Risk Factors of Tabrclousis Disease Affectinig the Health of Patients Attending Algreif Health Center 2017-Sudan

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Abstract:-Tuberculosis (TB) is still a health problem around the world. The study was conducted to determine the factors affecting TB, based on the patients who attending Al-Garif Health Center and were diagnosed as TB patients in (May-December 2017). **Material &methods**:- cross sectional health center base study were conducted in Al-Greif center. Sample size was selected by convenience sampling all patients who attended the health center and diagnosed with T.B (100 patients) at the period from May to December.2017. The information was collected by filling out questionnaire data regarding the factors. Data were also entered and analyzed statistically using the program Statistical Package for Social Science (SPSS). **Result**: - of the statistical analysis was as follows. The most age groups had tuberculosis, between the age (26-45) years old,, 75% of the patients were males, the unemployed represented 65%, the low income level was 72%, and the study sample who did not receive any health education about tuberculosis were 53%. The source of water in 82% from the wills, the targeted had good ventilation about 80%, and 98% lives in crowded houses, no co-infection of other disease with tuberculosis 60%. Those who did not eat protein 66% and those who did not received any immunization against tuberculosis about 74%. The proportion of those who did not use the hand kerchief during sneezing 66% of the sample study, the percentage of those who fear the stigma TB disease in

society is 98 % of the sample; study proved that 66% of the sample were non smokers. The study **concluded** that overcrowding, family members, economic situation, community behavior, immunization were the most important factors affecting the occurrence of the disease in this study. Tuberculosis was common among middle-aged groups, males and those in homes that lack health facilities. A small number of smokers who associated with tuberculosis were found among the research sample. Unhealthy behavior among the study group and the non-acceptance of the community of tuberculosis patient were detected.

Keyword:- Tuberculosis, health problem, Life style, Sudan

1-Introduction

Tuberculosis (TB) is a major killer today. TB seemed manageable several decades ago, but now has resurged as a public threat nationally and internationally because of socio-economic circumstances the advent of HIV/AIDS, and other factors (Sahly, et.al 2006). Previous researchers have linked the prevalence of tuberculosis to HIV infections, and poor or crowded housing conditions (Garcia, 2004) Almost two decades has passed since the World Health Organization declared tuberculosis a global emergency TB still remains a leading cause of death. . One third of the world's population is estimated to have latent tuberculosis which is not active TB disease yet (Horne et al., 2012). According to the World Health Organization (WHO, 2013a) TB is second only to HIV/AIDS as the leading cause of death globally due to a single infectious agent. A large portion of the world population continues to be infected with tuberculosis. New cases of tuberculosis are reported daily. Someone becomes infected with the TB bacterium every second somewhere around the globe. Experts estimate that 1 billion people worldwide will become infected with the TB bacterium by 2020, and that more than 150 million of these people will develop the disease and 36 million will die (Butler & Carr, 2013). In 2011, 9 million new cases of TB infections were reported, and 1.4 million persons died from the disease worldwide (Centers for Disease Control and Prevention [CDC], 2012); (WHO, 2013). The TB prevalence trajectory makes the case for addressing the prevalence and incidence of tuberculosis the more urgent

In addition, emerging new forms of tuberculosis complications makes eradication of tuberculosis even more urgent and necessary. Multidrug-resistant (MDR-TB) and extensively drug-resistant tuberculosis (XDR-TB) continue to emerge in high

HIV prevalence settings, and the mortality of HIV co-infected patients remains high (Andrew, et.al, 2010).

Some of the risk factors which influence the incidence of TB include heavy alcohol use, smoking, drug use (injection and non-injection), homelessness, incarceration, residence in a long-term care facility, diabetes, HIV, All of these factors are currently tracked by the CDC in case reports (WHO, 2013).

In Sudan, an estimated annual risk of TB is 1.8%, which gives an incidence of 90/100,000 smear positive cases, and puts Sudan among the high prevalence countries for TB in the Eastern Mediterranean region (WHO, 2015)

Tuberculosis remains to be one of the main public health problems in Sudan. Tuberculosis is a public health priority in Sudan through the National TB control program.(NTBCP) the government seeks to detect cases, provide care to patient and involve other sectors.(WHO, 2015)

Stigma towards TB may result in delays in seeking treatment, lower treatment compliance, and family members keeping cause of death secret– allowing the disease to spread further. TB stigma also affects socially marginalized individuals to a greater degree and varies between regions (Ibanga, *et.al*, 2006) (WHO, 2004).

