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Feasibility of Integrating Leprosy Post-Exposure Prophylaxis with Single-Dose Rifampicin (LPEP) into Routine Leprosy Control Program in Bukedi and Teso Regions in Uganda

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Abstract

Background: World Health Organization recommends the implementation of contact tracing and Leprosy Post Exposure prophylaxis (LPEP) to interrupt the chain of transmission. To accelerate the uptake of this recommendation, a cross-sectional study among contacts of leprosy patients was conducted to investigate the feasibility of integrating leprosy systematic contact tracing and post-exposure prophylaxis (PEP) into the routine leprosy control program. **Methods:** This was a mixed methods cross-sectional study. The study was implemented in Kumi, Ngora, Serere, Soroti, Budaka and Kibuku Districts. **Results**: The 45 enrolled index patients (97.8% of the registered) identified a total of 135 contacts, of which 134 (99·2%) consented and were screened. Among them, one new leprosy patient was identified and started on treatment with multidrug therapy (MDT). All the eligible contacts, received the prophylactic treatment with Single Dose Rifampicin (SDR). Overall, SDR was administered to 133(98.5% of the listed contacts) with no adverse event reported. Factors associated with successful contact investigation and management included: Involvement of index patients, health care workers during the contact screening and SDR A administration, counselling of the index pa-

tients and contacts by the health care works, LPEP being administered as Directly observed Therapy (DOT) among others. **Results Interpretation:** The integration of leprosy post-exposure prophylaxis with administration of SDR and contact tracing is feasible, generally accepted by the patient, their contacts and health workers and can be integrated into the National Leprosy control programmes with minimal additional efforts once contact tracing has been established. Therefore, we recommend integration of administration of SDR in to the routine leprosy control program.

Keywords

Leprosy, Post Exposure Prophylaxis, Single Dose Rifampicin

1. Introduction

Leprosy is a disease that predominantly affects the skin and peripheral nerves, resulting in neuropathy and associated long-term consequences, including deformities and disabilities [1]. The disease is associated with stigma, especially when deformities are present [2]. Despite the elimination of leprosy as a public health problem (defined as achieving a point prevalence of below 1 per 10,000 population) globally in 2000 and at a national level in most countries by 2005, leprosy cases continue to occur. Over 200,000 new leprosy cases were reported in 2016. Early diagnosis and treatment of leprosy is essential for reducing the burden of this disease. Individuals in contact with patients who have leprosy are increasingly exposed and have a higher risk of acquiring the disease.[1] Contact investigation for Leprosy and chemoprophylaxis also referred to as post-exposure prophylaxis (PEP) given to leprosy contacts are two major leprosy control strategies that are currently used to identify contacts and to initiate treatment of exposed and at-risk contacts respectively [3] [4]. These strategies aim to break the cycle of transmission by identifying and treating any leprosy cases early enough and offering PEP to contacts who have no leprosy. Contact investigation which may involve household and other community contacts is used to screen contacts, start those found to have leprosy on treatment, and deliver and monitor PEP to contacts with no disease. Currently, single-dose rifampicin (SDR) has been tested and found to be effective in reducing the incidence of leprosy by 50% - 60% in the first two years, among treated contacts [5].

Uganda is considered a low-burden Leprosy country with an average number of new leprosy patients reported each year by the National Tuberculosis and Leprosy Control Program (NTLP) at the Ministry of Health being 200 [6]. In Uganda, PEP is currently not routinely provided, and systematic contact tracing is not yet routinely implemented. Considering the WHO global leprosy strategy 2020 - 2030, "towards zero leprosy", whose concept has been operationalized in the four strategic pillars and one of them being scaling up prevention alongside integrated active case detection [7], this study becomes even more relevant by

contributing to achieving the vision of the strategy using the WHO endorsed SDR [7].

The Uganda NTLP reported a total of 477 new leprosy cases (incidence rate 0.12/10,000 population) up from 310 reported in the 2020/2021 to 2021/2022 period [8] [9]. Incident cases notified were unevenly distributed across the country but mainly in the West Nile, Acholi, Bunyoro Tooro and Soroti regions. The proportion of children with leprosy was 11.3% and 14% had grade II disability.

Leprosy is a neglected disease and resources to manage it are limited [10]; finding methods to efficiently identify and treat leprosy patients early and in addition identify those at risk of developing leprosy and offering SDR to them would be an effective way of interrupting transmission. DAHW is the only implementing partner for leprosy control in Uganda and has been so since 1962 and supports patient diagnosis, management, follow-up, economic empowerment and socio-inclusion.

