



**Libyan international medical university
Faculty of basic medical science**



**A review of Tuberculosis cases in Al Quefia hospital
for two years 2010 and 2015**

Submitted: Hawa-A-Elbarghthi 1228 , student , faculty of basic medical science , Libyan international medical university .

Supervisor: Dr Ghanem el-twaty, tutor at Libyan international medical university

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Abstract

Tuberculosis (TB) is a potentially serious infectious disease that mainly affects your lungs. The bacteria that cause tuberculosis are spread from one person to another through tiny droplets released into the air via coughs and sneezes.

Once rare in developed countries, tuberculosis infections began increasing in 1985, partly because of the emergence of HIV, the virus that causes AIDS. HIV weakens a person's immune system so it can't fight the TB germs. In the United States, because of stronger control programs, tuberculosis began to decrease again in 1993, but remains a concern.

Many strains of tuberculosis resist the drugs most used to treat the disease. People with active tuberculosis must take several types of medications for many months to eradicate the infection and prevent development of antibiotic resistance.

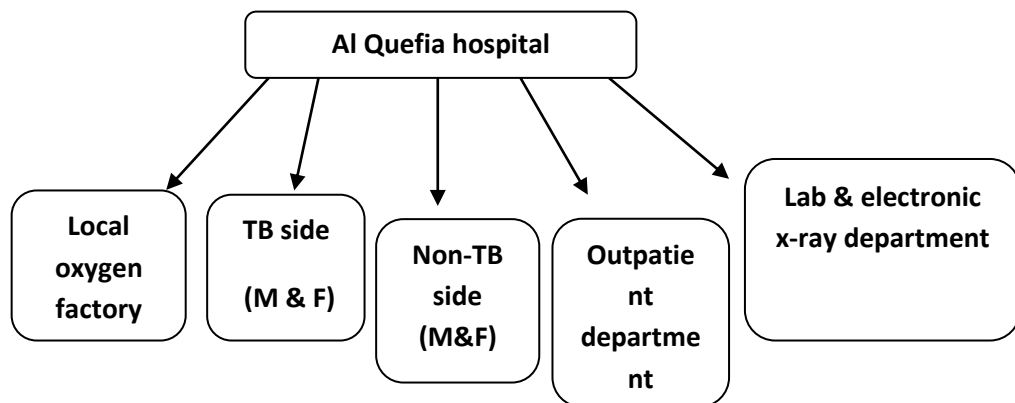
Introduction

Al Quefia chest and tuberculosis (TB) hospital was owned by king Idris El sonosy. Later on, it was handed over to the ministry of health.

It is a teaching hospital of 215 beds located in Al Quefia village which is approximately 15 km from Benghazi.

The hospital is designed to be available for diagnosis and treatment of TB and other chest diseases.

The hospital is divided into:



Some cases maybe referred directly from other hospitals in Benghazi when suspected as TB cases.

Some cases which need intensive care are transferred to other hospitals which have intensive care units (ICU).

Tuberculosis (TB) is caused by infection with Mycobacterium tuberculosis (MTB), which is part of a complex of organisms including M. bovis (reservoir cattle) and M. africanum (reservoir human).

Recent figures suggest a decline in the incidence of TB, but its impact on world health remains significant. In 2010, an estimated

8.8 million incident cases occurred and TB was estimated to account for nearly 1.5 million deaths, making it the second most common cause of death due to an infective disease. Furthermore, it is estimated that around one-third of the world's population has latent TB.

The majority of cases occur in the world's poorest nations, who struggle to cover the costs associated with management and control programs.

Aim of The Work :

The aim was to conduct a retrospective study of TB cases admitted to Al Quefia hospital during a period of two years (2010 & 2015) in order to know and evaluate the following:

- The increase in number of TB cases as well as new endemic areas of TB.
- To know the relation between prevalence of TB and certain factors (age, gender, nationality, residence)
- To detect if there is multidrug resistant (MDR) TB cases.
- To assess the efficacy of the Libyan National TB program.

Discussion :

Global Tuberculosis Report 2016

According to the Global tuberculosis report of 2016, The TB epidemic is larger than previously estimated.

However, the number of TB deaths and the TB incidence rate continue to fall globally.

