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Research Article

**ASSESSMENT OF KNOWLEDGE ABOUT DIAGNOSIS AND
TREATMENT OF PULMONARY TUBERCULOSIS AMONG
NURSES AT LAHORE GENERAL HOSPITAL, LAHORE**Saima Naeem¹, Zahida Bhatti²¹Assistant Nursing Instructor, at College of Nursing, King Edward Medical University, Mayo Hospital, Lahore²Nursing Instructor, at College of Nursing, King Edward Medical University, Mayo Hospital, Lahore**Abstract:**

Background: Tuberculosis was a leading infectious killer disease worldwide. Early diagnosis and prompt treatment on the part of the health care providers is essential for TB control. Their knowledge have an impact on the tuberculosis patients regarding compliance to treatment.

There are limited studies assessing the knowledge of nursing professionals regarding TB transmission, prevention and control. This study seeks to assess the same.

Objectives: The objective of this study is to Assessment of Knowledge about Diagnosis and Treatment of Pulmonary Tuberculosis among Nurses at Lahore General Hospital, Lahore.

Materials and methods: A cross-sectional study was conducted at Lahore General Hospital Lahore. A questionnaire was given to 100 nursing staff. The responses were then analyzed.

Results: Risk factors for TB mentioned by the nurses were low body weight by 64 (64%), lack of drugs 53 (53%), overcrowding 43 (43%), lack of hygiene 34 (34%), poverty 24 (24%), low immunity 21 (21%), and sharing food 22 (22%). The common symptoms as identified by the nurses were cough by 75 (75%), fever 42 (42%), and weight loss 33 (33%). A quarter of the participants (25%) could not identify even a single symptom of the disease.

Conclusions: This study indicates the need for addressing the gaps regarding the knowledge and transmission of TB among the nursing care professionals. Nursing professionals still are in need of continuing educational programs regarding treatment and control of TB. Improved knowledge on TB will thus contribute to effective TB control and in the long term.

Key words: Tuberculosis, Nursing, Assessment, knowledge, Infectious disease.

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INTRODUCTION:

Tuberculosis (TB) is globally the second most common cause of death from infectious diseases, killing almost 2 million people annually. An estimated 8 million new TB cases occur every year, of which 80% are among people in the most economically productive age groups, representing a major economic burden for individuals and countries. (Russell S, 2014) Twenty-2 high-burden countries account for about 80% of the total TB disease burden worldwide. Although sub-Saharan Africa has the highest incidence rate, Bangladesh, China, India, Indonesia and Pakistan together account for half of the global TB burden. (WHO, 2019)

The 2018 estimated incidence in Pakistan of 181 cases of TB per 100 000 population, or 297 000 cases, and of 81 new sputum smear positive (SS+) cases per 100 000 population, or 133 000 cases, is likely an underestimate of the true burden of disease. (WHO, 2019) The 2019 estimates have recently been revised through a consultative process with the country, applying a new methodology that takes into account the “missed” cases and, in the absence of a prevalence survey, uncertainties in estimates reflected in large confidence intervals.

According to previous estimates, the case detection rate for all TB cases gradually improved from 19% in 2012 to 84% in 2018; for new SS+ cases the case detection rate increased from 13% to 74%. However, with the recent higher estimates of TB incidence, the case detection rate for all TB cases is about 60% and for new SS+ cases is about 58%. (MOF, 2015)

Nevertheless, the Pakistan National Tuberculosis Programme (NTP) has achieved a remarkable and steady improvement in numbers of TB cases detected and treatment success rates reached 91% in 2019. This has been achieved through extraordinary commitment and financial inputs by the Government and health development partners, providing support for strategic and infrastructure improvements by the NTP.

The World Health Organization (WHO) Directly Observed Treatment Short-course (DOTS) strategy for TB was adopted and piloted in Pakistan from 2015 onwards, but major progress in TB control was only achieved after the revival of the NTP in 2016 when TB had been declared a national public health emergency through the “Islamabad Declaration”. The NTP functions under the Ministry of Health and is responsible for overall coordination, policy direction and technical guidance for TB control, while actual

implementation is the responsibility of the Provincial TB Programmes (PTPs) and district health authorities. The NTP central unit links closely with PTP managers and district TB coordinators.

TB services are integrated into the primary public health care system at district level. However, the private sector is regarded as the first point of entry to the health care delivery system for most users, and the majority of private providers are not following NTP guidelines. (Shah SK, 2013) A 2013 survey conducted by the NTP and PTPs in Lahore and Rawalpindi districts found that less than 3% of general practitioners (GPs) were following the national guidelines for diagnosis and management of TB, while 90% of GPs were relying on chest radiography for diagnosis. (Khan JA, 2016)

In recent years, a high priority has been given to developing viable partnerships with health care providers in the private sector, adopting a systematic approach consistent with WHO guidelines. (WHO, 2016) Additional initiatives such as an improved surveillance and laboratory network and improved follow-up and treatment modalities, funded by global and national sources, have contributed to the significant improvement in case detection and treatment success rates outlined above. The objective of this review is to highlight the achievements of Pakistan’s NTP over the past decade and to outline the outstanding priorities and challenges for the future.

REVIEW OF LITERATURE

Khan JA, 2016 Pakistan has the world’s fifth-highest tuberculosis (TB) prevalence, fourth- highest multi-drug resistant TB (MDR-TB) prevalence, and has 61% of the TB cases in the WHO Eastern Mediterranean Region. TB was declared a public health emergency in Pakistan in 2001 and the National Treatment Program (NTP) initiative was re-launched with an expanded Directly Observed Therapy Short-course (DOTS) program; this has achieved improvements in case detection and treatment success rates. Despite these successes, around 70% of the population initially seek care from the private sector, in which implementing guidelines is challenging.