2-Material and method

Cross sectional health center base study were conducted in Al-Greif center. Sample size was selected by convenience sampling all patients who attended the health center and diagnosed with T.B (100 patients) at the period from May to December.2017

3-Result and Discussion

Table (1): The Age classification

Age	Frequency	Percent	St. Error
15 – 25 years	8	8	0.61
26 – 45 years	59	59	
46 – 60 years	32	32	
More than 60 years	1	1	
Total	100	100	

Table No. 1. Shows age characteristics of the study group. More than half of the study population was at age group 25-45 years old (59%) and this result was supported by (Pearce, 2006). The rate of TB varies with age. In Africa, it primarily affects adolescents

Table (2): The gender characteristics

	Frequency	Percent

Male	75	75
Female	25	25
Total	100	100

Table No. 2. Shows gender characteristics of the study group. Most the study population was male75%. The finding showed that TB was associated with male sex which agrees with the findings of (Holmes, et.al .1998), (Borgdorff, et.al, 2000) and (WHO, 2000) stated that "globally, the prevalence of infection with mycobacterium tuberculosis is similar in males and females, until adolescence, after which it is higher in males" and "TB is 'more a disease of men than of women". Also males are more exposed by nature of their work

Table (3): Occupation level

Occupation	Frequency	Percent
Labour	30	30
Employee	5	5
Unemployed	65	65
Total	100	100

Table No. 3. Represents level of occupation in the study group. Most of the target group was unemployed 65%. The researcher thinks that no job lead to low or no income.

Figure (1): Income classification

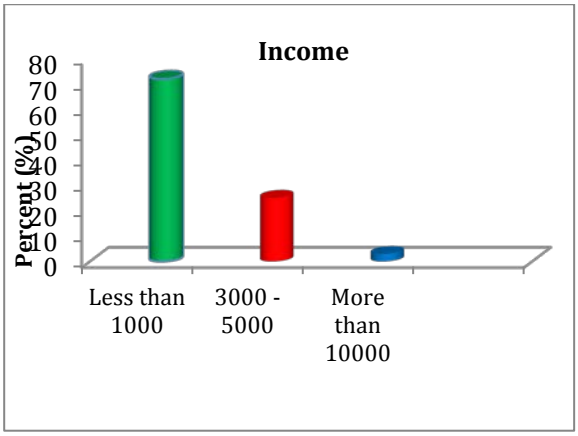

Figure 1. Shows the level of income in study group (72%) has low income. This result supported by (Sahly, et.al 2006) TB has resurged as a public threat nationally and internationally because of socio-economic circumstances. This result has link with table No. (3) most of the study group has no job so their income is very low.

Table (4): Education level

Education level	Frequency	Percent
Illiteracy	32	32,0
Primary	30	30,0
Secondary	21	21,0
University	17	17,0
Total	100	100,0

Table No. 4 Shows the Education level of the study group only 32% of the study group is illiterate. This demonstrated that education was not one of the risk factor for T.B among the patients. Knowledge about TB is more benefit than level of education.

Table (5): Knowledge about TB

Knowledge	Frequency	Percent
Yes	47	47,0
No	53	53,0
Total	100	100,0

Table No 5 Shows that 53% of study sample did not receive any health education about tuberculosis. The factors, low economic, lack of education and poverty which provides basic stage of the spread of tuberculosis should be prevented by the health educator through "New approach role for the health educator" as (Cottrell ,et al.2009) reported.

Table (6): The source of knowledge about TB

Source of knowledge	Frequency	Percent
Mass media	22	22,0
Publications	3	3,0
Lectures	2	2,0
Others	20	20,0
None	53	53
Total	100	100,0

Table .No. 6 Showe.53 % of the study group did not sick for any source of information about TB. This because they might not follow the media like TV, radio, Internet or Doctors to have information on tuberculosis,

Figure (2): The number of family

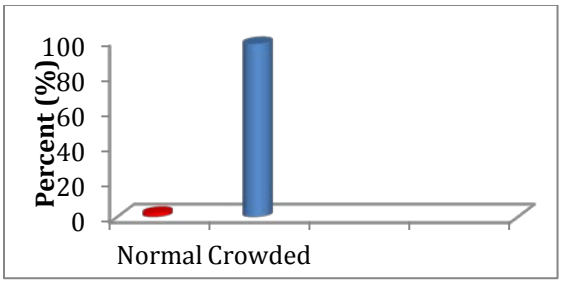

Figure No 2 Represents number of the family member. Crowds is very high in this result (98%) and compatible with Tuberculosis is closely linked to both overcrowding and malnutrition, making it one of the principal diseases of poverty (Behera, 2010). Also (*van Zyl Smit, et.al.*, 2010) stated that Tuberculosis is closely linked to overcrowding on their study.

Table (7): The ventilation inside the house

Ventilation	Frequency	Percent
Good	80	80
Bad	18	18
No ventilation	2	2,0
Total	100	100

The study shows that 80% of the sample enjoyed good ventilation (TableNo.7) this result does not support the poor ventilation is one of the risk factors that spread of TB.As stated by (Harris, and Randall. 2013).. The researchers think these due to style of living in Sudan the people sleep on yard open area.

Table (8): Source of drinking water

Source	Frequency	Percent
Wills	82	82,0
Rivers	7	7,0
Reservoirs	3	3,0
Others	8	8,0
Total	100	100

Table No. 8. Shows that 82% of the study group their source of drinking water from wills. TB bacteria are present in the air according to World Health Organization (WHO, 2015) TB bacteria transmitted through the air. So from this result there is no relationship between water and TB bacteria.

Table (9): The sanitation

Sanitation	Frequency	Percent
Good	20	20,0
Bad	80	80,0
Total	100	100

Table No. 9 Represents sanitation study group houses. 80%of the sanitation was not good. Unsanitary houses can contribute to the tuberculosis.

