Tuberculosis

The qualifications listed in this guide include descriptions of the experiences and behaviors required by a nurse to provide prevention to TB patients, their relatives, and other key individuals. Competencies provide details on how a nurse is expected to practice and be able to do so in managing TB nursing. These skills address the knowledge,ability and behaviors a nurse must acquire in order to prevent TB.(East Central and Southern Africa Health Community, 2014)

1. To manage, control and prevent tuberculosis.
2. Having the ability to provide explanation of etiology, pathophysiology, transmission, transmissibility, risk factors, and clinical features of tuberculosis and infection.
3. Identifying the contributing factors for tuberculosis X / MDR-TB
4. Explanation of vaccines to prevent TB infection.
5. Describing the epidemiology of tuberculosis and drug-resistant tuberculosis in HIV-infected or non-HIV-positive patients.
6. Global, regional and national TB disease burden analysis to develop prevention and control strategies.
7. Community analysis and social determinants of health, describe ways to prevent and control tuberculosis infection, interpretation of statistics and vital indicators related to TB.
8. Preventing disease transmission and the development of drug-resistant TB.
9. Learn about public health systems and processes for preventing, controlling and managing tuberculosis.
10. Identifying populations at high risk of developing latent TB infection (LTBI) and tuberculosis, and strategies for targeting these populations.
11. Analyzing local culture and beliefs regarding TB disease and its management, recognizing the signs, symptoms and risk factors associated with TB and ordering the correct tests to ensure that as many potential cases are identified as early as possible in the course of the disease.
12. Demonstrating a collaborative approach in assessing the current situation and planning potential solutions, interpreting human rights and their effects on the health of individuals and society and determining how to improve services, based on the analysis of the diverse teams.

2.10. Nursing Skill towards TB Prevention

A nurse has the ability to:

1. Apply principles of epidemiology, tuberculosis prevention and control in the management of tuberculosis and infection.
2. Apply drug management principles to prevent TB drug resistance, prevent the spread of disease by using appropriate infection prevention and control measures , use TB statistics and vital indicators in managing and controlling TB and cooperation in national programs related to TB prevention, treatment and control in the country.
3. Implemente the legal, regulatory and administrative framework that governs the management and control of TB.
4. use the technology appropriately, do routine monitoring, establish and maintain links with key stakeholders to report to public health authorities and to receive descriptive epidemiology and recommendations from TB program data.
5. Conduct a community assessment to determine available resources, collect and interpret data on TB in the community, monitor trends in TB and participate in TB case detection, evaluate direct patient care outcomes, educational programs and research, manage MDR-TB drugs according to the protocol, Report any adverse side effects of medication and conduct contact tracing and symptomatic contact tracing according to national guidelines
6. Apply guidelines and case referral processes to convey information on TB patients as well as facilitate follow-up to ensure continuity of TB patient care. (The Global Tuberculosis Institute, 2017)

2.11. The Theoretical Framework

The theoretical framework of the study supported by the model of Nancy Milio is a framework for prevention that includes the concepts of community oriented care and population. Milio mentions that the behavioral patterns of the population and the individuals that make up the population - are the result of the usual choice of limited options. It challenged the popular notion that the main determinant of unhealthy behavioral choice is a lack of knowledge. The Milio Framework describes the role of community health nursing

that has sometimes been overlooked for examining the determinants of community health and attempting to influence those determinants through public policy.Levels of prevention in this model, which Leavell and Clark advocated in 1975, affect both public health practices and mobile care delivery worldwide. This model indicates that the natural history of any disease is in a continuum, with health on one side and advanced disease on the other. The model defines three levels of application of preventive measures that can be used to promote health and halt the disease process at various points along the continuum. The goal is to maintain a healthy state and prevent disease or injury, and it has been defined in terms of four levels:

1. **Primitive prevention**

It is preventing the emergence or development of risk factors in populations or countries where they have not yet appeared. Efforts are directed towards dissuading children from adopting harmful lifestyles.

2. Primary prevention

It is a procedure taken before the onset of the disease, which eliminates the possibility of disease occurrence at any time. It includes the concept of positive health, which promotes the achievement and maintenance of an "acceptable level of health that will enable everyone to lead a socially and economically productive life.(Sudha, 2016)

3. Secondary prevention

It is a procedure that stops the progression of the disease in its initial stage and prevents complications. It is an incomplete disease transmission tool more expensive and less effective than primary prevention. (Lafreniere et al., 2017)

4. Triple prevention

It includes all measures available that reduce disabilities and the suffering caused by thedeparture from good health and enhance the patient's adaptation to the untreatable conditions.(Farhat et al., 2013)

Chapter Three

3. METHODOLGY

3.1. Study design

This study is a descriptive cross-sectional one which aims to assess the knowledge of nurses in primary health care centers to prevent tuberculosis in Dhi Qar Governorate. It is a cross-sectional study on self-management, and the questionnaire was a set of questions that include demographic characteristics and all medical and preventive information on tuberculosis .The study was conducted during the period from 10.10.2020 to 10.3.22021.

3.2. Study preparations

The research was conducted in health centers within Dhi-Qar Governorate (Al-Rifai District) to obtain reliable and detailed results. These centers were chosen by the researcher because they contain many undiagnosed tuberculosis cases, which may be dangerous for nurses. It is necessary for nurses to know the health care measures and precautions to prevent tuberculosis.

3.3 Study Sample

The research was conducted in the Rifai sector of primary health centers in Dhi Qar, where the number of nurses in the Rifai sector was more than 300 nurses working in the Rifai primary health centers. The number of participants in the study was 250 who agreed to conduct the research and expressed a desire to participate and benefit from the study. A small number of nurses did not agree to participate in the study for their own reasons, they said. The data was

collected through a questionnaire prepared by the researcher, and during a period of 15 minutes for each participant, before starting to answer the parts of the questionnaire, the researcher explained the questionnaire.A research sample of (250) male and female nurses was selected to obtain accurate and honest data. The study sample consisted of men and women working in primary health centers in Dhi Qar governorate. Ages of the sample individuals included in the study ranged between 18 and 65 years and they have been working in health centers at the date of data collection .

The research participants were selected based on the following criteria:

3.3.1. The study included;

1. 18-year-old nurses
2. Nurses who work in primary health centers

3. 3.2. Exclusion criteria;

Newly appointed nurses whose service period in primary health centers less than a month

3.3.4. Instrument; the data were collected using a questionnaire that determines the socio-demographic characteristics of individuals and Cognitive Assessment Tool for Tuberculosis.

3.4.1. Socio-demographic Form: The first part includes questions about age, education, marital status, place of residence, working hours, number of years in service and who the participants were.