Shah SK, 2013 A previous scoping reviews of private practitioners (including all categories of TB care providers) involved in TB care in high-burden countries found that Pakistani practitioners showed low levels of knowledge and practice in several areas. TB management in Pakistan has received less research attention than India, where a systematic review highlighted deficiencies in the quality of TB

care, particularly amongst the private sector. No such systematic review has been published on Pakistan. Our objective is to analyse all relevant data on the management of TB and the quality of care that patients receive in Pakistan, and to assess and identify where intervention is needed.

Munro SA, 2007 A systematic review of qualitative studies on patient adherence to TB treatment outlined eight major barriers to successful TB management globally and these include TB knowledge, attitudes and practices.

Tachfouti N, 2012 Knowledge and attitudes towards the disease are important determinant factors at every stage of the TB cascade including diagnosis, accepting test results, social support, and adherence.

Munro S, 2007 For example, knowledge of TB should result in identifying symptoms and getting a TB test based on identified symptoms and then acting on the results of the TB test. **Storla DG, 2008** It is therefore important to establish TB knowledge levels of the people in the community so that relevant interventions can be made to control TB. Health behavior theories explain that for one to be tested and take care of them against a disease, they must first of all know and perceive that the disease is dangerous, and that they are at risk.

Bell CA, 2011 Although health providers' knowledge of TB symptoms, transmission and diagnosis is higher in Lahore General Hospital Lahore than in most other high burden countries TB knowledge in the general population is however not adequately understood. There is need to assess the general public's awareness and knowledge of TB.

Kanjee Z, 2011 Young people aged 10 to 24 years constitute 27% of the global population. The size of this population, which constitutes the largest cohort, requires huge health investment through research and programme implementation.

Gore FM, 2011 In addition, it is understood that important health problems and risk factors for diseases including TB and HIV emerge at this age while these adolescents are generally thought to be healthy. Mortality from HIV and TB which constitutes 11% cause of death among young people aged 10–24 years is a cause for concern which warrants continued research. A systematic review of the cause of disability adjusted life-years (DALY) among 20–24 year olds globally shows that TB is number seven cause of DALYs making TB in young people a key target for research and implementation.

Understanding young people's knowledge of TB is therefore an important aspect towards reducing morbidity and mortality including in later life. While TB affects all people, 90% of the cases in 2017 both young people and adults aged 15 years and 9% were people living with HIV of which more than

70% were from Pakistan. Research and interventions should therefore include the youth as well. With young people being more susceptible to HIV whose confection with TB causes many deaths and high morbidity, there is need to assess their knowledge of TB and TB/HIV confections. The aim of this paper is therefore to assess rates of TB knowledge including TB/HIV confections and factors associated with TB knowledge and testing among young people in Lahore General Hospital Lahore.

Pulmonary Tuberculosis in Pakistan

Pakistan, with an estimated 510 000 new TB cases emerging each year and approximately 15 000 developing drug resistant TB cases every year, is ranked fifth among B high-burden countries worldwide and it accounts for 61% of the TB burden in the WHO Eastern Mediterranean Region. The country is also estimated to have the fourth highest prevalence of multidrug-resistant TB (MDR-TB) globally. Key reasons for emergence of drug resistance form of TB include: delays in diagnosis, unsupervised, inappropriate and inadequate drug regimens, poor follow-up and lack of a social support programme for high-risk populations.

In line with the WHO „End TB Strategy“ the national TB control programme has developed a national strategic plan 2017–2020 with innovative methodologies, expanding partnerships, and multispectral approaches by engaging all stakeholders.

The Global Fund is the main donor support, with US\$ 154 million available under „New Funding Model“ for 2016–2017. The Global Fund grant, is being implemented through public sector and two private sector (Indus and Mercy Corps) Principal Recipients with provincial TB programmes and other private SRs, providing direct costs of anti-TB programmes and services, which leverages the existing massive government infrastructure and human resource.

WHO, along with other developmental partners including STOP Tuberculosis, are providing support to the national and the provincial TB control programs, in capacity-building on latest WHO diagnostics and treatment guidelines, programme evaluation, technical support for the management of MDR-TB, resource mobilization and support for research and development.

The National TB Control Programme, under Ministry of National Health Services, Regulation and Coordination is primarily responsible for collaboration for development of uniform policies and strategies, facilitating the donor liaison at national and international levels, and Global Fund

grant management. Along with the public sector, private sector and civil society and community-based organization, are playing a vital role in case detection and management of TB, in the country.

METHODOLOGY:

Study design:

Cross sectional study design.

Study setting:

The study was conducted at PGCN College Lahore with collaboration in Lahore General Hospital, Lahore.

Duration of study:

The study was completed almost in 3 months, (from November 2020 to January 2021)

Study Population:

All the Nurses working in pulmonology ward at „Lahore General Hospital, Lahore.“

Sample Size:

100 Nurses

Sampling Technique:

Convenient sampling technique.

Inclusion Criteria:

- All the nurses working in pulmonology Medical ward willing to participate.

Exclusion Criteria:

- Nurses who are not willing to participate.

Study Instrument:

The instrument used in this study was „questionnaire“ that was consists of two parts or annexure.

- Annexure II was consists of demographical data of the respondents.

