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RESEARCH ARTICLE

THE EFFECT OF ADVOCACY, COMMUNICATION AND SOCIAL MOBILIZATION ON TUBERCULOSIS CASE DETECTION IN AL GRIBA RURAL LOCALITY, KASSALA STATE, SUDAN, 2015

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ABSTRACT

The World Health Organization has established advocacy, communication and social mobilization working group to help control tuberculosis at the country level. This study aims at investigating the effect of advocacy, communication, and social mobilization on tuberculosis case detection rate and mean tuberculosis suspected cases in Al Griba Rural Locality, Kassala State, Sudan. It also aims at assessing the knowledge of tuberculosis suspected cases in tuberculosis management units, and to identify the means of encouraging tuberculosis suspected cases to seek medical care. To achieve its aims and objectives, an interventional study was conducted between September 2013 to January 2014 in which baseline case detection rate and mean tuberculosis suspected cases were assessed. This is followed by advocacy through interviews with the State Director General of Preventive Medicine, State Tuberculosis Coordinator, Locality Commissioner, and Locality Tuberculosis Coordinator in which they were informed about tuberculosis. After that communication was conducted through two days orientation and training workshop for religious leaders and women association members. Then social mobilization was performed through trained religious leaders who delivered messages on Friday weekly prayers. Moreover, the members of women association lunched tuberculosis awareness campaign in their classes where they teach illiterate ladies "Quran"; wholly book of Muslims. Regular follow up for leaders was done through reports and meetings for dissemination of messages. The effect of advocacy, communication and social mobilization was assessed by recording of case detection rate and mean tuberculosis suspected cases of 3rd and 4th quarters in 2013 in the Locality and interviewing the patients attending tuberculosis clinics. It is found that: following the intervention smear positive tuberculosis case detection rate was increased from 20.8% in quarter three 2013 (before training) to 28.8% in quarter four 2013 (after training). Also mean suspected tuberculosis case was increased from 9.9 in quarter three 2013 to 19.9 in quarter four 2013 although the difference was not significant ($p=0.492$). About 32% (72) suspected cases were encouraged by religious leaders and women association members to seek medical treatment. Religious leaders were more efficient in motivating more cases 17.8% (39) than women association members 15.1% (33). There is no significant difference ($p=0.764$) in knowledge between suspected cases who were encouraged by intervention group (religious leaders and women association members) and who were encouraged by others. Therefore, the advocacy, communication and social mobilization could motivate suspected cases to seek medical advice. In addition they could contribute in the identification of tuberculosis suspected cases and consequently could improve tuberculosis case detection rate.

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INTRODUCTION

The World Health Organization (WHO) declared tuberculosis a global public health emergency in 1993 and starting, in the mid-1990s, efforts to improve TB care and control intensified at national and international levels.

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Also WHO declared that the Millennium Development Goals (MDGs) target 6C to "halt reverse the TB epidemic by 2015 has already been achieved". New cases of TB have been falling for several years and fell at rate of 2.2% between 2010 and 2011. The TB mortality has decreased to 41% since 1990 and the world is in the track to achieve the goal target of 50% reduction by 2015; however the global burden of TB remains enormous. In 2011, there were an estimated 8.7 million new cases of TB (13% co infected with HIV) and 1.4 million people

died from TB” (1). In the Eastern Mediterranean Region (EMR), Tuberculosis is a major public health problem. The stop TB strategy aims to halve the regional burden of TB by 2015 and works toward its eventual elimination. On the other hand, incidence of TB in the region declines at a rate of less than 1% per year from 1990 to 2010, and a significant decline in the regional prevalence and mortality rate has been reported. In 2010, the region achieved the global target of halving TB mortality compared to 1990. Reductions in prevalence have been considerable since 1990, and appear to have accelerated since 2000. The current forecasts suggest that the region needs to do more in order to achieve the 2015 target of halving prevalence compare to 1990 (2). Sudan alone carries 11-15 % of TB burden in the Eastern Mediterranean Region (EMR) (3), ranked as the second country in the region (2). The estimated incidence of new TB cases 119/100,000 populations that gives total of 37,072 estimated new cases for 30.894 million populations in the Sudan year 2010. In addition, it has been estimated that the prevalence of the infected TB cases was 24 per 100,000 populations. In the year 2010, the notified cases were 20910 cases (4). In 2005, the advocacy, communication and social mobilization (ACSM) was established as the seven working group of the stop TB partnership to mobilize political, social and financial resources; to sustain and expand the global movement to eliminate TB; and to foster the development of more effective ACSM programming at country level in support of TB control. The advocacy primarily works to change the behavior of the public leaders or the decision makers. While communication is targeting the individual and small groups, social mobilization focuses on the securing community-based support (5).