Table (10): Type of diseases associated with tuberculosis

Type of diseases	Frequency	Percent
Diabetes	25	25,0
HIV	3	3,0
Renal failure	12	12,0
None	60	60,0
Total	100	100

Table No. 10 presents the type of disease associated with TB. Most of the study group 60% did not have disease associated with TB. This is not compels with what reported from previous researchers have linked the prevalence of tuberculosis to HIV infections, and other diseases. (Garcia, 2004)

Table (11): The Nutrition (Intake of Protein)

Protein	Frequency	Percent
Meat	11	11,0
Eggs	3	3,0
Milk	10	10,0
Legumes	10	10,0
None	66	66,0
Total	100	100

Table No. 11 shows that 66% of the sample did not take the protein. The study group was poor did not have income as most of them unemployment and live in crowded places so they cannot buy food rich in protein because it is expensive in price which may lead to malnutrition in this group.

Figure (3): Immunization against TB

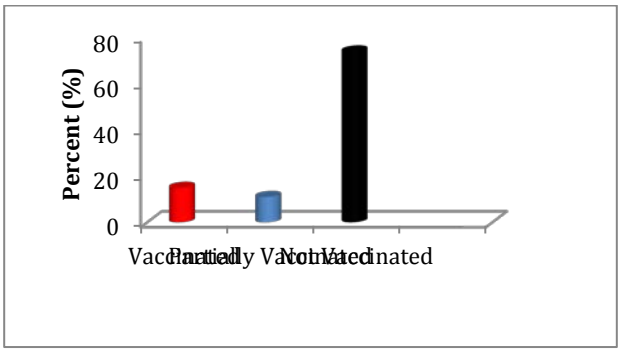

Figure 3. Shows the immunization against TB. 74% of the sample of the study did not receive any immunization against TB. This result confirms the importance of vaccination at the beginning of live

and this result is supported by (Djuardi *et al.*, 2010). They said not receive any immunization against TB. may be affected the immune system in the future and increases the proportion of tuberculosis infection and is compatible with risk factors that affect the immune system in early (neonatal) life with consequences for later disease outcomes or for responses to BCG vaccination in infancy

Figure (4): The acceptance of TB disease in the community (Stigma)

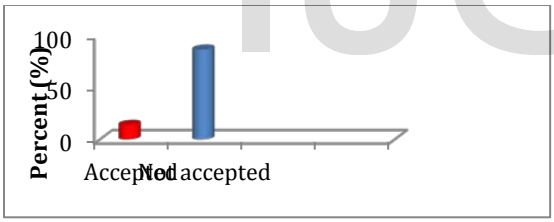

Figure4. Shows the acceptance of TB disease inside the community. Stigma is a strong risk factor that helps in the spread of TB and this result supports with (Ibanga, *et.al*, 2006) (WHO, 2004). They said TB stigma also affects socially marginalized individuals.

Figure (5): The usage of hand kerchiefs

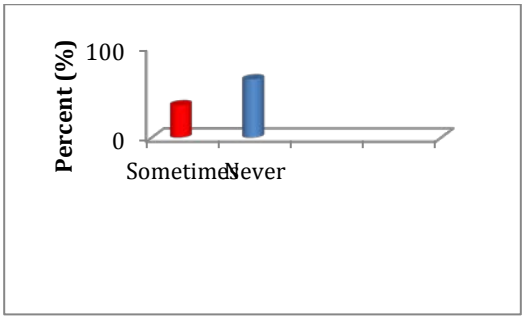

Figure No 5 Shows the usage of hand kerchiefs by the study group. 64% of the study group did not use hand kerchief which helps spread of TB. This result compatible with (Harris, and Randall, *2013)* they said that Tuberculosis is spread through the air when people who have active TB in their lungs cough, spit, speak, or sneeze.

Table (12): Smoking Cigarettes

usage of smoking	Frequency	Percent
Yes	34	34,0
No	66	66,0
Total	100	100

Table No 12. Shows 66% of the study group did not use smoking. This is not supported with some reports. (WHO, 2013)and (Cole and Cook, 1998) are said some of the risk factors which influence

the incidence of TB include heavy alcohol use, smoking, drug use (injection and non-injection), homelessness, incarceration, residence in a long-term care facility, diabetes, HIV. Those who smoke cigarettes have nearly twice the risk of TB compared to nonsmokers.

4-Conclusion:

The study **concluded** that overcrowding, family members, economic situation, community behavior, immunization were the most important factors affecting the occurrence of the disease in this study. Tuberculosis was common among middle-aged groups, males and those in homes that lack health facilities. A small number of smokers who associated with tuberculosis were found among the research sample. Unhealthy behavior among the study group and the non-acceptance of the community of tuberculosis patient were detected

5-Recommendations

The researcher set some recommendations for the decisions makers:

1- Health education to raise community awareness to reduce the spread of the tuberculosis.

2- Early immunization against tuberculosis (routine vaccination) and community awareness of the importance of early vaccination

3- Activation of tuberculosis control program at schools level

4-Improve the socioeconomic status of poor people in the community through income generating activities.

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