3.4.2. Cognitive Assessment Tool for Tuberculosis: Three attempts were created to measure the nurses' knowledge of tuberculosis, (1) assessment of nurses' knowledge using (10) questions about medical information with answers (Yes) and (No), (2) nurses' knowledge assessed using (15) questions about preventive information and the answer is either (Always), (Sometimes) or (Never), (3) Using (10) general questions about tuberculosis , Knowledge is assessed based on the choice of the correct answer.

Knowledge of tuberculosis is considered acceptable if it is less than the average score which aweak cognitive score but it is considered acceptable if it is (60% or more) and unsatisfactory if it is less than 60%.

3.5. Data collection method

Data were collected using the questionnaire and interview method. The average data collection time was 15 minutes.

3.6. Search Variables

The ***dependent variable*** was the level of knowledge about tuberculosis and the ***independent variables*** were age, education, marital status, number of births, place of residence, working hours,number of years service

3.7. Data Analysis

Analysis of the data in the study was obtained in SPSS and to determine whether the objectives of the study were achieved, Descriptive statistics (frequence and percentages) were used to evaluate the data

Ethical dimension

Approval was obtained from the Ethics Committee in Dhi Qar Health Department (Training and Development Department) via the official letter No. (168) which involves approval to facilitate the task of conducting the research for the period (6/9/2020 _ 6/9/2021) provided that the researcher adheres to ethical considerations while conducting the research (Appendix.B)

To obtain official permit for conducting the study, the researcher had to present the study questionnaire (the tool) to the central apparatus of the Ministry of Planning as well as to the technical department in Dhi-Qar Health Directorate.

In order to start collecting data, the permission was sent by the Planning Department of the Ministry of Health to the Primary health centers in Dhi- Qar (Al-Rifai) .The permission obtained by the researcher to conduct the study is shown in (Appendix.C1).Each patient gave their oral informed consent to take part in the study. Before participating, the researcher explained to the participants the purpose of the study and pointed out that their participation in the study was completely voluntary and that they could withdraw at any time. According to the

subject agreement paper, the researcher informed them that the integrity of the data would be secured and that it would be preserved safely before and after analysis.

Limitations of the study

The study identified a sample of 250 male and female nurses for the purposes of conducting research in primary health care centers who work in health centers in Dhi Qar. The results of the study cannot be generalized to all workers in health centers, but only to the participants in the study and give statistical ratios, and this research is limited to the date of its conduct, the data collection form used for the purpose, and the answers provided by the nurses.

ChapterFour

4. Results

4.1. Description demographic features

Table.4.1.The results of the description and statistical analysis of the demographic axis variables (N: 250)

Demographic features	Frequency	% Percentage
Age		
18-24	10	4.0
25-34	44	17.6
35-44	111	44.4
45-54	67	26.8
55-65	18	7.2
Sex		
Male	107	42.8
Female	147	57.2
Marital status		

Married	183	72.2
single	167	26.8
Number of children		
Non exist	123	49.2
One	83	33.2
Two	39	15.6
Three or more	5	2.0
Education level		
Preparatory	11	4.4
Diploma	61	24.4
Bachelor	119	47.6
Master	59	23.6
Number of years in service		
1 _5 years	104	41.6
6 _10 years	133	53.2
11 _ 20 years	13	5.2
Place of residence		
City center	128	51.2
Countryside	122	48.8
Work hours		
Morning	114	45.6
Evening	136	54.4

The results in the above table indicate that the age group (35-44) topped the list with a percentage of 44.4%, followed by the age- group (45-54) with 26.8%, and then the age group (25-34) with 17.6%. As for the lowest number, it was recorded within the age group (18-24) with 4%. Concerning gender, women topped 42.8% over men, but the marital status was greater for

married couples with a percentage of 73.2%, while singles scored 26.8%. As for the number of children, the vast majority of study participants did not have children. In terms of the educational status, the largest percentage of participants was from the bachelor degree holders with 47.6%, followed by the diploma holders with 24.4%, the master degree holders with 23.6%, and finally the preparatory school certificate holders with 4.4%. The number of years of service category (6-10 years) topped with 53.2% of the total sample. As for accommodation, there was a slight increase in city- residents compared to the countryside.Concerning the number of work-hoursmost of the participants were from the evening shift and their percentage was 54.4%

4.2. Description of the medical information

Table.4.2.1.The results of the statistical description of the indicators of the medical information

T	Indicators	Frequency and Ratio	Responses		
			No	YES	Total
1	Do you know what isTb?	F	125	125	250
		P %	50.0	50.0	100.0
2	If necessary, will you volunteer in the tuberculosis ward?	F	139	111	250
		P %	55.6	44.4	100.0
3	Do you think all TB patients should be isolated?	F	86	164	250
		P%	34.4	65.6	100.0
4	Do you know what are the main signs and symptoms of tuberculosis?	F	140	110	250
		P%	56.0	44.0	100.0
5	Do you know how to prevent the disease?	F	133	117	250
		P%	53.2	46.8	100.0
6	Do you know the complications of the disease?	F	146	104	250
		P%	58.4	41.6	100.0
7	Is there an infected person in the family?	F	127	123	250
		P%	50.8	49.2	100.0
8	Have you ever visited a patient for treatment?	F	126	124	250
		P%	50.4	49.6	100.0
9	Do you know the most resistant drugs?	F	144	106	250
		P%	57.6	42.4	100.0
10	Do you know health control programs?	F	142	108	250
		P%	56.8	43.2	100.0
11	Have you been vaccinated against it?	F	142	108	250
		P%	56.8	43.2	100.0
12	Have you ever held awareness sessions	F	115	135	250

	about this disease?	P%	46.0	54.0	100.0
13	Do you trust the tools used in diagnostics in health centers?	F	149	101	250
		P%	59.6	40.4	100.0
14	If the suspected tuberculosis patient is very sick, do you treat tuberculosis before the diagnosis is confirmed?	F	109	141	250
		P%	43.6	56.4	100.0
15	Do you use protective equipment when there is a suspected patient	F	132	118	250
		P%	52.8	47.2	100.0

50% of the nurses participating in the study stated that they did not know about tuberculosis, 56% of them did not know the signs and symptoms of tuberculosis, 53.2% of them did not know how to prevent tuberculosis, 58.9% of them complications, 56.8% of them did not know about control programs and 57.6% of them did not know the drugs used in tuberculosis. In addition, 56.8% of the nurses stated that there was no vaccine against tuberculosis, 59.6% did not trust the tools used in diagnosis in health centers, and 52.8% did not use protective equipment when they encountered a suspicious patient (Table 4.2.1).