Annexure III was consists of questions related to Knowledge, attitude and practices among nurses towards Pulmonary Tuberculosis At Lahore General Hospital Lahore

RESULTS:

Table 1

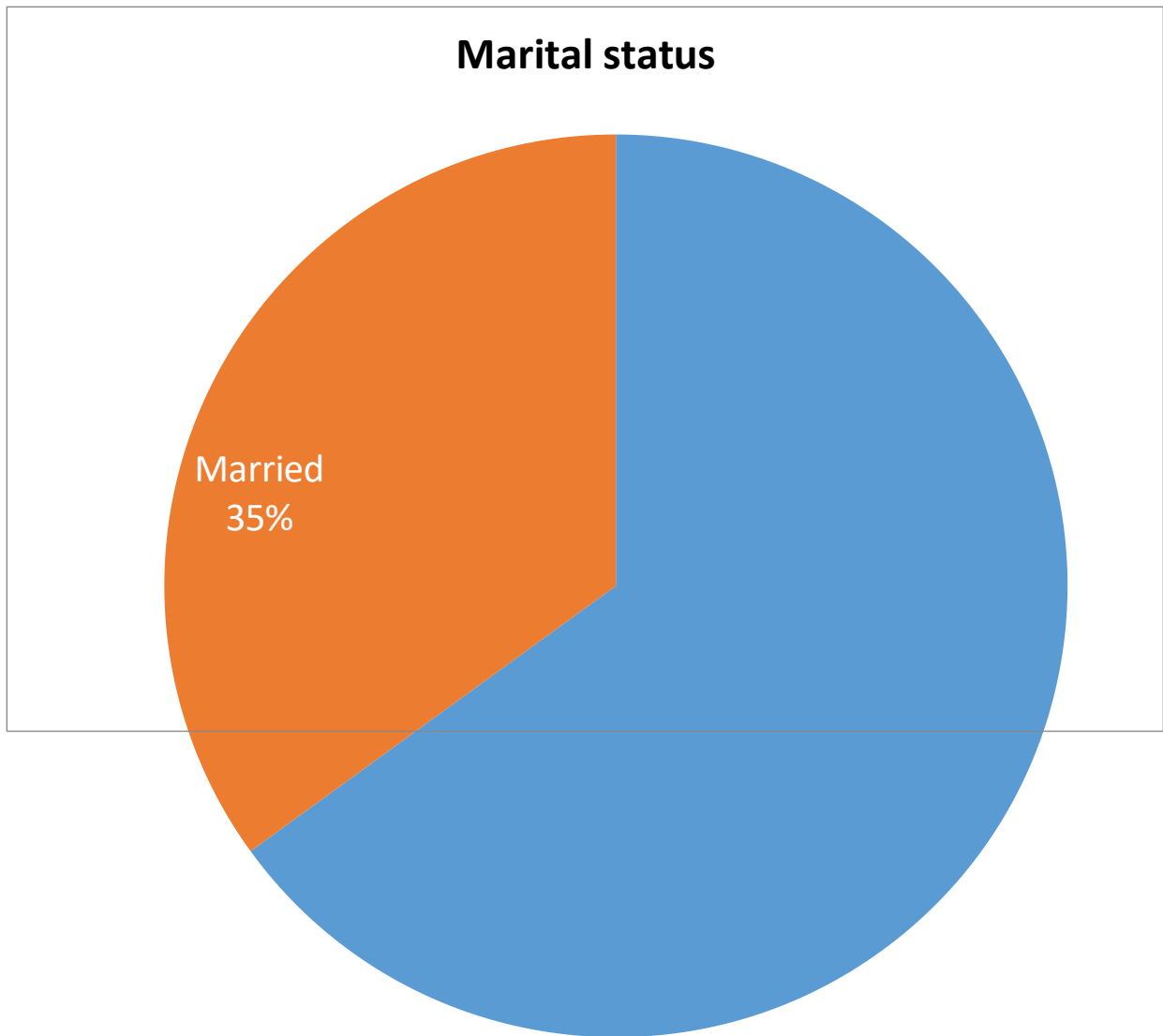
The median age respondents were 100 female nurses. 65 single and 35 married in this research 50 BSN, FSc, Matric, 10 MSN and 40 Metric, General Nursing, Specialization in ICU education level in this research. 20 nurses (20-25 year), 45 (26-30 years), 15 (31-35 years), 5 (36-40 years), 5 (41-45 years), 10 (45-50 years). 50 Working in morning shift and 50 working in evening shift.

Table 1 Demographic characteristics of the study population (n=100)

Gender	Total
	100
Marital Status	
Single	65
Married	35
Education Status	
Matric, FSc/ BScN nursing MSN	50
Metric General Nursing, Specialization in ICU	10
	40
Age	
20-25years	20
26-30 years	
31-35 years	45
	15
36-40 years	5
41-45 years	
46-50 years	5
	10
Working Unit	
Morning	50
Evening	50