NTLP in cooperation with DAHW and the district local government conducted a study to promote understanding of and enablement of early detection of leprosy by enhancing contact management and to test methods and tools to interrupt the transmission and incidence of Leprosy.

1.1. Problem Statement

The number of new leprosy cases identified in Uganda shows a gradual increase reported over the years as shown below over the past years as seen in **Figure 1** although the new case detection rate (NCDR) is still below the WHO leprosy elimination threshold of 1 case per 10,000 populations.

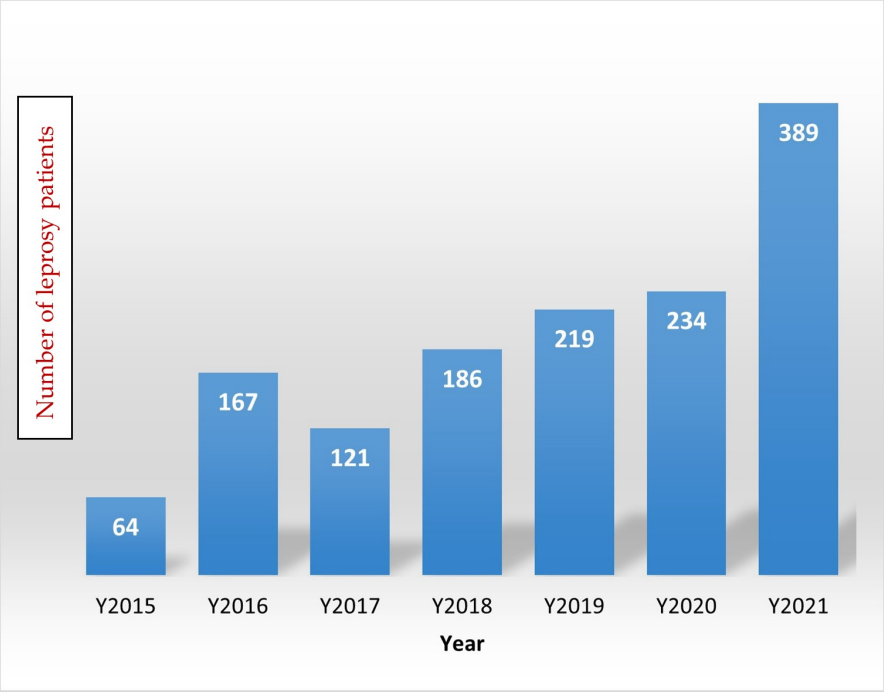

Figure 1. Seven-year trend of new leprosy patients in Uganda.

The Eastern region specifically the districts of (Kibuku, Budaka, Kumi, Serere, Soroti and Ngora) have also been reporting leprosy cases annually. Table 1 below shows the distribution of leprosy cases in the Eastern region of Uganda over the last 7 years.

Table 1. Leprosy cases annually.

Districts	2016	2017	2018	2019	2020	2021	2022
Kumi	3				2	3	
Ngora	1	1	1	2			
Soroti	1		4	2		1	
Serere	4		4	2		1	
Budaka	1	3	0	0	3	3	2
Kibuku	2	1	0	3	1	5	2
Total	12	5	9	9	6	13	4

Based on this, it is imperative to implement additional leprosy control strategies such as contact tracing and leprosy PEP to interrupt the chain of transmission in this region. The study would also help to describe how best to scale these interventions to other areas of the country to increase momentum to eliminate leprosy from Uganda.

1.2. Purpose of the Study

The purpose of the operational research study was to assess the feasibility of integrating single dose rifampicin PEP into routine leprosy control to contribute to "zero leprosy" in the districts of Kibuku, Budaka, Ngora, Serere and Soroti. This study aimed to contribute to the question on the efficient and effective utility of Village Health Team workers (VHTs) and contribute to the debate on whether "the quality of leprosy screening by community health workers (CHWs) is sufficient to justify their use in PEP activities" [11]. The project additionally aimed at demonstrating the importance of community engagement in leprosy control to contribute to interrupting transmission.

1.3. Objectives

The overall goal of the study was to assess the feasibility of integrating LPEP with SDR into the routine Leprosy control program. will be to contribute to the elimination of leprosy in Uganda and to describe how best to carry out PEP with SDR in Uganda.

1.3.1. Specific Objectives

1. To assess the feasibility of leprosy post-exposure prophylaxis in (Kibuku, Budaka, Ngora, Serere and Soroti districts in Uganda).
2. To administer single dose rifampicin to eligible contacts of leprosy patients at their homes.