4.2.2. Description of the Protective Compensation

Table.4.2.2.The results of the statistical description of the protective information indicators

Indicators	**Frequency and Ratio**	**Responses**				**Results**
		Never	**Some Times**	**Always**	**Total**	
Is ventilation used in crowded workplace?	Frequency	48	71	131	250	Always
	Percent	19.2	28.4	52.4	100.0	
Is it used periodically in the sterilization and fumigation departments?	Frequency	72	84	94	250	Always
	Percent	28.8	33.6	37.6	100.0	
Do you receive the vaccine regularly?	Frequency	49	125	76	250	sometimes
	Percent	19.6	50.0	30.4	100.0	
Do you see a doctor if you feel signs of illness?	Frequency	81	78	91	250	Always
	Percent	32.4	31.2	36.4	100.0	
Do you use the mask at work?	Frequency	79	71	100	250	Always
	Percent	31.6	28.4	40.0	100.0	
Do you use sanitizing gel or wash your hands after touching patients in the health center?	Frequency	42	100	108	250	Always
	Percent	16.8	40.0	43.2	100.0	
Do you use gloves in the small operating room?	Frequency	63	72	115	250	Always
	Percent	25.2	28.8	46.0	100.0	
Do you Help in diagnosing the disease early when symptoms appear?	Frequency	108	65	77	250	Never
	Percent	43.2	26.0	30.8	100.0	
Do you assist in locating the affected	Frequency	56	101	93	250	Sometimes

patient?	Percent	22.4	40.4	37.2	100.0	
Are you satisfied with the tuberculosis control measures in health centers?	Frequency	80	91	79	250	Sometimes
	Percent	32.0	36.4	31.6	100.0	

Table 4.2.2 shows the distribution of the answers given by the nurses to the questions that include determining their knowledge and practices for the prevention of tuberculosis. When the table is examined, the first three methods used by nurses to prevent tuberculosis are “Is ventilation used in crowded workplace? (52.4%)”, “Do you receive the vaccine regularly? (50%)”, “Do you use gloves in the small operating room? (46.0%).Do you assist in the early diagnosis of the disease when symptoms appear?” 43.2% of the nurses gave the answer never to the question.

4.2.3. General Information about tuberculosis

Table.4.2.3.The results of the statistical description of the indicators of the General information

Indicator	F and R	Responses					Results
		Genetic Disease	Non-communicable bacterial disease	Contagious viral disease	Infectious Bacterial Disease	Total	
What type of infection does tuberculosis get?	F	69	52	65	64	250	Infectious Bacterial Disease
	P%	27.6	20.8	26.0	25.6	100.0	
What parts are most susceptible to infection with tuberculosis germs?	F and R	Liver	Heart	Kidney	Lungs	Total	Results
	F	16	37	78	119	250	Lungs
	P%	6.4	14.8	31.2	47.6	100.0	
What is the most common diagnostic tool for Tuberculosis?	F and R	Sputum Tests	Medical Imaging	Skin test	Blood test	Total	Results
	F	92	57	54	47	250	Sputum Tests
	P%	36.8	22.8	21.6	18.8	100.0	
How long does tuberculosis treatment take?	F and R	6month or more	4 month	45 days	month	Total	Results
	F	9	107	62	72	250	6month or more
	P%	3.6	42.8	24.8	28.8	100.0	
What sample is used to diagnose tuberculosis?	F and R	Skin	Saliva	Urine	Blood	Total	Results
	F	69	120	23	38	250	Saliva
	P%	27.6	48.0	9.2	15.2	100.0	
What is the most common drug used in the treatment of tuberculosis?	F and R	Rifampicin	Streptomycin	Pyrazinamide	All except 3	Total	Results
	F	55	61	102	32	250	Streptomycin
	P%	22.0	24.4	40.8	12.8	100.0	
Who are the people most exposed to the risk of tuberculosis infection	F and R	All correct	Persons with immunodeficiency	People have contact with someone has tuberculosis	Adult	Total	Results
	F	80	8	108	54	250	People have contact with someone has tuberculosis
	p%	32.0	3.2	43.2	21.6	100.0	

What are the symptoms of tuberculosis?	F and R	High fever	persistent sweating at morrning	Chest pain when breathing or coughing	Persistent cough for three weeks or more	Total	Results
	F	70	39	87	54	250	Persistent cough for three weeks or more
	P%	28.0	15.6	34.8	21.6	100.0	
Which of the diseases has a relationship with tuberculosis?	F and R	All except 2	Sugar	Blood pressure	HIV	Total	Results
	F	35	71	79	65	250	HIV
	P%	14.0	28.4	31.6	26.0	100.0	
How is the TB vaccine administered inside the patient`s body?	F and R	Intravenous injection	Muscle injection	Subcutaneous	Oral	Total	Results
	Fr	35	57	106	52	250	Subcutaneou s
	P%	14.0	22.8	42.4	20.8	100.0	

When the general information of the nurses participating in the study on tuberculosis is examined in Table 4.2.3, the two three items that the nurses gave the most correct answers were “What parts are most susceptible to infection with tuberculosis germs? (47.6%), “What sample is used to diagnose tuberculosis? (48.0%)”, “Who are the people most exposed to the risk of tuberculosis infection (43.2%). In addition, it was determined that only 3.6% of the nurses knew that the tuberculosis treatment was 6 months or more

Chapter Five

5. Discussion

5.1. Discussion of Demographic characteristics:

The results of our study, which was conducted in primary health centers on the category of nurses and based on demographic data in relation to the age variable, revealed that the category (35-44) topped the group with a percentage of 44.4 percent, which is similar to a study conducted previously (Akande, 2020) in the country (Ibadan, south-west Nigeria), where the age ratio of the categories was 43.7 percent. In terms of gender, women outnumbered males by 42.8 percent. This is similar to a study conducted by the researcher in the country (Maseru) (Malangu & Adebanjo, 2015), in which the women category topped the study sample with 66 percent, but the marital status was greater than the number of married people by 73.2 percent, while singles scored 26.8%, and this is similar to the study conducted by the researcher in the country (Malangu & Adebanjo, 2015), where the women category topped the study sample (Ibadan, south-west Nigeria), When the proportion of married persons was 93 percent greater than the proportion of singles. In terms of the number of children, the great majority of those who took part in the survey did not have any. There is no related research in this area. With 53.2 percent of the entire sample, the group (6-10 years) led the number of years in service category. The results are comparable to those of a prior study done by Sutiono et al. (2016), in which the results were identical to those of our present study, with the category (3-10 years) topping with 42 percent. In comparison to the countryside, there was a modest rise in the location of habitation. In terms of educational attainment, the individuals with a bachelor's degree accounted for 47.6 percent of the total. This study is comparable to one done by Aseeri et al. (2017), in which the leading proportion of the study participants were women