The ACSM has mostly offers and concentrated on helping in addressing four key challenges to TB control at country level:

- Mobilizing political commitment and resources for TB.
- Combating stigma and discrimination.
- Empowering people affected by TB.
- Improving case detection and treatment adherence.

As stated in the NTP (2013) “*Case detection rate is a percentage of existing TB patients in the community that have access to and have been detected by the TB care services*”. “*It is calculated by dividing the number of TB cases detected by the estimated incidence of TB*” (6). Tuberculosis case detection requires that affected individuals should be aware about their symptoms, has access to health services and are evaluated by health care providers who recognize the symptoms of TB. Health professional must have access to a reliable laboratory and ensure that the necessary specimens are collected for examination. A failure at any stage of this complex activities and behaviors can lead to late diagnosis or misdiagnosis (3).

In many countries such as India (7, 8, 9), Bangladesh (10), Iran (11), Pakistan (12, 13), Ethiopia (14), Malawi (15), other social groups like health worker, family doctors, community health workers, storekeeper, relative of patients and school students were studied for their role in the awareness of TB and in the improvement CDR. Also in Pakistan (16) the religious leaders were involved to improve TB case detection rate but no such study has been done on the awareness of women association members and their role of improving TB case detection rate. In the Sudan, (17). Therefore, this study aims to assess the effect of advocacy, Communication (training of women and religious leaders), and social mobilization on TB case detection.

Problem statement

There is low TB case detection in EMR. In 2005 the regional average of case detection rate is only 44%. Therefore, this is very low because the global target is to achieve 70% case detection rate by 2015. Moreover, this actually the 2nd lowest case detection rate among the six WHO Regions. Out of the 22 countries in the region, only 7 countries, Bahrain, Lebanon, Libyan Arab Jamahiriya, Morocco, Oman, Somalia, and Tunisia reportedly achieved case detection rates higher than 70% (6). The national targets of Direct Observed Treatment Regimen Short Course (DOST) strategy was to reach 70% of case detection and 85% of treatment success rate by 2015. In the Sudan, in the last 10 years TB case detection was fluctuated. In 2003, TB case detection was 61.8% for all cases and 48.8% for positive cases. Then the case detection was decreased until 2006. After that, TB case detection was going up until 2009 (59.6% for all cases, and 46.2 % for positive cases). Then for the second time TB case detection was decreased until 2011 (52 % for all cases and 37.1 for positive cases) (4). In 2012, Kassala State has CDR 71% for all cases and 39% for positive cases. The highest case detection had been reported in *Wad Al Hellow Locality* (54%). Three localities have case detection range from 30% to 40%. Four localities have case detection range from 20% to 30%. The lowest CDR had been reported in *Khashm Al Griba Locality* (15%) (4). Therefore, Advocacy, Communication and Social Mobilization (ACSM) were used to improve TB case detection.

Objectives

This study is conducted to achieve the following objectives:

- To measure baseline TB case detection and mean TB suspected cases in Al Griba Rural Locality, 2014.
- To investigate the effect of advocacy, communication and social mobilization (ACSM) on TB case detection and mean TB suspected cases in Al Griba Rural Locality, 2014.
- To assess the knowledge of TB suspected cases in TBMs in Al Griba Rural Locality, 2014.
- To identify the means of encouraging TB suspected cases so as to seek medical care in TBMs in Al Griba Rural Locality, 2014.

MATERIAL AND METHODS

This section describes the study area and the methods of data collection.

The study area: Kassala State (one of eighteen States in Sudan, located in eastern Sudan (42282 km²) populated by (1527214), its boundaries by Red Sea State and River Nile State from north, western and southern by Gadaref State and Eritrea from east and south. Al Griba Rural Locality is one of nine Kassala State localities bordered by Atbara River Locality to the North, Gadaref State to the south, and Wad Alhilaw to the east. The locality is populated by 104008. The locality is divided into rural area which contains 26 villages and nomads which contributing to 75% of population. The main activities in the locality are agriculture, trading and grazing. The health services include 4 hospitals (Khashm Al Griba hospital, Military hospital, Refuge hospital, kilo 26 refuge hospital), 27 health centers and 14 health units.

There are three TB management units TBMUs (Kashm Al Griba hospital, Shagarab, and Kilo 26 Refuges). Each one of the TBMUs has medical assistance and laboratory technicians (18).

