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The effect of Corona virus disease 2019 on the care and prevention of Leprosy, the case of Boru Meda, Amhara region,Ethiopia, 2020

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ABSTRACT

Introduction: Corona pandemic was unexpected challenges of the globe that results multi-dimension problem. When the state of emergency declared, and different resources are mobilized for the prevention of Corona pandemic some health facilities were committed for the isolation and treatment center for COVID-19. Meanwhile, other diseases including leprosy patients are unable to get care, and prevention due to inaccessibility of the health facilities.

Methods: Aggregate secondary data from the Amhara regional health bureau and Boru Meda General Hospital were used.

Result: From the regional data 76.36% and Boru Meda General Hospital 51.6% new leprosy patients to be diagnosed and to be treated were not come to the health institution due to Corona pandemic. Due to lockdown and repurposed of the health institution strictly to Corona pandemic, leprosy patients with neuropathic ulcer which can be treated and healed with antibiotics and routine nursing care were become complicated and needs amputation (increased by 300%).

Conclusion: Still leprosy is one of the community health problems in Ethiopia, however one can considered leprosy as eliminated. Currently, children with age less than 15 were get leprosy with disability grade II.

Recommendation: Community mobilization, capacity building, active case surveillance and early case diagnosis and treatment should be carried out.

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Keyword: COVID-19, Leprosy, Effects, Ethiopia

Introduction

Corona virus disease 2019 (COVID-19) is posing an unexpected challenge to the world. It is destroying the economy, perturbing the psychosocial life and health of many people. While the world is struggling to reduce the transmission of the virus and to treat COVID-19 infected patients, the care and prevention of other diseases are also affected. The attention diversion and resource mobilization to COVID-19are feared to affect the care and prevention of other disease including neglected tropical diseases (NTDs).Most importantly, missing targets in the NTD program millstones can be a big threat to achieve Sustainable Development Goals in developing countries including Ethiopia [1,2].

Ethiopia started to prepare for the COVID-19 pandemic just after the first case was detected in China. A state of emergency (June-August/2020) was declared, and several preventive measures were introduced step by step, including physical distancing, strict face mask use, reducing the number of passengers on public transport by half, closing religious places and schools. Additionally, some hospitals and health centers were repurposed as dedicated COVID-19 isolation and treatment centers [3].

These measures are making the implementation of NTD care and preventive activities very difficult. Despite the Federal Ministry of Ethiopia pledge to continue the care of essential health care (including the care of NTDs) during the COVID-19 pandemic, numerous important aspects of the NTD programs were interrupted during the pandemic [4,5]. Several MDAs planned to be given on summer of 2020 were cancelled (December and August/2020). Planned health surveys for August/2020 did not take place due to the pandemic. At the national level, monitoring and supervision and monitoring of key NTD programs have been stopped [5,6].

The care of NTDs at health facilities may also have been compromised by COVID-19 for several reasons. Firstly, due to enforced travel restrictions and self-imposed limitations in travel, it is likely that the number of NTDs patients visits the health care settings has been decreased. Secondly, as some specialized center for NTD care like Boru Meda Hospital became dedicated COVID-19 centers, specialized services like CL treatment and leprosy rehabilitations are largely unavailable [3].

Objectives

To describe the effect of COVID-19 on care and prevention of Leprosy in Amhara region, Ethiopia, 2021.

Specific objectives

To assess the effect of COVID-19 on NTDs during the COVID-19 epidemic, for the pre-COVID period (March to September 2019) and COVID-19 period (March to September 2020),I want to :

- Describe the number and proportion of patients seen with the different NTDs (Leprosy) (for the whole period and per month).
- Describe the number of treated NTD (Leprosy) patients, stratified by disease and type of patient.

Methods and Materials

Study design: Cross sectional study using the routine data from the regional health bureau, Zonal health districts and Boru meda hospital.

Setting: Amhara region, Boru meda hospital

Study population

This study will include all cases(before COVID-19vs after COVID-19) diagnosed with NTDsreported between March to September 2019 (before COVID-19) and March to September 2020 (during COVID-19)and people who have got a chemoprophylaxis for the prevention, control and elimination program for NTDs leprosy in Amhara region.