5.2. Distribution of knowledge of nurses about preventive tuberculosis:

Lack of TB awareness among primary health care nurses may lead to suboptimal treatment, unsatisfactory service delivery, and negative health outcomes, as well as an increased chance of tuberculosis infection. Furthermore, the type and quality of preventative information that can prevent the pathogen from getting TB will be determined by the knowledge and attitude of health care nurses about tuberculosis. Nurses' lack of or inadequate knowledge leads to

misperceptions or promotes unfavorable attitudes, which are frequently based on cultural ideas and misunderstandings, which can lead to poor disease prevention and consequently a high infection rate among nurses (Dodor et al., 2008). These unfavorable attitudes frequently discourage proper health-seeking behavior, increasing the risk of disease transmission (Chang & Cataldo, 2014). As a result, nurses' understanding of TB has an impact not only on themselves and their patients, but also on the rest of the world's populationin its entirety several studies from throughout the world have looked at the knowledge of healthcare personnel about TB, with mixed findings (Farhanah et al., 2016). Some participants reported having low knowledge (Noé et al., 2017), whereas others had adequate or high knowledge (Hashim et al., 2003). For example, studies of health care workers in Peru, Mozambique, Russia, Ethiopia, and Lesotho (Malangu & Adebanjo, 2015) found that average tuberculosis knowledge scores ranged from 51.7 to 74 percent, which is similar to what we found among nurses working in health care units in primary health centers in Dhi-Qar (71 percent).While we regarded TB knowledge to be ordinary in the current investigation, a lot of previous studies reported poor, unsatisfactory, or low scores due to high cut-off scores for excellent knowledge (Malangu & Adebanjo, 2015). There was no consistent TB screening and diagnosis in primary health facilities in our research. It was obvious that most nurses have not been following the preventive measures, so infection and disease transmission from the undiagnosed patient to the nurse was easy. For example, the answers to the question about the use of ventilation and fogging in crowded conditions,were not ideal,for almost half of the nurses (47. 5 percent) answered that they were not using fogging or ventilation. This study is similar to one conducted by (Ramadhany et al.2020), which found that the Sample persons did not employ isolation measures or personal protective equipment when transferring, and that only protective equipment, masks, were given in 48.1 percent of cases. Cases that were confirmed or suspected were handled at the discretion of individual practitioners. Our findings differed from those of certain research conducted in other countries, indicating that nurses have an average level of expertise. When workers were asked how much knowledge they had, they said they didn't know much. The results were acceptable and in the amount of (50.0 percent) i.e. by half, but these results contradict some of the results that were conducted in some countries where the results were acceptable and in the amount of (50.0 percent) i.e. by half, but these results contradict some of the results that were conducted in some countries where the results were acceptable and in the amount of (50.0 percent) i.e. by half, but these results contradict some

of the results that were The dearth of awareness among health-care providers about tuberculosis is alarming, according to our research. Even people who work in tuberculosis control centers, according to evidence from several studies around the world, do not always have adequate knowledge of tuberculosis (Woith et al., 2010). Only 37.2 percent of healthcare workers with tuberculosis know the definition of the disease (Minnery et al., 2013), and only 59 percent are aware that it is treatable (Woith et al., 2010). The majority of the study participants lacked knowledge regarding tuberculosis medications and drug resistance. In response to the question "Do you know the most resistant medicines?" the majority of the participants said they had no idea. Our findings contradict those of a study conducted in Karbala province by researchers (Al-Mousawi and Al-Wush 2017), whose findings were inconclusive and unsatisfactory, with a low percentage of knowledge and a low percentage of satisfaction (52 percent)

Only 37.2 %of health-care workers with tuberculosis know what MDR-TB is (Minnery et al., 2013), and only 59 % realize it is treatable, according to several studies (Woith et al., 2010). Despite the lack of capacities in health centers, our study produced acceptable findings in terms of disease prevention and transmission methods, as 68.8% is a good and acceptable proportion, and it is comparable to the results of previous studies conducted in other countries. The majority of respondents (89.2%) knew enough about tuberculosis transmission, diagnosis, and prevention; the researcher, Steinberg (2014), did a study named (Attitudes, Knowledge, and Practices of Health Care Workers Regarding Occupational Exposure to Pulmonary Tuberculosis)

5.3. Discussing the assessment of nurses' knowledge about the preventive tools used against tuberculosis

According to the answers given to some of the questions, there is a lack of knowledge about disease prevention and transmission, as some nurses do not know how the disease spreads and do not use protective equipment in the workplace, as evidenced by the answers given by some nurses on the questionnaire.They are unaware of disease control programs,which has a substantial impact on disease dissemination and transmission among nurses, as seen by 47.47 % of those who utilize strategies other than prevention. This is similar to a study by (De Souza & Bertolozzi .2007), which found erroneous information about tuberculosis transmission. The transmission of tuberculosis has been linked to the use of things such as dishes and cutlery. Patients with tuberculosis already use glasses. As a result, there is a statistical link between

tuberculosis infection and a lack of knowledge of preventive information and failure to follow it in the workplace. Our research also revealed that some nurses avoided visiting tuberculosis patients for fear of infecting them, and that the majority of those who do visit tuberculosis patients are practitioner nurses working in isolation facilities. After visiting tuberculosis patients, more than half of the sample replied. This study contradicts a study conducted by (Malveira et al.(2002) in which some nurses or professionals responded that bacilli or bacteria cannot remain in the patient's home, and that transmission happens through coughing and flying droplets from the sick mouth to the healthy personv. A study conducted by the researcher Mussi et al.(2012)showed that one of the most important preventive measures related to tuberculosis prevention is vaccination against the disease with the BCG vaccine.He indicated that a large percentage have received the vaccination and that it is very surprising (Malveira et al., 2002) . This vaccine has a key measure of protection against severe manifestations of primary infection, such as disseminated hematopoiesis and meningoencephalitis (Brasil, 2005).

Our study showed that most of the nurses use surgical gloves in the workplace because of their great role in preventing tuberculosis, and it was noted in our study that after verifying the wearing of the face mask during work practice, there was a distinct number of those who used the mask while working because of its role in blocking the flying mist. Based on the responses of patients, similar studies were conducted by the researcher Setiawati et al.(2016), where it was shown that the use of surgical masks by health professionals in order to measure the protection and prevention of disease through the belief that the use of the surgical mask is real.Protection and failure to take adequate precautions against atmospheric dust and after asking and checking the use of paws Lack of knowledge about the epidemiological significance of the respiratory route in disease transmission, stating that 41.2% of the participants had positive results, while 58.8% had negative intent. This indicates that the majority of health care workers do not own themselves Awareness of using personal protective equipment, such as masks or hand gloves, to prevent tuberculosis transmission in their workplace