3. To assess the factors associated with successful contact investigation for Leprosy.
4. To describe opportunities and synergies that can be leveraged in the districts to integrate contact investigation with other on-going community-based activities.

1.3.2. Secondary Objectives

1. To perform leprosy data verification in Kibuku, Budaka, Ngora, Serere and Soroti districts of Uganda.
2. To assess acceptability of leprosy-contact investigation in households and in the community in Kibuku, Budaka, Ngora, Soroti, Serere and Soroti districts.
3. To document the contribution of contact tracing to early leprosy diagnosis and prevention of grade 2 disabilities.

1.4. Research Questions

1. What is the feasibility of leprosy post-exposure prophylaxis in Bukedi and Teso regions?
2. What is the yield of contact investigation for leprosy in Kibuku, Budaka, Ngora, Serere and Soroti districts?
3. What opportunities/synergies can be leveraged in the districts to integrate contact investigation with other on-going community-based activities?
4. What is the role of village health teams (VHTs) in contact investigation and PEP activities in Uganda?

1.5. Scope of the Study

The project was implemented in Kibuku, Budaka, Ngora, Serere and Soroti in Eastern region as seen in **Figure 2** below.

The target population was persons affected by leprosy from 2018 to 2022, newly diagnosed leprosy patients, their families, and health workers involved in leprosy diagnosis and management. The reason for the choice of districts includes: Kumi district has traditionally been a leprosy center that for a long time has supported leprosy diagnosis, treatment, management, and care. Ngora, Serere and Soroti districts have significantly contributed to the total number of leprosy patients' cases in Teso sub-region. Hence contributors to Kumi's status of being a high endemic district in Teso sub-region. Kibuku and Budaka besides being close to Teso sub-region, have been categorized among the districts that report new leprosy cases annually.

The study was carried out between June 2021 and June 2022.

1.6. Justification

Despite Uganda being a low burden leprosy country, leprosy remains a major cause of disability, stigma and discrimination and prolonged morbidity in areas of the country including the six districts in which we propose to work. In the

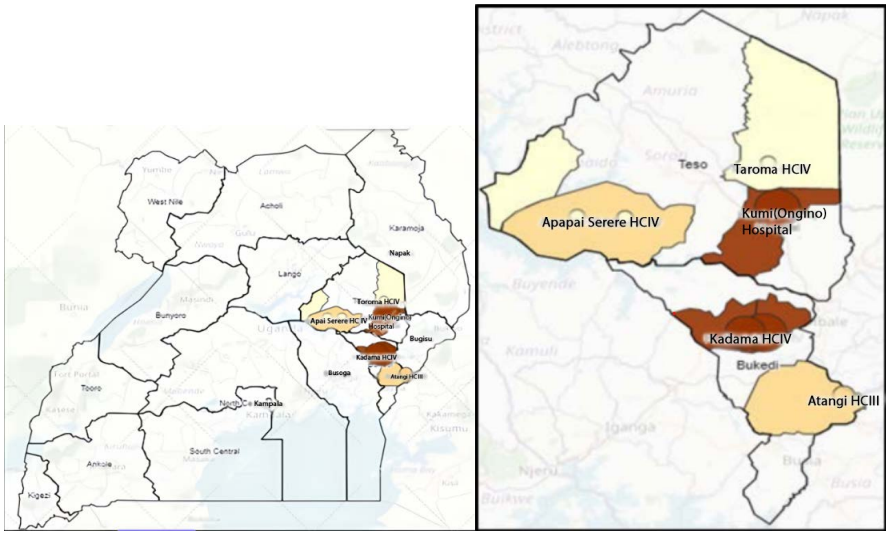

Figure 2. Map showing the districts where the study was conducted.

published 2020/2021 NTLP report, 310 new cases of leprosy were notified with the six target districts notifying a combined total of 32 leprosy cases [8]. Contact investigation remains the mainstay for early detection and diagnosis and for the prevention of leprosy disability [1] [3]. It has not yet been systematically rolled out in Uganda, however, there is some effort from the National Tuberculosis (TB) and Leprosy Program (NTLP) through the district TB and leprosy focal persons to attempt to perform this vital activity but is not systematically carried out and its contribution to leprosy case detection has never been documented.