In 2015, there were an estimated 10.4 million new (incident) TB cases worldwide, of which 5.9 million (56%) were among men, 3.5 million (34%) among women and 1.0 million (10%) among children.

People living with HIV accounted for 1.2 million (11%) of all new TB cases.

Six countries accounted for 60% of the new cases in descending order as follows:

(India, Indonesia, China, Nigeria, Pakistan, South and Africa.)

Worldwide, the rate of decline in TB incidence remained at only 1.5% from 2014 to 2015. This needs to accelerate to a 4–5% annual decline by 2020 to reach the first milestones of the End TB Strategy.

In 2015, there were an estimated 480 000 new cases of multidrug-resistant TB (MDR-TB) and an additional 100 000 people with rifampicin-resistant TB (RR-TB). (7)

Global burden of TB incidence in 2016 is 41% Published by WHO.

Country reported TB data 2015.

1.Libya:

- Total cases notified 1014
- TB treatment coverage 39%
- Estimated percentage of TB cases with MDR 3.9% for new cases and 16% for previously treated cases .

2. Afghanistan:

- Total cases notified 37001
- TB treatment coverage 58%
- Estimated percentage of TB cases with MDR 3.9 % for new cases and 16% for previously treated cases .

3. Tunisia:

- Total cases notified 3357
- TB treatment coverage 80%
- Estimated percentage of TB cases with MDR 0.45% for new cases and 17% for previously treated cases.

Annual review of Benghazi chest and TB hospital during 2006-2007 by, Khalid difalla, Tarek mobarak, by Dr.Saleh Mursi. (2)

- According to the annual review, TB cases were as following:

* Libyan: non-Libyan ratio 3.6: 1

* Male: female ratio 1.7: 1

* Average durat

- From our present study we found that TB cases are more common among males than females in the two years of 2010&2015.
- TB admission is increasing among Libyans.
- TB affected mainly the age group 21-40 years old(59.35%).
- 11.4% of TB cases were transferred from Ejdabya in the two years of 2010 & 2015.
- 3.8% Jalo was next in 2015 followed by 5.5% Al Marj in 2010.
- 2 MDR TB cases were detected as a total in the two years of 2010 & 2015.

- 20 LAMA cases were detected in total for the years 2010 & 2015, especially among Libyans who compose a hidden source of infection.

Data Analysis and Results :

Based on the retrospective study conducted in the month of November 2016 , in Benghazi Libya , the results of the analyzed data is as following :

Analysis of TB data (2015)

Table1-gender distribution

Gender	Frequency	Percentage
Male	103	68.6
Female	47	31.3
Total	150	100

Table2-Age range of TB cases

Age range	Frequency	Percent
15-20	18	12
21-30	37	24.6
31-40	49	32.6
41-50	19	12.6
51-60	11	7.3
61-70	10	6.6
71-80	6	4
Total	150	100

Table3- Nationality of TB cases

Nationality	Frequency	Percent
Libyan	119	79.3
Non-Libyan	31	20.6
Total	150	100.0

Table4-Residence

Residence	Frequency	Percent
Benghazi	101	64.7
Out side	49	32.6
Total	150	100.0

Table5-Distribution of cases by diagnosis

Diagnosis	Frequency	Percent
Pul TB (sputum)	122	81.8
Extra pul TB	13	8.7
Sputum -ve	1	.6
MDR	1	.6
LAMA	7	4.6
Death	5	3.3
Total	149	100.0

Table 6- Duration of Hospitalization (DOH)

DOH	Frequency	Percent
1-10	59	39.5
11-20	50	33.5
21-30	31	20.8
31-40	7	4.6
41-50	2	1.3
Total	149	100.0

Table7- co morbidity

Disease	Frequency	Percent
HIV	2	16.6
HIV + Hep B	2	16.6
DM	5	41.6
DM +others	1	8.3
Others	2	16.6
Total	12	100.0

Analysis of TB data (2010)

Table8- gender distribution

Gender	Frequency	Percent
Male	222	71.8
Female	87	28.2
Total	309	100.0

Table9-Age range

Age range	Frequency	Percent
<15	2	.6
15-20	25	8.1
21-30	125	40.5
31-40	65	21.0
41-50	38	12.3
51-60	25	8.1
61-70	22	7.1
71-80	6	1.9
>80	1	.3
Total	309	100.0