5.3. Discussion of the Results of General Information Knowledge:

Our study showed that most of the answers of the study participants to the question: (what kind of infection does tuberculosis get?) were poor responses with the a rate of about 27.6% , as most of the study participants considered tuberculosis a genetic disease.This is

similar to a study conducted in Vietnam by the researcher(Hoa et al. 2009), as the results indicate that more than half of the respondents believe that tuberculosis is a genetic disease Approximately one-third of respondents (31.4%) . When asked about (Symptoms of tuberculosis except for one), the opinions of the sample were slightly different, as the answer of most of the participants in the study was (chest pain when breathing or coughing), which means that coughing, shortness of breath and chest pain are among the top answers of the participants in the study and this is consistent with asimilar study that was conducted in Vietnam where coughing was the symptom most frequently mentioned by the participants in the study and it reached a very high rate of (92.5%). After reviewing the opinions of the sample on the question (What parts are most susceptible to infection with TB germs?), the results were good, with most study participants (6%) answering that the organs most susceptible to infection with TB germs are the lungs. 47 It is similar to the studies conducted by the researcher Hashim et al.(2003) , where most of them (97.5%) answered that tuberculosis affects the lungs, bones, kidneys and abdomen with 66.8%, 55.6% and 50.4%, respectively. And through the same study conducted in Iraq and through a sample question (Who are the people most likely to contract tuberculosis?), the results indicated that people in contact with a person infected with tuberculosis are more likely to contract tuberculosis, as 83.6% of the answers reported that the main risk factor for tuberculosis infection is permanent close contact with the patient. It is similar to a study conducted by the same researcher titled (Knowledge, Attitudes and Practices Survey among Health Care Workers and Tuberculosis Patients in Iraq)

CHAPTER SIX

Conclusion and recommendations

Conclusion:

Our study concluded that increasing knowledge has a significant role in reducing the risk of infection with tuberculosis and in preventing it.The increase in the spread of tuberculosis causes an increase in the risk to nurses and the spread of infection among them.Therefore,nurses must increase their knowledge of the disease,understand the disease and know the ways by

which it can transmit and what prevention measures they should take.Hence, it is necessary for nurses to improve and increase their knowledge on the above- mentioned aspects

According to the results, the study concludes the following:

1- All employees have average knowledge of tuberculosis.

2- The educational level and social status have an impact on increasing the knowledge on tuberculosis prevention, as was the case with most of the nurses who hold a bachelor's degree. So, the factor of education is an important component of increasing knowledge.

3- The place of work and the time of work had no effect on the evaluation of the nurses from the preventive point of view.

Recommendations:

Based on the results, the study recommends the following:

1-Activating the training programs for primary health centers` nurses effectively in order to prevent tuberculosis and to increase nurses' knowledge so as to reduce the spread of tuberculosis.

2- An appropriate and actual evaluation of the knowledge of health care nurses on tuberculosis in Dhi -qar governorate should be conducted, in order to take the necessary steps to improve their knowledge of tuberculosis prevention and reduce the risk of infection with tuberculosis through the use of modern methods in primary care centers

3- Conducting an evaluation of the implementation of tuberculosis control and prevention programs by more experienced and impartial practicing bodies to improve and increase the preventive capacity from tuberculosis by nurses in the primary health care centers.

4- Conducting further research on tuberculosis, how to comprehensively prevent tuberculosis and using its results in health assessment programs for all health care workers in Dhi Qar in order to prevent tuberculosis infection and to reduce its transmission among nurses.

6- Recruiting highly experienced trainers to organize training workshops for nurses to prevent the risk of the transmission of tuberculosis in primary health care centers within Dhi-qar governorate

7- Effective confirmation and monitoring of the use of protective equipment, fumigation and fumigation tools in all corridors of primary health centers to prevent the transmission of tuberculosis bacilli in the air and to avoid infection.

8- Activating the role of the media and the Ministry of Health through awareness programs about tuberculosis and its transmission and introducing the dangers of the disease.

9- Encouraging researchers to conduct a lot of research on tuberculosis because of its great importance in raising community awareness in general and nurses, in particular, to avoid infection with tuberculosis.

REFERENCES

Akande, P. A. (2020). Knowledge and practices regarding tuberculosis infection control among nurses in Ibadan, south-west Nigeria: A cross-sectional study. *BMC Health Services Research*, *20*(1), 1–10. https://doi.org/10.1186/s12913-020-05156-y

Aseeri, A. A., Turkestani, R. A., & Alamri, M. A. (2017). Assessment of Knowledge, Attitudes and Practices regarding Pulmonary Tuberculosis among Saudi Arabia Community in 2017. *The Egyptian Journal of Hospital Medicine*, *69*(5), 2421–2425. https://doi.org/10.12816/0041687

Douglas, K. M., & Sutton, R. M. (2010). Kent Academic Repository. *European Journal of Social Psychology*, *40*(2), 366–374.

Drobniewski. (2015). *2016 ECDC TB Lab Handbook*. https://doi.org/10.2900/216384

East Central and Southern Africa Health Community. (2014). *TB Competencies for Pre- Service*

Nurses in ECSA Region.

Farhat, M. R., Shapiro, B. J., Kieser, K. J., Sultana, R., Jacobson, K. R., Victor, T. C., Warren, R. M., Streicher, E. M., Calver, A., Sloutsky, A., Kaur, D., Posey, J. E., Plikaytis, B., Oggioni, M. R., Gardy, J. L., Johnston, J. C., Rodrigues, M., Tang, P. K. C., Kato-Maeda, M., … Murray, M. (2013). Genomic analysis identifies targets of convergent positive selection in drug-resistant Mycobacterium tuberculosis. *Nature Genetics*, *45*(10), 1183–1189. https://doi.org/10.1038/ng.2747

Hashim, D. S., Al Kubaisy, W., & Al Dulayme, A. (2003). Knowledge, attitudes and practices survey among health care workers and tuberculosis patients in Iraq. *Eastern Mediterranean Health Journal*, *9*(4), 718–731.

Hoa, N. P., Chuc, N. T. K., & Thorson, A. (2009). Knowledge, attitudes, and practices about tuberculosis and choice of communication channels in a rural community in Vietnam. *Health Policy*, *90*(1), 8–12. https://doi.org/10.1016/j.healthpol.2008.08.006

Lafreniere, M., Hussain, H., He, N., & Mcguire, M. (2017). TUBERCULOSIS in Canada. *Lancet*, *1*(6399), 585.

Mahaye, T. T. (2016). *the Practice of Nurses in the Prevention of Multidrug-Resistant Tuberculosis At King Cetshwayo District*. *November*.

Malangu, N., & Adebanjo, O. D. (2015). Knowledge and practices about multidrug-resistant tuberculosis amongst healthcare workers in Maseru. *African Journal of Primary Health Care and Family Medicine*, *7*(1), 1–5. https://doi.org/10.4102/phcfm.v7i1.774

Mousawi, A. Al, & Alwash, H. (2017). Tuberculosis program health care workers knowledge about tuberculosis in Kerbala governorate in 2017. *Iraqi Journal of Public Health*, *1*(3). https://doi.org/10.22317/ijph.12201702

Role, T. H. E., Personality, O. F., Taking, T., On, A., Of, P., Fairness, S., Pobee, B. N. A. I., & In, L. (2018). *University of Ghana http://ugspace.ug.edu.gh University of Ghana http://ugspace.ug.edu.gh*. *10388417*.