The aim of the study was to demonstrate the feasibility of LPEP and contact tracing activities, as a strategy to improve early case detection when implemented by the national control program in Uganda. The findings of the study are to be used to describe the impact of the PEP on people's understanding of leprosy and their attitudes and behavior towards persons affected by leprosy, the acceptability of PEP to document the experiences and views of all relevant stakeholders regarding the PEP intervention and to understand other potential resources in the community that can be harnessed by the NTLP to improve leprosy services.

The study also demonstrates that active case finding with community engagement (VHT, sub-county focal person) and subsequent verification of new leprosy cases and contact tracing by the district/facility health team, DTLS) is feasible and can pave the way to:

1. Strengthen the skills of VHT and health workers of lower facilities to suspect leprosy at an early stage and prevent the development of disabilities.

2. Administer a single dose of Rifampicin for contact persons of new leprosy cases through the DTLS.

3. Involve communities for advocacy and de-stigmatization of leprosy patients and their family members.

4. Improve on quality and completeness of data collection and entry.

2. Literature Review

Leprosy is among the neglected tropical diseases that have been targeted for elimination by the WHO [3] [10].

Globally progress has been made in leprosy control since the early 1980s when a combination of treatments for leprosy was introduced. The combination treatment is known as Multi-Drug Therapy (MDT), and comprising rifampicin, dapsone and clofazimine has led to the cure of over 18 million leprosy patients [7] [10]. Despite this success, leprosy still represents a considerable global public health challenge with more than 230,000 new cases diagnosed in 2018 [6].

The implementation of MDT, and the WHO-led campaign to eliminate leprosy as a public health problem, has led to a decline in the number of new leprosy infections in many parts of the world [11]. However, this success has not been evenly distributed as evidenced by different countries still endemic and others having endemic regions within them globally.

Transmission of leprosy mainly occurs through contact with a leprosy patient and household and community/social contacts are most at risk of being infected. In places that have new leprosy cases and especially in areas where child cases of leprosy are still reported, it indicates continued transmission [3] [4]. This implies that the prescribed leprosy control strategies are not sufficient on their own to break transmission. More recently, contact investigation has been prescribed to identify early enough persons most at risk (usually contact household or social) of developing disease, before they get infected. In line with this, chemoprophylaxis to treat at-risk persons and prevent the subsequent development of leprosy (Post Exposure Prophylaxis, PEP) has been developed and tested [3] [11] [12] [13].

PEP with rifampicin given to contacts of known leprosy cases has been tested to inform on its effectiveness in reducing continued transmission of leprosy and implemented single-dose

rifampicin (SDR) chemoprophylaxis which was reported to reduce the incidence of leprosy among treated contacts in the first two years by 60% [3] [4] [14] [15]. Although the benefits did not increase further after two years, the effect was maintained after 4 and 6 years. A meta-analysis by Reveiz L. (2000) confirmed that chemoprophylaxis with a single dose of rifampicin reduces the risk of leprosy among contacts of leprosy patients by 57% after 2 years [16].

Contact investigation and post-exposure prophylaxis have been used successfully for TB control and TB contact investigation has been found to have a high yield of new TB cases, promote early diagnosis which in turn prevents continued transmission within households and communities [17] [18]. Contact investigation targets the most at-risk contacts who are usually household contacts because they spend protracted periods of time with the patients and then other contacts within the patient's social networks especially at workplaces, schools, and at places of leisure.

These two interventions, contact investigation, and PEP go hand in hand and

are now advocated as additional strategies to complement the traditional control strategies and are noted to break the cycle of transmission for leprosy as well [10].

It is anticipated that the introduction of PEP for high-risk contacts of leprosy patients will decrease the number of new leprosy cases by enhancing early detection, disrupting the chain of transmission, and therefore decreasing the incidence of leprosy in the population in the long run.

3. Methodology

3.1. Study design

This was a mixed-methods study in which we concurrently collected both quantitative and qualitative data; the findings of which were merged at the point of data analysis. The Leprosy Register was used to identify all Leprosy Cases of the respective districts. All index cases were requested for consent to screen household contacts at home.

Quantitative data collection was undertaken using pre-designed survey tools. All the collected quantitative data was coded, double entered and cleaned in Excel then and thereafter exported to STATA version 17 for analysis. Qualitative data was in the form of focus group discussions with Health care workers, patients and their contacts. Audio transcripts were collected, and transcribed into a Word document and transcripts were coded and thematically analyzed using the Open Code software 4.02.