Table10-Nationality

Nationality	Frequency	Percent
Libyan	227	73.5
Non Libyan	82	26.5
Total	309	100.0

Table 11-Residence

Residence	Frequency	Percent
Benghazi	203	65.7
Outside	106	34.4
Total	309	100.0

Table12-Distribution of cases by Diagnosis

Diagnosis	Frequency	Percent
Pul TB	263	85.1
Extra pul TB	15	4.9
Sputum -ve	10	3.2
MDR	1	.3
LAMA	13	4.2
Death	4	1.3
Relapse	1	.3
Total	309	100.0

Table 13-Duration of Hospitalization(DOH)

DOH	Frequency	Percent
1-10	91	29.6
11-20	76	24.7
21-30	56	18.2
31-40	33	10.7
41-50	25	8.1
51-60	15	4.8
61-70	4	1.3
71-80	1	0.3
81-90	1	0.3
91-100	1	0.3
>100	4	1.3
Total	307	100.0

Table14- Co morbidity

Disease	Frequency	Percent
HIV	20	41.6
HIV + Hep B	1	.2.0
HIV + DM	1	.2.0
Hep B	1	.2.0
Hep C	1	.2.0
DM	11	22.9
DM + HTN	2	.4.1
HTN	1	2.0
HTN + others	1	2.0
others	9	18.7
Total	48	100.0

Results:

Table1- Percentage of male cases was 68.6% while female cases was 31.3% in year of 2015.

Table2- Most TB cases range between age of 31-40 years (32.6%) in year of 2015.

Table3- Most of TB cases are Libyan patients in percentage of 79.3% compared to 20.6% of non-Libyan patients in year of 2015.

Table4- Benghazi is the most common city housing TB cases in percentage of 67.3% in year of 2015.

Table5- Most cases presented with PT (81.8%) while 8.7% presented with EPT .

About 0.6% of cases are sputum negative for TB.

Another 0.6% for MDR cases .

Most of LAMA cases are Libyan, represent 4.6%

In year of 2015.

Table6- Duration of hospitalization range from 1-10days which represents 39.5%

Longest duration in 2015 for 2cases range from 41-50 days.

Table7- HIV is most common communicable disease associated with TB cases which represent 16.6% alone and 16.6% with hepatitis B.

DM is the most common non-communicable disease associated with TB cases, represent 41.6% of cases in 2015.

Table8- Males TB cases represent 71.8% while 28.1% for females in year of 2010.

Table9- Most age group affected between 21-30years (40.5%)

About 2 cases less than 15 years old in 2010.

Table10- Most cases are Libyan people (73.5%) while (26.5%) for non-Libyan in 2010.

Table11- Benghazi represent 65.7% of TB cases in 2010.

Table12- - PT cases represent 87.2% while EPT represent 4.8%.

- 0.3% for MDR cases

- 4.2% for LAMA cases In year of 2010

Table13- 29.6% for cases which stay in hospital between 1-10 days.. longest duration for 4 cases is more than 100 days in year of 2010.

Table14- -41.6% of HIV cases are infected by TB.

-22.9% of diabetic patients are infected by TB In year of 2010.

Conclusion:

We conclude that tuberculosis infection and disease remain common in populations characterized by poor housing conditions, drug use, and HIV infection. Linking a major medical provider with community-based organizations is an effective means to provide highly targeted screening services to a population at serious risk for disease acquisition and transmission.

References:

1. Personal contact with the director of Al Quefia hospital Dr. Salem Al Barghathi.
2. Annual review of Benghazi chest and TB hospital during 2006-2007 by Dr. Saleh Mursi.
3. Pulmonary TB and extra pulmonary TB with other pathology among Al Quefia hospital in Benghazi during 2000-2007 by Dr. Saleh Mursi.
4. Practical approach to lung health manual on initiating PAL implementation P 60-67.
5. TB country data [Www.who.int/tb/countrydata>profiles/en/2015/](http://www.who.int/tb/countrydata>profiles/en/2015/)
6. Tuberculosis www.searo.who.int/tb/en/2016
7. Global TB report 2016 http://www.who.int/tb/publications/global_report/en/
8. Davidsons Principles and Practice of Medicine 22ed, tuberculosis, p.643, 2014