Sudha, S. (2016). Tuberculosis diagnosis - An overview to the conventional diagnostic methodology and need for nanodiagnosis. *International Journal of Medical Engineering and Informatics*, *8*(1), 27–40. https://doi.org/10.1504/IJMEI.2016.073664

Sutiono, H. O., Soeroto, A. Y., & Lestari, B. W. (2016). Knowledge, Attitude, and Practice Survey among Nurses in Dr. Hasan Sadikin General Hospital toward Tuberculosis-Human Immunodeficiency Virus Collaboration Program. *Althea Medical Journal*, *3*(1), 85–92. https://doi.org/10.15850/amj.v3n1.715

The Global Tuberculosis Institute. (2017). *Tuberculosis case management: A guide for Nurses*.

Almufty, H. B., Abdulrahman, I. S., & Merza, M. A. (2019). Latent tuberculosis infection among healthcare workers in Duhok province: From screening to prophylactic treatment. *Almufty, Hind Bahzad Abdulrahman, Ibtesam Salih Merza, Muayad Aghali*, *4*(2), 1–11. https://doi.org/10.3390/tropicalmed4020085

Barberis, I., Bragazzi, N. L., Galluzzo, L., & Martini, M. (2017). The history of tuberculosis: From the first historical records to the isolation of Koch's bacillus. *Journal of Preventive Medicine and Hygiene*, *58*(1), E9–E12. https://doi.org/10.15167/2421-4248/jpmh2017.58.1.728

Canadian Tuberculosis Standards. (2014). Prevention and Control of Tuberculosis Transmission in Health Care and Other Settings. In *Centre for Communicable Diseases and Infection Control* (Vol. 76, Issue 6). https://doi.org/10.1525/abt.2014.76.6.6

Churchyard, G., Kim, P., Shah, N. S., Rustomjee, R., Gandhi, N., Mathema, B., Dowdy, D., Kasmar, A., & Cardenas, V. (2017). What We Know about Tuberculosis Transmission: An Overview. *Journal of Infectious Diseases*, *216*(Suppl 6), S629–S635. https://doi.org/10.1093/infdis/jix362

Codjoe, A. (2012). Assessment of Tuberculosis Infection Prevention and Control Practices Among Healthcare Workers in Tema General Hospital. *Master's Thesis*.

Communicable, Y., Control, D., Control, T. B., Road, H., & Facts, B. (2016). *CHAPTER BASIC*

FACTS ABOUT TUBERCULOSIS (TB) Characteristics of TB Bacteria 3 Signs and Symptoms of Active TB Disease. Transmission

Dheda, K., Gumbo, T., Maartens, G., Dooley, K. E., McNerney, R., Murray, M., Furin, J., Nardell, E. A., London, L., Lessem, E., Theron, G., van Helden, P., Niemann, S., Merker, M., Dowdy, D., Van Rie, A., Siu, G. K. H., Pasipanodya, J. G., Rodrigues, C., … Warren, R. M. (2017). The epidemiology, pathogenesis, transmission, diagnosis, and management of multidrug-resistant, extensively drug-resistant, and incurable tuberculosis. *The Lancet Respiratory Medicine*, *5*(4), 291–360. https://doi.org/10.1016/S2213-2600(17)30079-6

Diagnostics, N., Group, W., & Partnership, S. T. B. (2009). Pathways to better diagnostics for tuberculosis. *Extranetwhoint*, 1–151.

Jensen, P. A., Lambert, L. A., Iademarco, M. F., & Ridzon, R. (2005). Guidelines for preventing the transmission of Mycobacterium tuberculosis in health-care settings, 2005. In *MMWR. Recommendations and reports : Morbidity and mortality weekly report. Recommendations and reports / Centers for Disease Control* (Vol. 54, Issue 17).

Miele, I. E. and L. (2013). NIH Public Access. *Bone*, *23*(1), 1–7. https://doi.org/10.1038/jid.2014.371

Mohammad, H. J. (2019). *Journal of Global Pharma Technology Available Online at www.jgpt.co.in Nurses Awareness Regarding Detection of Tuberculosis Cases in Babylon Hospitals*. *January*.

Mohamud, A. A. (2018). *Assessment of knowledge, attitude andbehavioural practices towards tb prevention and control among healthcare workers at the Thika level 5 hospital*.

Naidoo, S., Taylor, M., Esterhuizen, T. M., Nordstrom, D. L., Mohamed, O., Knight, S. E., & Jinabhai, C. C. (2011). Changes in healthcare workers' knowledge about tuberculosis following a tuberculosis training programme. *Education for Health: Change in Learning and Practice*, *24*(2), 1–6.

Region, W. H. O. E., & Region, E. (2007). *Background information about tuberculosis*. *September*, 17–18.

Role, T. H. E., Personality, O. F., Taking, T., On, A., Of, P., Fairness, S., Pobee, B. N. A. I., & In, L. (2018). *University of Ghana http://ugspace.ug.edu.gh University of Ghana http://ugspace.ug.edu.gh*. *10388417*.

Royal College of Nursing. (2019). *A Case Management Tool for TB Prevention , Care and Control in the UK*.

Sudha, S. (2016). Tuberculosis diagnosis - An overview to the conventional diagnostic methodology and need for nanodiagnosis. *International Journal of Medical Engineering andInformatics*, *8*(1), 27–40. https://doi.org/10.1504/IJMEI.2016.073664

APPENDICES

Appendices A1: Questionnaire of the Study (Arabic)

ندعوكم للمشاركة في البحث الذي أجراه موسى عبد الجبار بعنوان **(تقييم المعلومات للممرضات في مراكز الرعاية الصحية الأولية للوقاية من مرض السل في محافظة ذي قار)**. قبل أن تقرر ما إذا كنت ستشارك في هذا البحث أم لا ، تحتاج إلى معرفة سبب وكيفية إجراء البحث. لهذا السبب ، من الأهمية بمكان قراءة هذا النموذج وفهمه. إذا كانت هناك أشياء لا تفهمها وليست واضحة لك ، أو إذا كنت ترغب في مزيد من المعلومات ، اسألنا. المشاركة في هذه الدراسة تطوعية بالكامل. لديك الحق في عدم المشاركة في الدراسة أو الانسحاب في أي وقت بعد الانضمام. سيتم تفسير ردك على الدراسة على أنه يمنح موافقتك على المشاركة في الدراسة. لا تتعرض لضغط أو اقتراح من أي شخص أثناء الإجابة على الأسئلة الواردة في الاستمارات المقدمة لك. سيتم الاحتفاظ بالمعلومات الشخصية التي يتم الحصول عليها من هذه النماذج سرية تمامًا ولن يتم استخدامها إلا لأغراض البحث