Once a leprosy diagnosis was confirmed by either the local clinician or the District Tuberculosis and Leprosy Supervisor (DTLS), the individual was initiated on Multi-Drug Therapy (MDT) briefed about leprosy disease and informed about the benefits of contact tracing activities and LPEP. Informed consent was then sought from the index case to disclose the disease among household members, and contact them for screening and LPEP administration, if eligible. Upon receipt of consent of the index patient, a list of all household contacts was generated. The list of household contacts together with detailed contact information to locate the household was handed over to a team of village health teams (VHTs) who had been given a one-day training about the study. During the initial inception meetings within the districts, The composition of the team to visit the household included at least two persons (one male and one female) including one member of the VHT from the patient's village, Local Council 1 (LC 1) Chairperson and a Facility health care worker. Upon locating the household, the purpose of their visit was explained, all planned procedures and the possible consequences of the different screening outcomes (confirmed leprosy, suspect leprosy, leprosy negative, eligible for PEP). The contacts that consented and met the eligibility criteria received LPEP and were assigned an LPEP registration number consisting of the District Patient Registration Number, a household number and the individual contact number.

Screening of contacts was done by trained healthcare worker, at the patients'

home. For the contacts that were confirmed to have leprosy, MDT was initiated after counselling the patient as per protocol of NTLP guidelines for leprosy care.

All contacts without leprosy were educated and provided with information about PEP. Consent was obtained followed by establishing eligibility for administration of LPEP. The contacts were given rifampicin if they met the eligibility criteria at the correct dose under direct observation as described below. In accordance with national leprosy treatment guidelines, the following age-dependent dosing schedules were respected:

- Age of contact 15 years and older: 600mg.
- Age of contact 10 - 14 years: 450 mg.
- Age of contact: 6 - 9 years or body weight 20 kg and higher: 300 mg.

3.2. Summary of the Study Procedure

Figure 3 below shows the summary of the study procedure.

A card (LPEP card) was handed out to each contact treated and given rifampicin and this had a unique identification number. Similarly, new leprosy patients during the study or follow-up period were asked for the LPEP cards to identify the recipients of LPEP.

3.3. Study Population

The study population involved index leprosy patients and their contacts identified from the health unit registers in cooperation with the district leprosy and tuberculosis focal person of the six districts. In addition, key opinion leaders from the communities were involved in this study to better understand their perspective of how to serve leprosy patients better. The research assistants included: 12 VHTs, 12 health care workers, 6 DTLSs and 2 RTLSs.

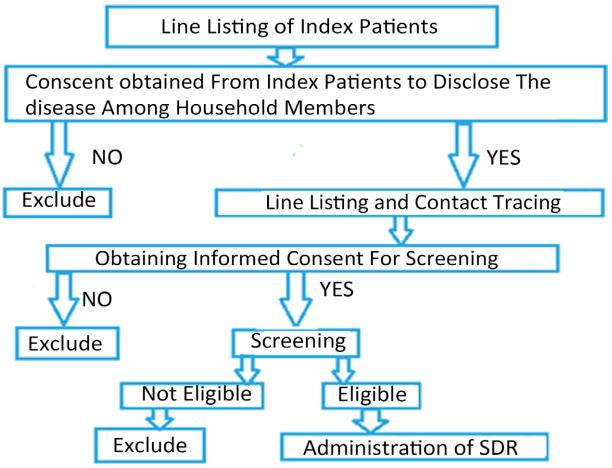

Figure 3. Summary of study procedure.

3.4. Sampling Procedure

To recruit study participants, Leprosy patients from the target districts were

identified in cooperation with the district tuberculosis and leprosy supervisors (DTLS). The names and contact details of the patients were obtained from the patient's registers. All leprosy patients registered from the health centers in the targeted six districts were approached by the DTLS of each district and by the /or by the present Village Health Teams (VHTs) - either through phone calls or through direct visits and asked for their willingness to participate. If they consented to participate, for the study. For index patients who were children, consent was obtained from their parents or guardians.

For the recruitment of key opinion leaders, advocacy visits to the traditional community gatekeepers (including traditional leaders, religious leaders, leaders of women and youth association, school teachers, etc.) to introduce the project preceded the identification of suitable and interested persons to be engaged in community key informant interviews.

3.5. Selection Criteria for Index and Contacts of the Leprosy Patients Included in the Study

3.5.1. Inclusion Criteria of Index Patients

- All persons, including pregnant mothers, identified with a leprosy diagnosis and registered from the health centers in Kibuku, Budaka, Ngora, Kumi, Serere and Soroti districts diagnosed from 2018 to June 2022.
- Index patients in whom consent was obtained.