Data variables and sources of data

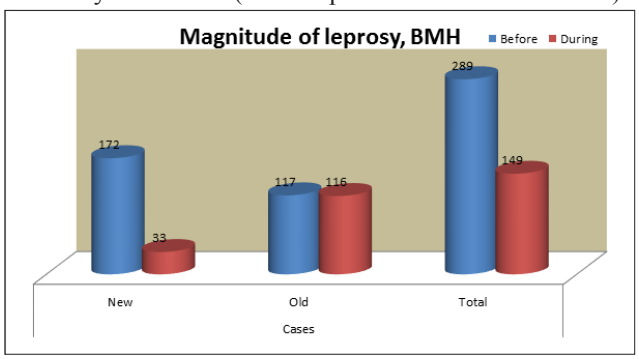
Data were collected from the Boru meda hospital data center, data from MDT leprosy and Tbc, surgical, inpatient and outpatient data registration log book.

Data collection and analysis

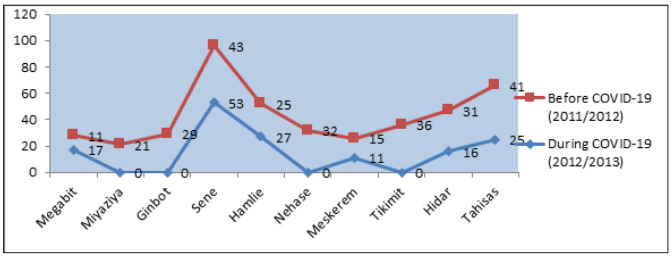
The data will be collected from secondary data which were collected from Boru meda general hospital registration books from various departments using prepared check lists in order to answer respective variables. Moreover, using the format, we were compiled data in a monthly pattern and enter it into a database. Finally, the descriptive statistics were analyzed and the results presented through tables and charts.

Result

Moreover, during the year 2011/12 Boru meda Hospital diagnosed and treated 289 leprosy cases at OPD and 41 in the inpatient but during the COVID 19 period 149 cases were diagnosed and treated as outpatients. However, these cases were treated and diagnosed because of the dermatology and ophthalmology OPD were displaced their functional site to Dessie, Alef school plc. But the care and treatment of these two departments were totally locked only two weeks (first couple of weeks of November).

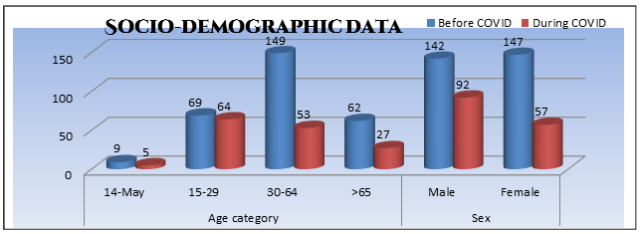


Although, the dermatology OPDs were opened during the epidemic at the temporary dermatology and ophthalmology clinic at Dessie, Alef school the newly diagnosed cases of leprosy were different. In such a way, 172 (before COVID) and 33 (during COVID) new leprosy cases were diagnosed and transferred out the respective nearby health institution for treatment and care. From this we can conclude that leprosy is still a public health problem and transmission of leprosy is still going.



Socio-demographic data

Since 2011/12 183 patients were diagnosed and treated as Multi-bacillar leprosy. But the rest were classified as pauci-bacillar (106). Further among these patients 142 out of 183 were male Among leprosy cases at Boru meda Hospital, 183 and 106 patients were diagnosed as multi-bacillary and pauci-bacillary leprosy since 2011/2012 and 2012/13, respectively. These cases of leprosy include children age between 5-14 years.



Disability/leprea reaction

Among newly diagnosed cases most leprosy patients 252 (87%) come with neuropathic ulcer and numbness (G-II, G-I-disability) and 23% (233) had type-I and Type-II-leprae reaction.

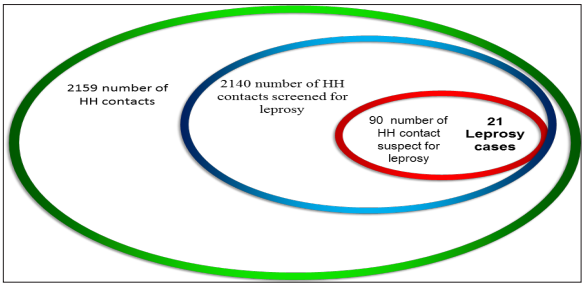
Clinical type	Timing	Leprea reaction Types		
		Type-I	Types-II-ENL	
Leprea reaction	Before	5	19	
	During	14	3 (!DRH for admission)	
		Grade-0-	**Grade-1-**	**Grade-2-**
Disability	Before (289)	37(12.6%)	78(26.8%)	174 (60.2%)
	During (149)	57(38.3%)	26(17.4)	66(44.3%)
Amputation	Before	2		
	During	6 (Dec and Jan)		
	Before	252		
	During	44		

Leprosy sample active case detection (South Wollo)

Boru meda general hospital is the only hospital where provides dermatology treatment, care, rehabilitation and prevention. Originally, the hospital was built for overall prevention, treatment, and care for leprosy patients.