1-نموذج السؤال الاجتماعي والديموغراف

العمر	24_18 34_25 44_35 54_45 65_55

الجنس	1-ذكر 2-انثى
الحالة الاجتماعية	1_متزوج 2_منفصل
اذاكنت متزوج كم عدد الاطفال	1-واحد 2-ثنين 3- اكثر 4-اكثر من ذلك
المستوى العلمي	1-اعدادية 2-دبلوم 3-بكلوريوس 4-ماجستير 5-دكتوراه
عدد سنوات الخدمه	(.....)
مكان الاقامه	1-مركز المدينه 2-ريف
ساعات العمل	1-صباحا 2- مساءا

2-المعلومات الطبية

الفقرة	نعم	لا
هل تعلم ما هو السل		
إذا لزم الأمر ، هل ستتطوع في جناح السل		
هل تعتقد أنه يجب عزل جميع مرضى السل		
هل تعلم ما هي العلامات والأعراض الرئيسية لمرض السل		
هل تعرف كيف تمنع المرض		
هل تعرف مضاعفات المرض		
هل يوجد شخص مصاب في الأسرة		
هل سبق لك زيارة مريض للعلاج		
هل تعرف أكثر الأدوية مقاومة		
هل تعرف برامج الرقابة الصحية		
هل تم تطعيمك ضد المرض		
هل سبق لك عقد جلسات توعية حول هذا المرض		
هل تثق في الأدوات المستخدمة في التشخيص في المراكز الصحية		
إذا كان مريض السل المشتبه به مريضًا جدًا ، فهل تعالج مرض السل قبل تأكيد التشخيص		
هل تستخدم معدات الحماية عند وجود مريض مشتبه به		

3-المعلومات الوقائية

الفقرة	دائما	احيانا	ابدا
يتم استخدام التهوية في مكان العمل المزدحم			
يستخدم بشكل دوري في أقسام التعقيم والتبخير			
تتلقى اللقاح بانتظام وبشكل منتظم			
تراجع الطبيب إذا شعرت بعلامات المرض			
استخدم القناع في العمل			
استخدام جل التعقيم أو غسل اليدين بعد لمس المرضى في المركز الصحي			
استخدم القفازات في غرفة العمليات الصغيرة			
المساعدة في تشخيص المرض مبكرًا عند ظهور الأعراض			
المساعدة في تحديد موقع المريض المصاب			
هل أنت راضٍ عن إجراءات مكافحة السل في المراكز الصحية			

4.معلومات عامة عن مرض السل

ما نوع العدوى التي يصاب بها مرض السل	مرض جرثومي معدي مرض فيروسي معدي مرض بكتيري غير معدي مرض وراثي
ما هي الأجزاء الأكثر عرضة للإصابة بجراثيم السل؟	رئتين الكلى قلب الكبد
أداة التشخيص الأكثر شيوعاً لمرض السل	تحاليل الدم اختبار بسيط للجلد اختبارات التصوير الطبي اختبارات البلغم
ما هي المدة التي يستغرقها علاج السل؟	شهر يوما 45 اشهر 4 أشهر أو أكثر 6
ما هي العينة المستخدمة لتشخيص مرض السل؟	دم الادرار اللعاب الجلد
أكثر الأدوية شيوعاً في علاج السل	ريفامبيسين الستربتومايسين بيرازيناميد الكل ما عدا 3
الأشخاص الأكثر عرضة للإصابة بالسل	الكبار الأشخاص الذين لديهم اتصال وثيق بشخص مصاب بالسل الأشخاص المصابون بأمراض نقص المناعة صحيح بالكامل

أعراض السل ما عدا واحد	السعال المستمر لمدة ثلاثة أسابيع أو أكثر ألم في الصدر عند التنفس أو السعال التعرق المستمر خاصة في الصباح حمى شديدة
هل هناك علاقة بين مرض السل؟	فيروس العوز المناعي البشري ضغط الدم السكر الكل ما عدا 2
لقاح السل؟	فم، حقن تحت الجلد، حقن العضلات الحقن في الوريد

Appendices A2: Questionnaire of the Study.(English)

We invite you to participate in the research conducted by **Mousa Abdul-Jabbar** (Assessment of information for nurses to prevent tuberculosis in primary health care centers in Dhi Qar Governorate). It is very important to read and understand this model. If there is anything you do not understand, is unclear to you, or if you want more information, ask us. Participation in this study is entirely voluntary. You have the right not to participate in the study or to leave the study at any time after participation. When answering the questions on the forms given to you, do not pressure or make any suggestions. Personal information obtained from these forms will be kept strictly confidential and will be used for research purposes only.

1- Socio-demographic Characteristics

Age	18-24 25-34 35-44 45-54 55-64
Gender	Male female
Marital status	married Single
If you are married, how many children are there	
Educational level	Others Diploma Undergraduate Nursing

	Master of Nursing, Doctor Nursing
umber of years services	
monthly income	Enough Not enough
place of residence	city, countryside
Your stay in the health center	Mornning Evening

2. Clinical information

Paragraph	**Yes**	**No**
2.1- Do you know what TB (Tuberculosis) is?		
2.2- If necessary, would you volunteer for the TB ward?		
2.3- Do you think that all TB patients should be isolated?		
2.4- Do you know what the main signs and symptoms of tuberculosis are?		
2.5- Do you know how to prevent the disease?		
2.6- Do you know the complications of the disease?		
2.7- Is there an infected person in a family?		
2.8- Have you ever visited a patient for treatment?		
2.9- Do you know the most resistant drugs?		
2.10- Do you know the health programs to check?		
2.11- Have you been vaccinated against the disease?		
2.12- Have you ever done awareness sessions about the disease?		
2.13- Do you trust the tools used for diagnosis in health centers?		
2.14- If the suspected TB patient is very ill, do you give TB treatment to the TB patient before confirming the diagnosis?		
2.15- Do you use protective equipment when there is a suspected patient?		

3. Preventive information

paragraph	**Never**	**Sometimes**	**Always**
Is ventilation used in a crowded workplace?			
Is it used periodically in the sterilization and fumigation departments?			
Do you receive the vaccine regularly?			
Do you visit a doctor if you feel symptoms of the disease?			
Do you use the mask at work?			

Do you use sanitizing gel or wash your hands after touching patients in the health center?			
Do you use gloves in the small operating room?			
Does it help to diagnose the disease early when symptoms appear?			
Do you help in locating the injured patient?			
Are you satisfied with the tuberculosis control measures in health centers?			