3.5.2. Inclusion Criteria for Contacts Screening During the Study

- House hold contacts of the consented index leprosy patient.
- Contacts whose consent to participate in the study was obtained.

3.5.3. Exclusion Criteria for Contact Screening

- Refusal/inability to give consent to the study.
- Patients who are unable to communicate clearly.

3.5.4. Exclusion Criteria for PEP

- Refusal/inability to undergo screening.
- Refusal to provide informed consent for PEP.
- Newly confirmed leprosy patients.
- Suspected leprosy.
- Presumptive TB patients.
- Rifampicin therapy for any reason within the last two years.
- Pregnancy mothers.
- History of liver disorders (e.g. jaundice) or renal disorders.

3.6. Adverse Events Reporting and Management

Adverse events following the administration of a single dose of rifampicin are rare [19] especially since most drug interactions with rifampicin occur after about one week of use[22] [20]. However, screened contacts eligible for PEP were informed about possible adverse events of rifampicin treatment (most notably a

flu-like syndrome and discoloration of urine). They were advised to present immediately to the nearest health facility should they develop any symptoms within 24 hours. Fortunately, there was no adverse effect reported.

All adverse events were recorded on a specific LPEP adverse events form including the following items:

1. Registration of contact.
2. Demographics of contact (Age, gender).
3. Date of administration and dosage of rifampicin.
4. Date and time of onset of symptoms.
5. Signs and symptoms of adverse event.
6. Concomitant disease(s) and/or medications.
7. Management of the adverse event, if any.
8. Outcome of the adverse event.

3.7. Data Collection Tools Data Verification Tool to Line List All Eligible Leprosy Patients

- Survey questionnaire.
- Focus group discussion guide.
- Severe Adverse Events form.

3.8. Data Analysis

The quantitative survey data was cleaned and statistically analyzed using STATA and Epi Info statistical software. Means and proportions with standard deviation were calculated. Associations were tested using chi-squared with the level of significance set at 0.05 and univariable linear regression analysis. From the audio-records, a transcription from the local languages (Atesot and Lugwee) to English was done. The coding of those transcripts into certain themes was done using a deductive-inductive approach. In order to illustrate the individual perceptions of participants, relevant quotes were highlighted.

3.9. Ethical Consideration

Ethical approval for this research project was sought from the TASO Research & Ethics Committee and Uganda National Council for Science and Technology (UNCST). It is only those participants, who had given their informed consent to participate in the study beforehand that were enrolled in the study. This holds true for both types of data collection (quantitative & qualitative) for this research project. In case of children, parents gave their consent to the participation of the child and were present during the entire data collection (survey or interview). Data collected from the study participants was kept under lock and key and handled by study staff only to ensure confidentiality.

3.10. Limitations of the Study

The study results are based on the experiences and perceptions of individual pa-

tients and their family members. This may lead to a certain degree of subjectivity in the obtained data.

The translation from the local languages to English can bring some minor changes in expressions and meanings of what was said. This language barrier was dealt with to keep as small as possible and translations were double-checked by the research team.

Lastly, contact screening was limited to only 4 because of financial scarcity.

4. Results

4.1. Characteristics of the Index Leprosy Patients That Were Enrolled in the Study

A total of 45 index leprosy patients were enrolled in the study, and a total of 20(22%) having a history of contact with a leprosy patient. The mean duration from first symptom to diagnosis of the index leprosy patients was 27 months (Range 2 months to 240 months, SD 37.5 and mode 24 months).

4.1.1. Distribution of the Index Leprosy Patients that Consented for Their Households to Be Screened

The proportion of index cases that consented for contact screening to be done to their household contacts was 97.8% (44 out of 45).

4.1.2. Characteristics of the Contacts of the Leprosy Patients Enrolled in the Study

A total of 135 Contacts of the index leprosy patients were line listed, 105 (78%) being male. The mean age of the study participants who were contacts of the index leprosy patients was 28.8 years (Range 6 to 76 years SD 18.3 CI 95%).

4.1.3. Relationship Distribution of the Contacts to the Index Leprosy Cases

This relationship distribution is illustrated in Figure 4 below.

The majority (61%) of the contacts screened were biological children of the index case.