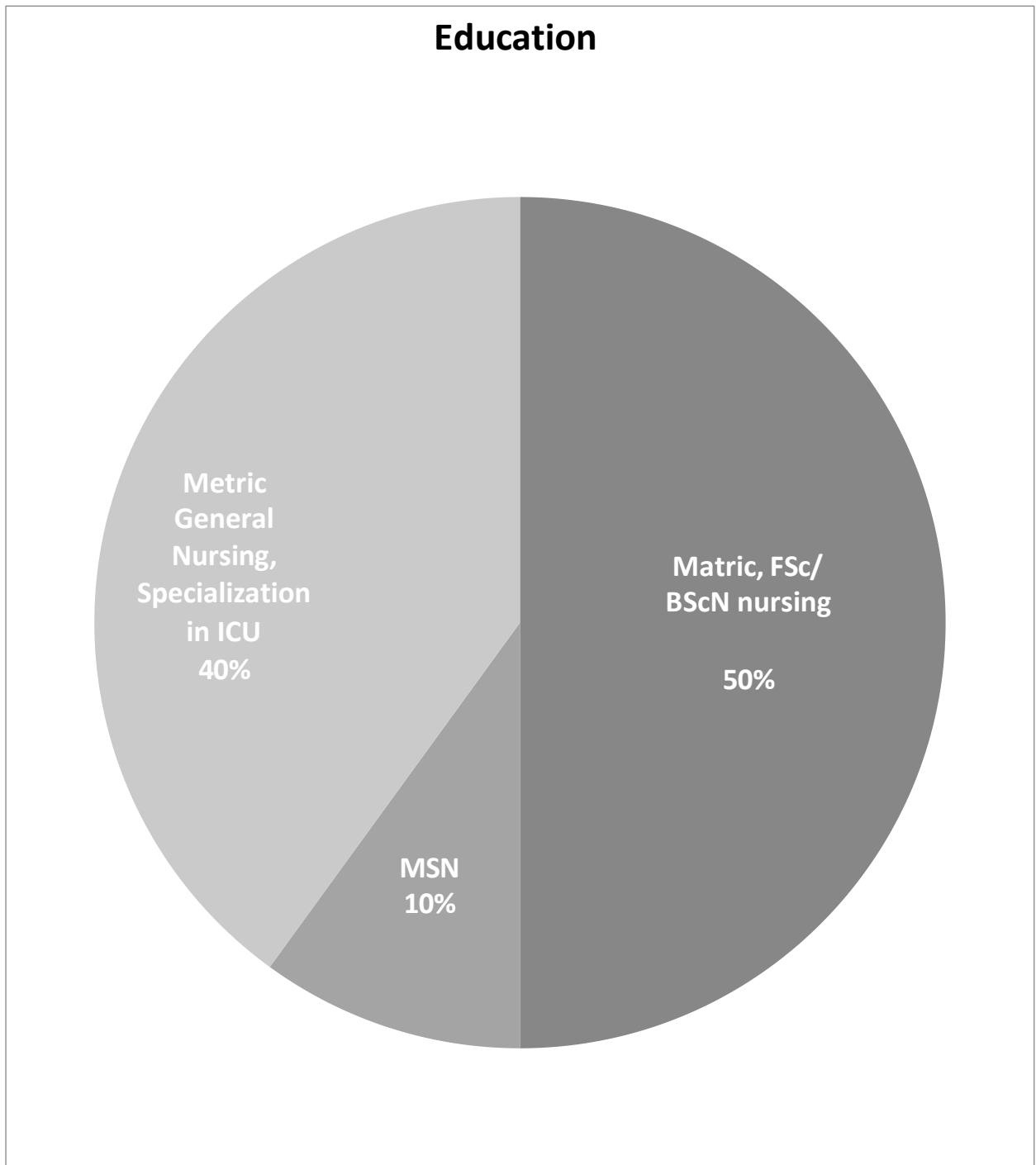
Total respondent were 100 in which 65 single and 35 married in this research.

Figure 1



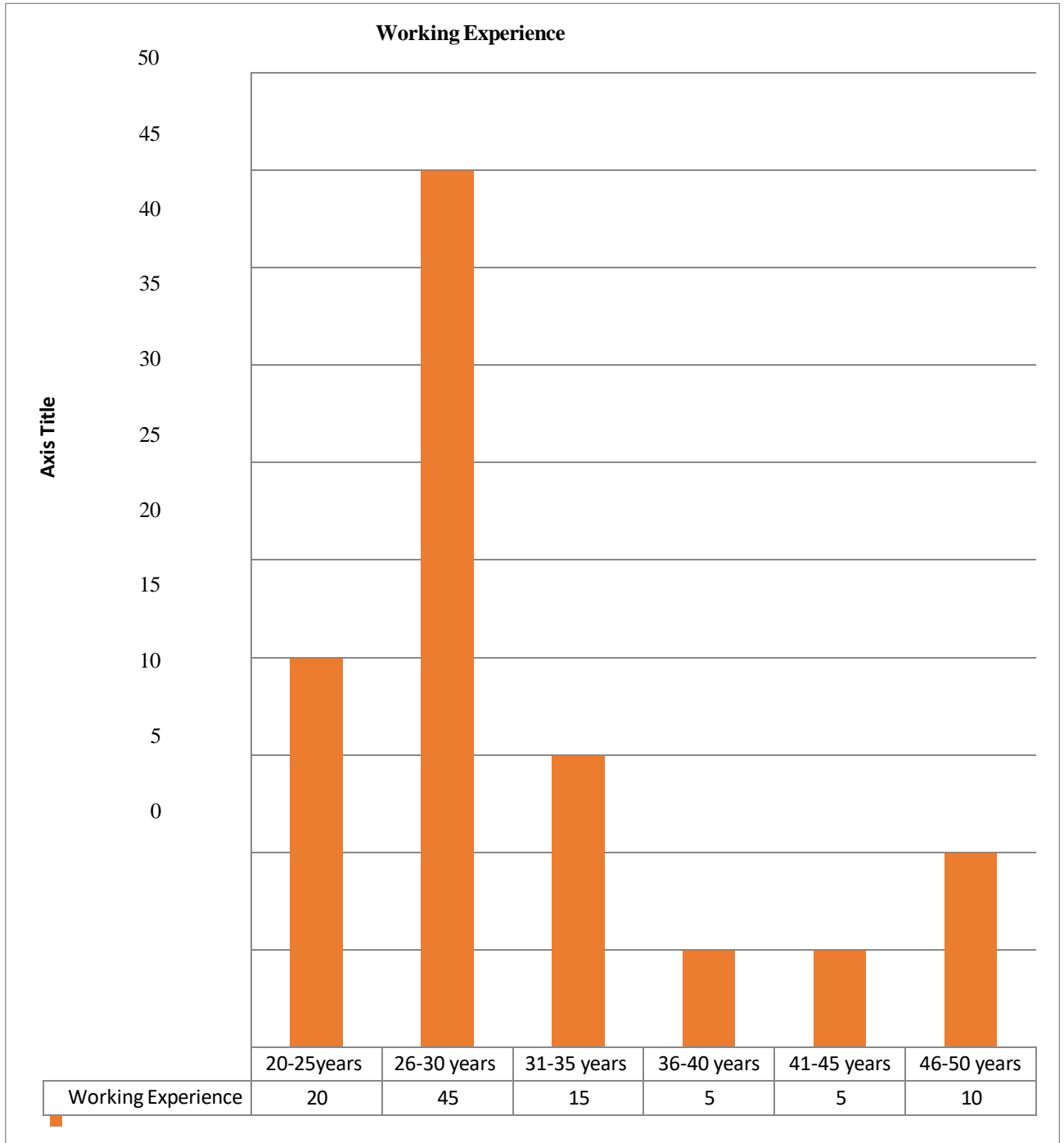
Total respondent were 100 in which 50 BSN, FSc, Matric, 10 MSN and 40 Metric, General Nursing, Specialization in ICU education level in this research.