Data collection: The data of this study was collected by an interventional study conducted in Sudan from September 2013 to January 2014. Also, baseline CDR and mean TB suspected cases were assessed at September, 2013. Moreover, the study intervenes through advocacy which was done by the interviews with the state Director General of preventive medicine, the state Tuberculosis Coordinator, the Locality Commissioner, and Locality Tuberculosis Coordinator and they were informed about TB. After that communication was conducted through two days orientation and training workshop for religious leaders (73%) and women association members (100%). Power point presentation and pamphlets were used as tools to clarify the messages during workshop. Power point presentation include information about TB symptoms, mode of transmission, methods of prevention, TB diagnosis, TB treatment, and the role of community leaders in TB control.

Then social mobilization was performed through the trained religious leaders who delivered messages on Friday weekly prayers and the members of women association lunched TB awareness campaign in their classes where they teach illiterate ladies “*Quran*”. Regular follow up for the leaders was done through reports and meetings for the dissemination of messages. During the dissemination of the messages, the leaders also helped to distribute about 3000 pamphlets about TB to the community. At January, CDR and mean TB suspected cases were measured. Also TB suspected cases were assessed about TB knowledge.

Data analysis and results: One hundred eighteen community leaders were included, fifty one religious leaders (mosque *Imam*) and sixty seven women association members. All invited women from the association were attending the training workshop; however, only fifty one religious leaders were attended (the target was 70). All trainers gave their consent to disseminate the messages to the community. Following the intervention, smear positive TB case detection was increased from 20.8% in quarter three, 2013 to 28.8% in quarter four, 2013 as shown in Figure 1 below.

Mean TB suspected cases were increased from 9.9 in quarter three, 2013 to 19.8 in quarter four, 2013 as shown in Figure 2 below:

Total of 262 suspected TB cases were attended for the TB management units in the locality during the intervention period (quarter four, 2013) which were increased from the previous quarter (106) and same quarter in the previous year (121). Out of them, 219 suspected cases were assessed about their knowledge and about who encourages them to seek medical cure. Mean age for the suspected cases is 35 years. Male represent 63.9% (149) and female represent 36.1% (79). Between them, 33%, 22.8, 21%, 15.1%, 7.3%, 0.5% for primary school, illiterate secondary, *khalwa* (Generic preschool), university, postgraduate; respectively. 24.1% were workers, 23% students, 19.9% house wife, 14.4% farmers, 9.7 not work, 5.6% employees, 1.9% dealers as shown in Table 1 below.

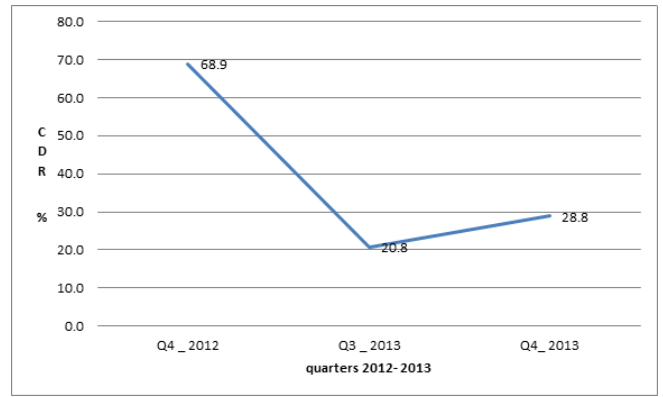


Figure 1. TB case detection rate in quarter four 2012, quarter three and quarter four 2013 in Al Griba Rural Locality, Kassala State, Sudan

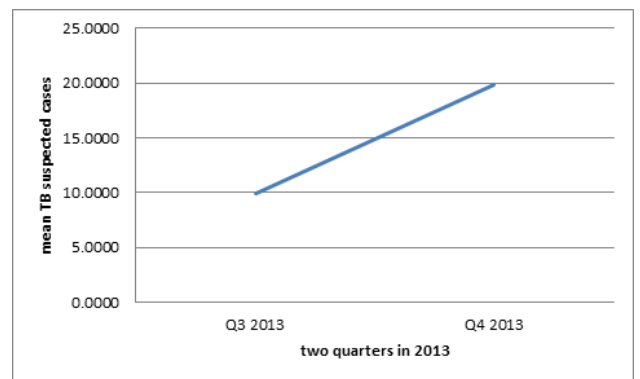


Figure 2. Mean TB suspected cases two quarter, 2013, Al Griba Rural Locality, Kassala State, Sudan