4. General information about tuberculosis

What type of infection does TB cause?	Infectious bacterial disease Infectious viral disease Non-infectious bacterial disease Genetic disease
Which parts are more susceptible to TB germs?	Lungs Kidneys Heart Liver
What is the diagnostic tool most commonly used for tuberculosis?	Blood tests Simple skin test Medical imaging tests Sputum tests
How long does TB treatment take?	One month 45 days 4 month 6 months or more
What is the sample used to diagnose tuberculosis?	Blood Saliva Saliva Skin
What is the drug most common used in the treatment of tuberculosis?	Rifampicin Streptomyci Pyrazinamide All but 3
Who are the people most susceptible to TB?	Adults People who have been in close contact with someone with TB People with immunodeficiency diseases All true
Which one is a TB symptom?	persistent cough for three weeks or more Chest pain when breathing or coughing Persistent sweating, especially in the morni

	Severe fever
Which disease has a relationship with TB?	HIV Blood pressure Sugar All but 2
How can the vaccine be administered in the body?	By mouth, By Subcutaneous Injection By muscle injection By Injection into a vein

Appendices A3: Questionnaire of the Study.(Turkish)

Sizi **Mousa Abdul-Jabbar** tarafından yürütülen (Dhi Qar Valiliği'nde birinci basamak sağlık merkezlerinde tüberkülozu önlemek için hemşireler için bilgilerin değerlendirilmesi) başlıklı araştırmaya katılmaya davet ediyoruz.Bu araştırmaya katılıp katılmamaya karar vermeden önce, araştırmayı neden ve nasıl yapacağınızı bilmeniz gerekir.Bu nedenle, bu modeli okumak ve anlamak çok önemlidir Anlamadığınız, sizin için net olmayan şeyler varsa veya daha fazla bilgi istiyorsanız, bize sorun.Bu çalışmaya katılım tamamen gönüllüdür.Çalışmaya katılmama veya katıldıktan sonra istediğiniz zaman çalışmadan ayrılma hakkına sahipsiniz Araştırmaya vereceğiniz yanıt, araştırmaya katılmanız için onay verdiğiniz şeklinde yorumlanacaktır.Size verilen formlardaki soruları cevaplarken kimse tarafından baskı veya öneride bulunmayın.Bu formlardan elde edilen kişisel bilgiler kesinlikle gizli tutulacak ve sadece araştırma amacıyla kullanılacaktır

1- Sosyo-demografik Soru Formu

Yaş	18-24 25-34 35-44 45-54 55-64
Cinsiyetiniz	Erkek kadı
Medeni durum	Evli Bekar
çocuk var, evliyseniz	Yes No
Cevabınız evet ise, kaç çocuk var?	
Bilimsel seviye	Diğerleri Diploma Lisans Hemşireliği Hemşirelik Yüksek Lisans, Doktor Hemşireliği
Yıllık hizmet sayısı	

Aylık gelir	Yeterli Yeterli değil
İkamet yeri	Köy şehri
Sağlık merkezinde kalışınız	Sabah Akşam

2. Klinik bilgiler

Paragraf	EVET	HAYIR
2.1- TB (Tüberküloz) nedir biliyor musunuz?		
2.2- Gerekirse TB koğuşuna gönüllü olur musunuz?		
2.3- Tüm TB hastalarının izole edilmesi gerektiğini düşünüyor musunuz?		
2.4- Tüberkülozun ana belirti ve semptomlarının neler olduğunu biliyor musunuz?		
2.5- Hastalığı nasıl önleyeceğinizi biliyor musunuz?		
2.6- Hastalığın komplikasyonlarını biliyor musunu?		
2.7- Bir ailede enfekte biri var mı?		
2.8- Hiç tedavi amacıyla bir hastayı ziyaret ettiniz mi?		
2.9- En dirençli ilaçları biliyor musunuz?		
2.10- Kontrol etmek için sağlık programlarını biliyor musunuz??		
2.11- Hastalığa karşı aşılandınız mı?		
2.12- Hiç hastalık hakkında farkındalık oturumları yaptınız mı?		
2.13- Sağlık merkezlerinde tanı için kullanılan araçlara güveniyor musunuz?		
2.14- Şüpheli TBC hastası çok hastaysa tanıyı doğrulamadan önce TBC hastasına TB tedavisi veriyor musunuz		
2.15- Şüpheli bir hasta olduğunda koruyucu ekipman kullanıyor musunuz?		

3. Önleyici bilgiler

Paragraf	Hiçbir zaman	Bazen	Her zaman
Havalandırma kalabalık bir işyerinde kullanılır			
Sterilizasyon ve buharlaşma bölümlerde periyodik olarak kullanılır			
Aşıyı düzenli ve düzenli olarak alıyorsunuz			
Hastalığın belirtilerini hissediyorsanız bir doktora görün			
Maskeyi kullanın(Maske) çalışırken			
Sterilizasyon jeli kullanın veya sağlık merkezindeki			

hastalara dokunduktan sonra ellerinizi yıkayın			
Küçük ameliyathanede ELDİVEN kullanın			
Belirtiler olduğunda hastalığın erken teşhis edilmesine yardımcı olun			
Enfekte bir hastanın yerini bulmaya yardım et			
Sağlık merkezlerindeki TBC kontrol önlemlerinden memnun musunuz?			

4. General information about tuberculosis

TB hangi tipte enfeksiyona girer?	Bulaşıcı bakteriyel hastalık Bulaşıcı viral hastalıklar Bulaşıcı olmayan bakteriyel hastalık Genetik hastalık
Hangi parçalar TB mikroplarına daha duyarlıdır?	akciğerler böbrekler Kalp Karaciğer
Tüberküloz için en sık kullanılan tanı aracı	an testleri Basit cilt testi Tıbbi görüntüleme testleri balgam testleri
TB tedavisi ne kadar sürer?	Bir ay 45 gün 4 ay 6 ay veya daha fazla
Tüberkülozu teşhis etmek için kullanılan örnek nedir?	Bir ay 45 gün 4 ay 6 ay veya daha fazla
Tüberküloz tedavisinde kullanılan en yaygın ilaç	Rifampisin Streptomisi Pirazinamid 3 hariç hepsi
TB'ye en duyarlı kişiler	Yetişkin Yakın temasta bulunan kişiler tüberkülozlu biriyle İmmün yetmezlik hastalıkları olan kişiler Hepsi doğru
Biri dışında TB belirtileri	üç hafta veya daha uzun sürekli öksürük Nefes alırken veya öksürürken göğüs ağrısı Özellikle sabahları sürekli terleme şiddetli ateş

Tüberküloz arasında bir ilişki var mı	HIV Tansiyon Şeker 2 hariç hepsi
Tüberküloz aşısı?	Ağız, Derialtı enjeksyonu kas enjeksiyonu Bir damara enjekte etmek

THE VITAE CURRICULUM

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