Figure 2



Total respondent were 100 in which 20 nurses (20-25 year), 45 (26-30 years), 15 (31-35 years), 5 (36-40 years), 5 (41-45 years), 10 (45-50 years).

Figure 3



Total respondent were 100 in which 50 working in morning shift and 50 working in evening shift.

Figure 4

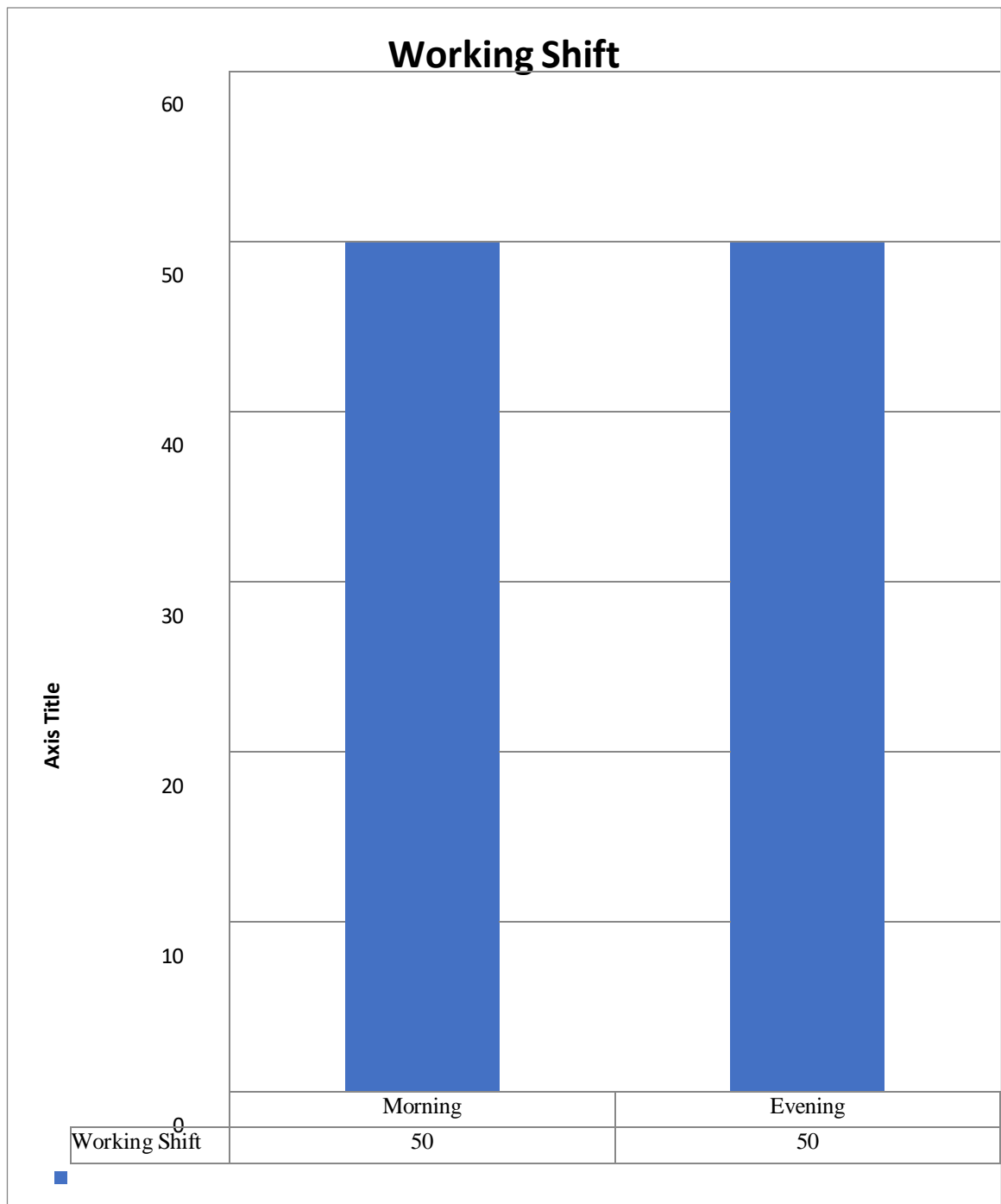
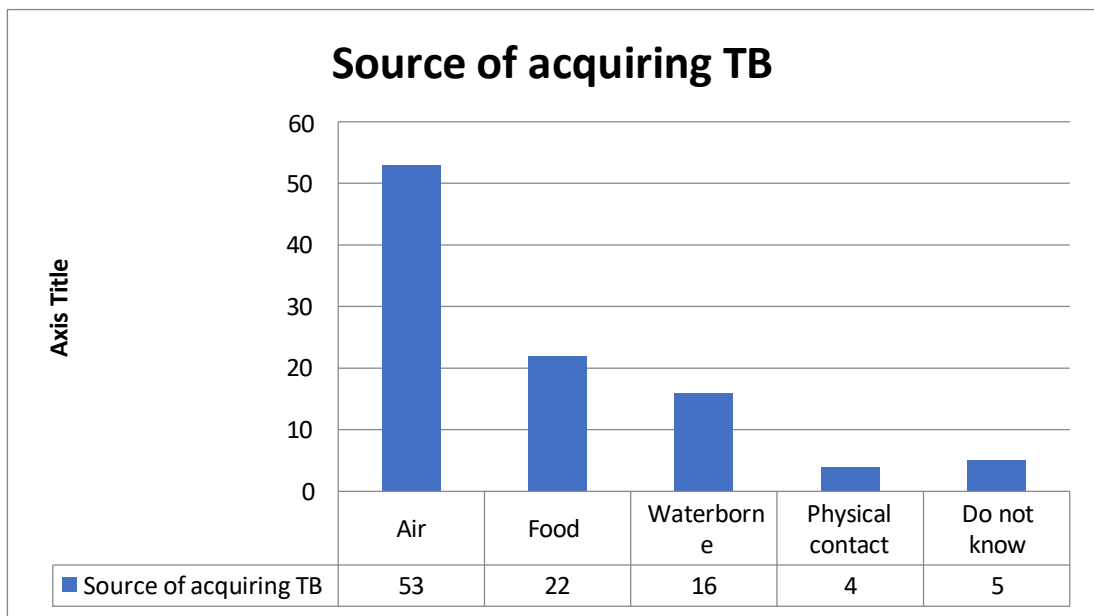
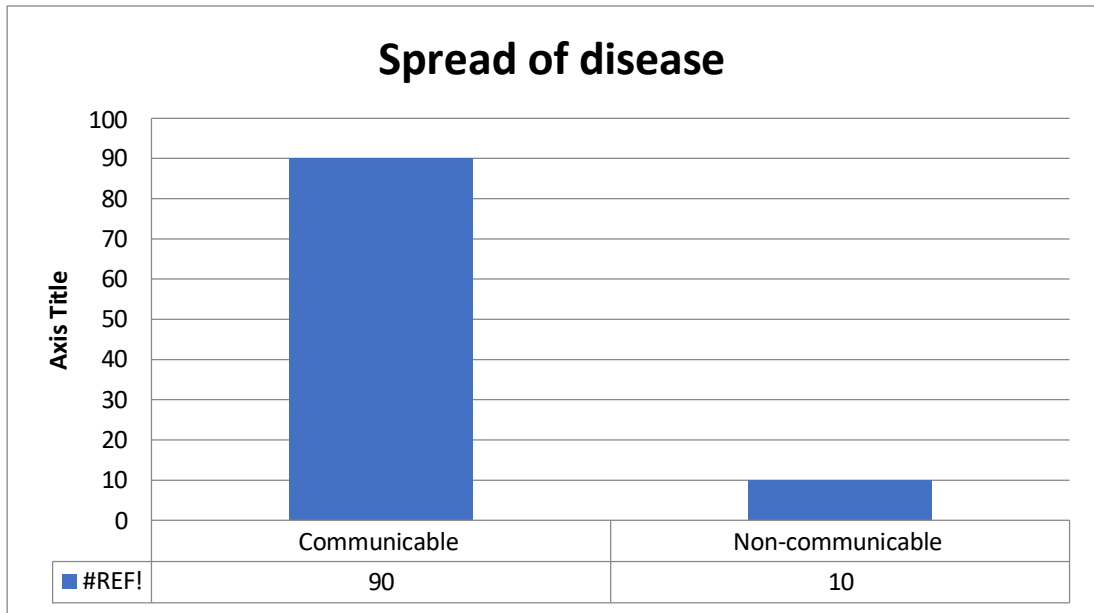
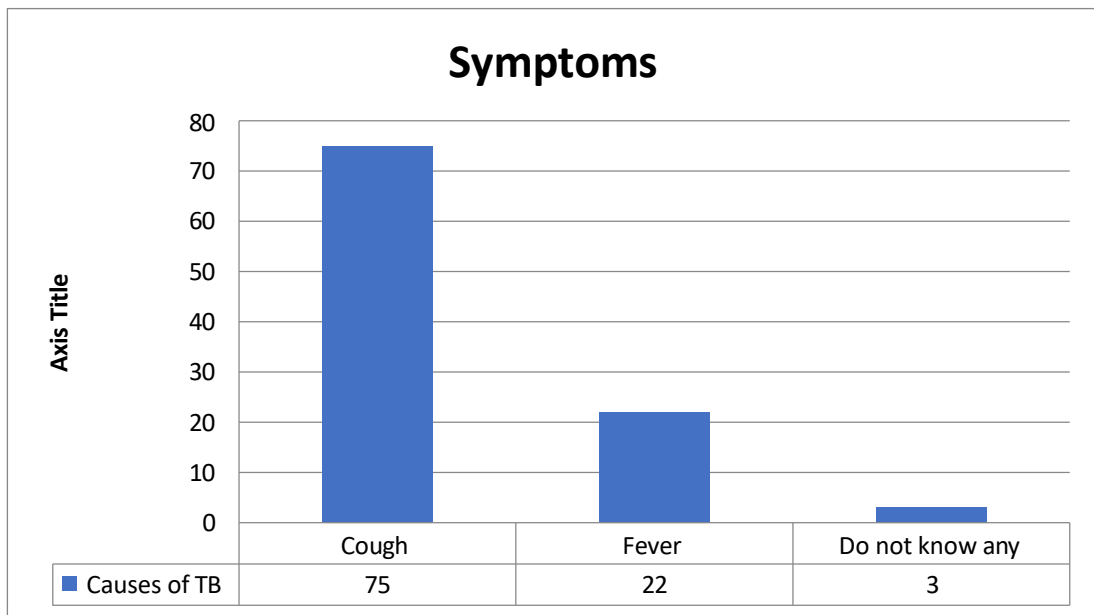
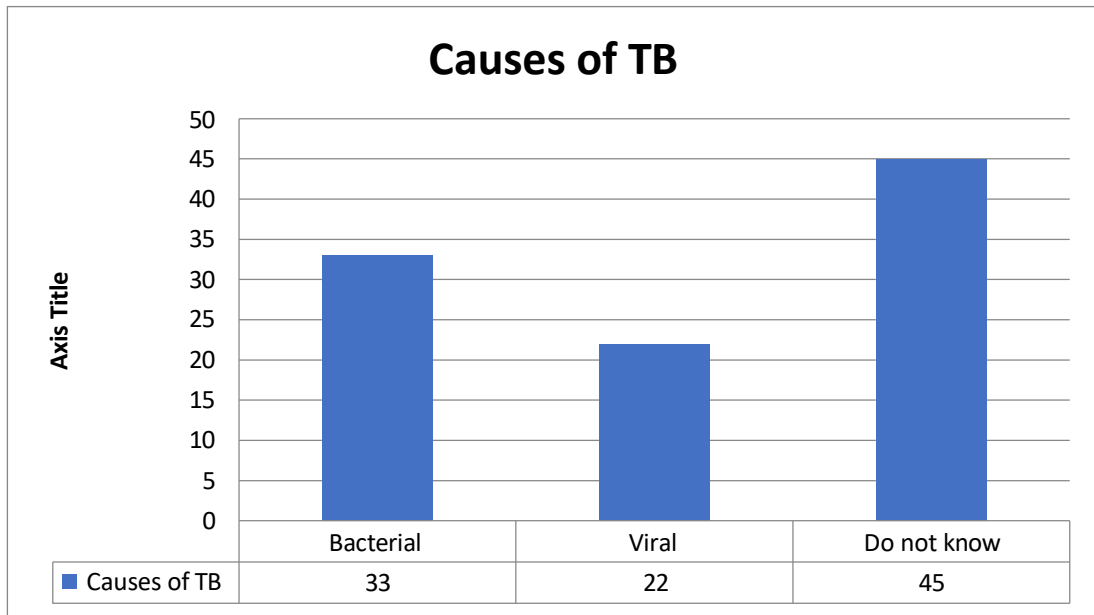