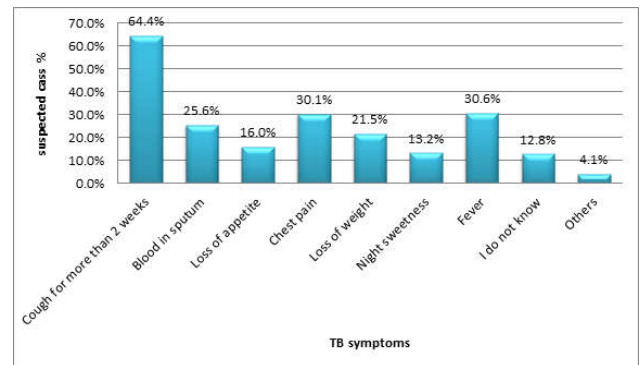


Figure 3. Suspected cases and Knowledge of TB symptoms

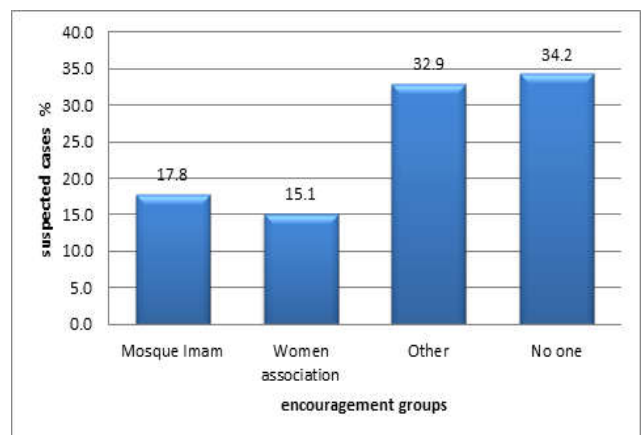


Figure 4. Suspected cases and encouraged groups

Table 1. TB suspected cases of socio-demographic data: sex, mean age, marital status, educational level and occupation

		frequency	%
Sex	Male	140	63.9
	Female	79	36.1
Mean Age		35	
Marital status	Married	96	44.2
	Not Married	104	47.9
	Divorced	9	4.1
	Widowed	8	3.7
Educational level	Illiterate	50	22.8
	Primary school	73	33.3
	Secondary school	46	21.0
	University	16	7.3
	Post-graduate	1	.5
	Khalwa	33	15.1
occupation	Farmer	31	14.4
	Worker	52	24.1
	Dealer	4	1.9
	House wife	43	19.9
	Employees	12	5.6
	Retired	2	.9
	Not work	21	9.7
	Student	51	23.6

Table 2. The source of information about tuberculosis

The source of your information about tuberculosis	Frequency	%
Radio	18	8.2
TV	11	5.0
IEC materials	20	9.1
Providers of health services	71	32.4
Friend	49	22.4
Volunteers from the community	46	21.0
Mosque Imam	19	8.7
Women association	19	8.7
Others	69	31.5

Table 3. The TB suspected cases motivated by interventional groups and other Knowledge of cough for more than two weeks as symptom for TB

What are tuberculosis symptoms: Cough for more than 2 weeks		Who's encouraged you to seek treatment?			Total	P-value
		Others	Patient motivated by interventional group			
No	Frequency	51	27	78	0.764	
	%	65.4	34.6	100		
Yes	Frequency	96	45	141		
	%	68.1	31.9	100		
Total	Frequency	147	72	219		
	%	67.1	32.9	100		

Chi square=0.166 P-value=0.764

Table 4. The percentage of TB suspected cases motivated to seek medical advice by different group and Knowledge of cough for more than two weeks as symptom for TB

		What are tuberculosis symptoms: Cough for more than 2 weeks			Total	P-value
		No	Yes			
Who's encouraged you to seek treatment?	Mosque Imam	Frequency	18	21	39	0.383
		%	23.1	14	17.8	
	Women association	Frequency	9	24	33	
		%	11.5	17	15.1	
	Other	Frequency	24	48	72	
		%	30.8	34	32.9	
	No one	Frequency	27	48	75	
		%	34.6	34	34.2	
Total	Frequency	78	141	219		
	%	100	100	100		

Chi square=3.06 P-value=0.383

All the suspected cases have heard about TB 100% (219). About 64.4% of them identify cough for more than two weeks as a symptom for TB, at the same time 12.8 % do not know any TB symptoms. About 86.3% know that TB is infectious disease. Only 58% of them know that TB can be transmitted through droplet from the patient cough. About TB prevention, 37 % know that patient should use handkerchief when sneezing or coughing to prevent TB transmission. Only 55% and 26.7% identify good nutrition and good ventilation; respectively as prevention methods. Unfortunately, still there is myth about TB transmission through eating with patient (38.3%) and handshaking (22.8%) as shown in Figure 3 below: About 32.4% (71) remember providers of health services as a source of knowledge. 31.5%, 22.4%, 21.0% remember others, friend, volunteers from the community as a source of information; respectively. 9.1%, 8.7%, 8.7%, 8.2%, 5% remember that Mosque Imam, Women association, Radio, TV as a source of information; respectively.