Community mobilization, capacity building and active case surveillance is one of the methods for early catch up means of patients with leprosy. Means time, we have provide a leprosy case detection training for 60 health personnel from 5 woreda and 10 Kebele. Then, within 5 days of screening using 60 trained professional and 5 supervisors, we identified 2159 number of household contacts, and 2140 number of household contacts screened for leprosy. Finally, 90 number of household contact suspect for leprosy and 21 confirmed Leprosy cases were diagnosed and started treatments. Among these 21 newly diagnosed cases, 6

cases were identified/ diagnosed from the traditional healers and holy water area with disability grade II (19%).



Professionals' reallocation and materials

The impact of COVID-19 was so great and multi-dimensional. Because during the COVID-19 period high amount of MDT, POP, and other drugs and supplies were expired. Moreover, since Boru meda hospital is the treatment center for corona viruses so those professionals who work with leprosy patients were reallocated to other activities like face shield production, provision of care and treatment for COVID, reducing contract professionals.

Discussion

Leprosy is endemic chronic infectious disease of the skin. According to the data retrieved before (March 2019 to January 2020) corona 289 new leprosy while during (March 2020 to January 2021) the corona pandemic only 173 leprosy cases were diagnosed. However, from the expected number of new leprosy cases only 23.64% cases were diagnosed during the corona pandemic. That means around 76.36% of new cases of leprosy to be diagnosed were missed or not come to the health facilities due to corona. This might be due to fear of the pandemic, declaration of state of emergency, travel sanction and others.

Among the newly diagnosed leprosy cases 9% were children with the disability degree II 10%. According to the WHO global leprosy strategy 2016-2020 indicator showed that at the end of 2020,number of children with leprosy and disability should be zero. This is a very sensitive issue that makes leprosy transmission to be ongoing, especially patient who comes with disability. This might be due to lack of community mobilization, poor awareness and cultural belief about the disease and others are the contributing factors that patients with leprosy did went to had early diagnosis and treatment.

According to the data 87% of leprosy comes with neuropathic ulcer and numbness (G-II, G-I-disability). But WHO global leprosy strategy 2016-2020 indicator targets grade II disability less than 1 per million leprosy cases. This might be due to corona pandemic patients with leprosy were unable to get access because of lockdown of Boru meda hospital and repurposed for corona isolation and treatment center. So that patients with leprosy remain at home till the hospital reopened, gone to the traditional healer, holy water, and other solution were taken.

Before corona in the 10 months of duration only 2 patients were undergone corrective amputation. But when Boru meda hospital was reopened 6 patients come with disgusting, chronic ulcer and some of them with squamouse cell carcinoma. So that amputation of leprosy patients during the corona pandemicity increased by 300%. This might be Boru meda hospital is the only hospital in the East Amhara region that the patients get routine nursing and treatment via admission. But when the hospital was lockdown all such patients were remain at home. So that these patients cases become serious and results amputation.

According to the WHO report, the prevalence of leprosy is less than 1 per 10, 000 population. But when we conduct a five days of active case detection we have got 21 new cases among 2159 number of household contacts. That means if one did active case detection, the incidence and prevalence of leprosy is so high relative to the WHO current recommendation.

Conclusion

- Nearly 76% of leprosy pts did not get the service at all.
- During Corona leprosy patients were forced to undergone for amputation (increased to 300%).
- Leprosy and disability grade-II- is quite common among children age less than 15.
- During the lockdown of the hospital, leprosy pts were come with more complicated case that leads to sever leprae reaction, nerve damage, amputation and other complication.

Recommendation

- Since the hospital is the only hospital in the East Amhara, one should:
- Community mobilization and active case surveillance
- Preplanned during the pandemic
- Continuous capacity building (KAP)
- Sustainable supplies/drugs (Workshop, Predinsolon, Vaseline and others)

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