Table 2:

Variables	Frequency
Spread of disease	90
Communicable	10
Non-communicable	
Source of acquiring TB	53
Air	22
Food	16
Waterborne	4
Physical contact	5
Do not know	
Causes of TB	33
Bacterial	22
Viral	45
Do not know	
Symptoms	75
Cough	22
Fever	3
Do not know any	





DISCUSSION:

In this research 65 single and 35 married in this research 50 BSN, FSc, Matric, 10 MSN and 40 Metric, General Nursing, and Specialization in ICU education level in this research. 20 nurses (20-25 year), 45 (26-30 years), 15 (31-35 years), 5 (36-40 years), 5 (41-45 years), 10 (45-50 years). 50 Working in morning shift and 50 working in evening shift Risk factors for TB mentioned by the nurses were low body weight by 64 (64%), lack of drugs 53 (53%), overcrowding 43 (43%), lack of hygiene 34 (34%), poverty 24 (24%), low immunity 21 (21%), and sharing food 22 (22%).

The common symptoms as identified by the nurses were cough by 75 (75%), fever 42 (42%), and weight loss 33 (33%). A quarter of the participants (25%) could not identify even a single symptom of the disease.

About the treatment of the disease, 86 (86%) of them believed TB could be completely cured and 14 (14%) did not. The knowledge regarding free medication availability for TB was known only to 31 (31%) while 69 (69%) thought that the medication would require some expenditure.

Almost all i.e. 98 (98%) of the nurses were aware of the Directly Observed Treatment Short Course (DOTS).

Out of 100 nurses, 80 (80%) agreed and 5 (5%) disagreed that the spread of TB could be prevented by observing coughing etiquettes in public places whereas 15 (15%) believed coughing has nothing to do with spread of TB.