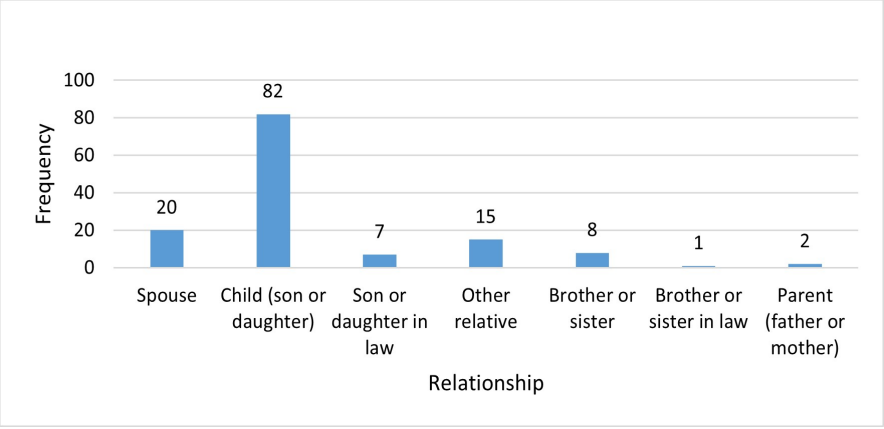

Figure 4. Relationship to the index leprosy case.

4.1.4. Contact Screening and Administration of Single Dose Rifampicin to Eligible Contacts of Leprosy Patients

The decision tree in **Figure 5** below shows the summary of enrollment, contact screening and administration of SDR to eligible contacts.

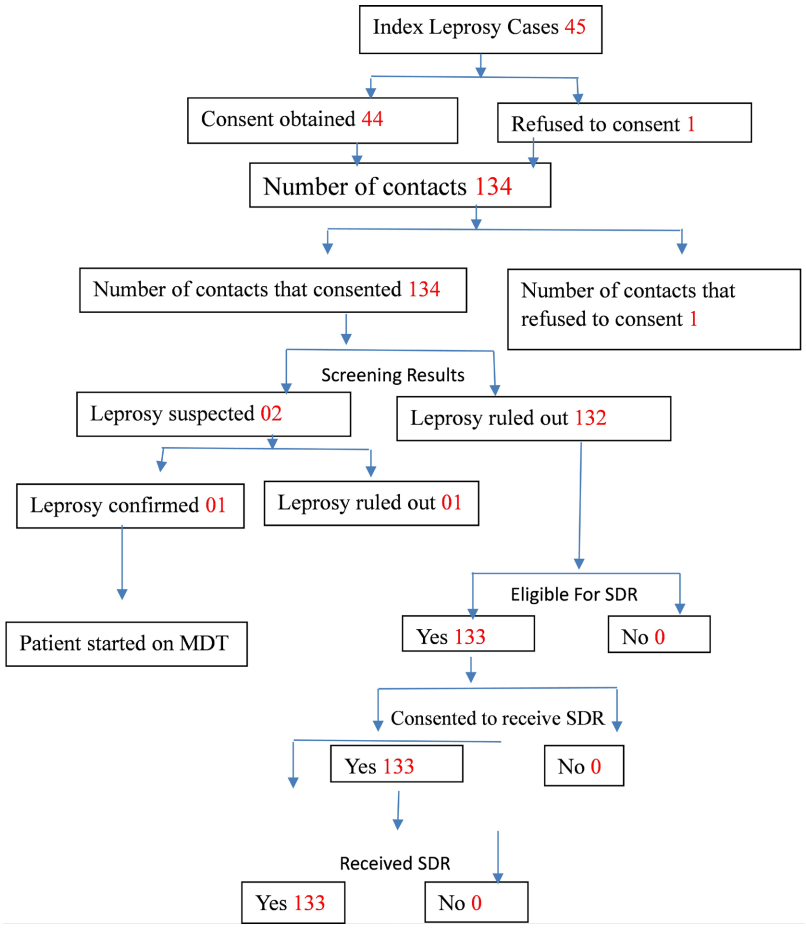

Figure 5. Decision tree for leprosy contact management during the study.

Contact screening was done on 134 contacts and of these 133 (99.2%) were eligible for the study. However, 1 household contact refused to consent for the study. Of the household contacts eligible for the study, one was confirmed to have leprosy The confirmed leprosy patient was a 15-year-old boy whose mother had completed MDT the previous year.

4.1.5. Leprosy Post Exposure Prophylaxis (LPEP) Dose of Rifampicin Given

Figure 3 below is the proportion distribution of the doses of Rifampicin given to the eligible leprosy contacts.

Majority (65%) received a single dose of Rifampicin of 600 mg.

4.2. Results of the Qualitative Analysis of Data

4.2.1. Knowledge and Perceptions of Leprosy

The lack of accurate information about leprosy led to misconceptions about transmission, leading some to feel cursed or bewitched.