About 34.2%, 32.9% of the suspected cases were encouraged by no one and others; respectively, to seek for medical treatment and 17.8%, 15.1% were stimulated by Mosque Imam, and women association to search for medical advisement. About 32.9% (72) of the suspected cases were motivated by interventional group (mosque Imam and women association) to seek treatment and 67.1% (147) were encouraged by others (Figure 5). There is no significant difference ($p=0.764$) concerning the knowledge of cough for more than two weeks as symptom for TB between suspected cases who were motivated by interventional group and who were motivated by others (Table 3). Also, there is no significant difference ($p=0.383$) concerning the knowledge of cough for more than two weeks as symptom for TB between suspected cases who were motivated by different group (Table 4). Table 3 below shows the percentage of the TB suspected cases motivated by interventional groups and other Knowledge of cough for more than two weeks as symptom for TB. Table 4 below shows the percentage of TB suspected cases motivated to seek medical advice by different group and Knowledge of cough for more than two weeks as symptom for TB.

DISCUSSION

Following training, community leaders became very motivated to disseminate the messages to the community and to encourage the TB patients to seek treatment in the three TBMs in the locality. In Pakistan, such program was launched for religious leaders and 92.3% of the religious leaders became in contact with the TB patients (16). In this study, beside the religious leaders, women association was added to implement the intervention.

On the other hand, in Iran relatives of the patients and school students were trained to identify and refer patients of TB to allocated health centers (11). In our study, smear positive TB case detection was increased from 20.8% (quarter 3, 2013) to 28.8% (quarter 4, 2013) as in Pakistan after training of religious leaders case detection was increased from 2% to 40% (16). In addition, in Malawi, the training of storekeepers aims to detect and to refer the TB suspected cases lead to significantly increase in the TB case detection from 0.6 per 1000 to 1.2 per 1000 ($p>0.01$) (15). This study also leads to increase mean the TB suspected cases from 9.9 in quarter three 2013 (before the intervention) to 19.9 in quarter four 2013 (after the intervention) although this different was not

significance ($P= 0.492$). Besides, comparing to the quarter four 2012, there is an increase in mean suspected cases from 8.3 to 19.9 in quarter four 2013; however, the difference was not significant ($p=0.4$). In Iran, the training of patients' relatives and schools leads to the identification of 408 suspected TB cases and 297 percent increase in case finding (cases in the previous year of the intervention were 137 cases) ($p>0.001$) (11). In our study, about 32.9% (72) suspected cases were motivated by religious leaders and women association to seek medical advice in TBMs. In India, IEC campaign encouraged 36% of the individual self-report with symptoms to DOTS centers and prior IEC campaign only 49 (9.8%) patients had chosen a DOTS center as first source of treatment, which increased significantly ($p>0.0001$) to 104 (20.4%) post IEC (9). The most important sources of TB knowledge for the suspected cases in this study are providers of health services, but in Southeast Nigeria they are radio and community (19).

Conclusion

The study comes up with:

- Advocacy, communication and social mobilization (ACSM) could motivate the suspected cases to seek the medical advice, and helps in the identification of TB suspected cases and consequently could improve TB case detection rate.
- This study leads to increase mean TB suspected cases, although there is no statistical significance in the increase mean TB suspected cases ($P= 0.492$).
- Although the most important sources of TB knowledge for suspected cases in this study are providers of health services, there is a tangible role of our (interventional groups) religious leaders and women association as a source of knowledge.
- Many of suspected cases were motivated by (interventional groups) religious leaders and women association to seek medical advice in TBMs.

Recommendations

The study recommends the following:

- Advocating upwards for TB program prioritization; particularly with the politician and the policy makers.
- Building the capacity for ACSM to health workers to ensure the efficient implementation of ACSM in the TB control.
- Coordinating with other partners to conduct more operational research for evidence based implementation of the ACSM activities.
- Raising public awareness through specific activities that include group and community meetings, partnership session, school activities, music, songs and dances, leaflets, posters, pamphlets, videos, and home visits.
- Encouraging more studies to provide evidence based practice for the ACSM implementation.

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