CONCLUSION:

In conclusion, there still exist gaps regarding the transmission and control of TB if effective control of TB needs to be achieved. Nursing professionals still are in need of continuing educational programs regarding treatment and control of TB. Sensitization program needs to be undertaken among nursing staff in each and every hospital on a mass scale. As 19% nursing staff questioned about social isolation, the knowledge about the social stigma should be imparted to the nursing staff as they play a major role in the counseling of tuberculosis patients. Point of emergence from this study. Improved knowledge on TB will thus contribute to effective TB control and in the long term.

REFERENCES:

1. *Russell S.* (2014) The economic burden of illness for households in developing countries: a review of studies focusing on malaria, tuberculosis and

- HIV/AIDS. *American Journal of Tropical Medicine and Hygiene*, 71(Suppl. 2):147–155.
2. *Global tuberculosis control– epidemiology, strategy, financing. WHO report* (2019) Geneva, World Health Organization, (WHO/HTM/TB/2019.411).
 3. *Global tuberculosis control: a short update to the 2019 report.* (2019) Geneva, World Health Organization, (WHO/HTM/TB/2019.426).
 4. *Pakistan social and living standards measurement (PSLM) survey*, (2014–2015). Islamabad, Federal Bureau of Statistics, Statistics Division, Ministry of Finance, 2015.
 5. *Shah SK et al.* (2013) Do private doctors follow national guidelines for managing pulmonary tuberculosis in Pakistan? *Eastern Mediterranean Health Journal*, 9(4):776– 788.
 6. *Arif K et al.* (2018) Physician compliance with national tuberculosis treatment guidelines: a university hospital study. *International Journal of Tuberculosis and Lung Diseases*, 2:225–230.
 7. *Khan JA et al.* (2016) Knowledge, attitude and misconceptions regarding tuberculosis in Pakistani patients. *Journal of Pakistan Medical Association*, 56(5):211–214.
 8. *Khan IM et al.* (2012) Urging health system research: identifying gaps and fortifying tuberculosis control in Pakistan. *Croatian Medical Journal*, 2012, 43:480–484.
 9. *National health accounts Pakistan 2005–06.* Islamabad, (2019) Federal Bureau of Statistics, Statistics Division.
 10. *Munro SA, Lewin SA, Smith HJ, Engel ME, Fretheim A, Volmink J.* (2007) Patient Adherence to Tuberculosis Treatment: A Systematic Review of Qualitative Research (Adherence to Anti- Tuberculosis Treatment). *PLoS Med*; 4:e238. <https://doi.org/10.1371/journal.pmed.0040238> PMID: 17676945
 11. *Tachfouti N, Slama K, Berraho M, Nejari C.* (2012) The impact of knowledge and attitudes on adherence to tuberculosis treatment: A case-control study in a moroccan region. *Pan Afr Med J*; 12.
 12. *Storla DG, Yimer S BG.* (2008) A systematic review of delay in the diagnosis and treatment of tuberculosis. *BMC Public Health*; 8:15. <https://doi.org/10.1186/1471-2458-8-15> PMID: 18194573
 13. *Munro S, Lewin S, Swart T, Volmink J.* (2007) A review of health behaviour theories: How useful are these for developing interventions to promote long-term medication adherence for TB and HIV/AIDS? *BMC Public Health*; 7:1–16. <https://doi.org/10.1186/1471-2458-7-1>

14. Bell CA, Duncan G, Saini B. (2011) Knowledge, attitudes and practices of private sector providers of tuberculosis care: A scoping review. *Int J Tuberc Lung Dis*; 15:1005–17. <https://doi.org/10.5588/ijtld.10.0294> PMID: 21669027
15. Kanjee Z, Catterick K, Moll AP, Amico KR, Friedland GH. (2011) Tuberculosis infection control in rural South Africa: Survey of knowledge, attitude and practice in hospital staff. *J Hosp Infect*; 79:333–8.
16. <https://doi.org/10.1016/j.jhin.2011.06.017> PMID: 21978608
17. Gore FM, Bloem PJ, Patton GC, Ferguson J, Joseph V, Coffey C, Sawyer SM MC. (2011) Global burden of disease in young people aged 10–24 years: A systematic analysis. *Lancet* ; 377:2093–102. [https://doi.org/10.1016/S0140-6736\(11\)60512-6](https://doi.org/10.1016/S0140-6736(11)60512-6) PMID: 21652063
18. *Engaging all health care providers in TB control*: (2016) guidance on implementing public–private mix approaches. Geneva, World Health Organization, 2016 (WHO/HTM/TB/2016.360).
19. Baloch AN, Mann G. (2016) situation analysis. Public–private partnership models, operational and monitoring & evaluation guidelines for national TB control program Pakistan. Islamabad, Technical Assistance Management Agency to the National Health & Population Welfare Facility.
20. Auer C. (2008) Public–private mix DOTS in Pakistan – an assessment (report of a public–private mix TB DOTS mission commissioned by WHO EMRO, 19 August–9 September, 2008). Cairo, Regional Office for the Eastern Mediterranean Region, World Health Organization, (<http://www.ntp.gov.pk/downloads/ppm/PPM%20Assessment.zip>, accessed 21 June 2010).
21. *Mission report* – (2019) joint review of TB care in Pakistan, 8–13 August 2019. Islamabad, World Health Organization.
22. *Annual report 2017*. (2017) Islamabad, National TB Control Programme, Ministry of Health, 2017.
23. Liefvooghe R et al. (2015) Perception and social consequences of tuberculosis: a focus group study of tuberculosis patients in Sialkot, Pakistan. *Social Science & Medicine*, , 41:1685–1692.