4.2.2. Impact of Diagnosis

Participants faced significant social and emotional challenges, leading to feelings of loneliness and depression. Stigmatization led to isolation and rejection, with individuals being avoided by friends and family members.

4.2.3. Community Awareness and Education

The consensus was that there's a critical need for community awareness and education about leprosy. Suggestions for awareness campaigns included using local gatherings like funerals, religious events, and village meetings to share accurate information. The hope was that educating the community would dispel myths and reduce stigma.

4.2.4. Desired Changes

Participants suggested using survivor testimonies in awareness campaigns to humanize the disease and combat stigma. They called for community-level education efforts to promote acceptance and understanding.

4.2.5. The Impact on Daily Life

The economic impact was significant, with participants losing jobs, businesses, and trade opportunities due to stigma. Isolation and discrimination led to emotional distress, contributing to mental health challenges among participants shared instances of individuals being forced to change their daily routines and interactions to avoid stigma.

4.2.6. Recommendations by the Participant

Tangible support was requested to help improve the livelihoods of those affected by leprosy. The focus on continued awareness campaigns, community education, and improved access to healthcare services was reiterated. Participants emphasized the importance of a holistic approach that includes medical, psychological, and social economic support.

4.3. Factors Associated with Successful Contact Investigation for Leprosy

The factors responsible for successful contact investigation for leprosy include:

i) The involvement of index cases: This made it possible to be able to obtain the contacts that were needed for the study.

ii) Involvement of Health care workers during SDR and Contact screening: The health workers talked to the leprosy patients counselling them, screened and administered the SDR.

iii) Counselling given to the Index patients and their contacts created understanding of the activity and enabled the participants to accept the intervention.

iv) LPEP being administered as DOT: This was crucial since it ensured 100% compliance.

v) Participation of District leadership.

vi) Support supervision.

4.4. Opportunities and Synergies in the Districts for Contact Investigation

i) District Health Structures (Human Resources for Health).
ii) Engagement of Community Owned Resource Persons increases the faith and trust in the community members.
iii) Ongoing community interventions like Integrated management of childhood illnesses.
iv) Buy-in of District Leadership.

5. Discussion

The LPEP programme was implemented in six leprosy-endemic districts and showed that the approach of contact tracing followed by the provision of SDR is feasible as part of routine leprosy control programme activities. There was a high level of acceptance (97.1%) by patients and health-care staff of home-based or community-based contact screening and SDR administration across different sociocultural, epidemiological, and health system settings. The acceptance was observed to be higher than in the LPEP programme implemented within the leprosy control programmes of Brazil, Cambodia, India, Indonesia, Myanmar, Nepal, Sri Lanka and Tanzania with an 89.6% acceptance[18] [19]. However, a similar study done among 168 contacts of leprosy patients from two blocks in Bankura district, West Bengal a lower acceptance rate among contacts of 77.1%.[19] [20] Considerable efforts were necessary to implement contact tracing in settings where it had not previously been introduced into the routine control activities. This effort included the identification and training of field staff, formal supervision, and establishing the necessary documentation system, all integrated into existing leprosy control programme structures. Of crucial relevance was the management of logistics and documentation of contact tracing as well as training to boost and maintain the capacity of field workers to reliably detect suggestive signs of leprosy so that identified contacts could then be referred to trained medical personnel for confirmatory diagnosis. The documentation and training need also to highlight the requirement for quality control procedures to support the programme. By contrast, the administration of SDR was readily integrated into the field routines.

The main challenge with SDR management was that rifampicin was not registered for leprosy prevention by the National Drug Authority in Uganda. Also, for young children and contacts who were underweight, scales were required to establish body weight for calculating the correct rifampicin dose.

In addition to contact screening which was effectively integrated with administration of chemoprophylaxis, there is need for a more holistic approach so as to reduce stigma, ensure referral to self-help groups so as to address the socio-economic activities and link patients to self-care groups for wound care.

6. Conclusion

The results of the study show that it is feasible to integrate Leprosy post-exposure

prophylaxis (LPEP) with single-dose rifampicin (SDR) administration into the routines elimination programmes. The integration is generally well accepted by index patients, their contacts, and the healthcare workforce. The integration has also revitalized the regional and district leprosy control and therefore, we recommend rolling out SDR administration throughout the country to be done routinely once contact tracing has been established.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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Abbreviations

BCG	Bacille Calmette-Guerin
MDT	Muti Drug Therapy
DTLS	District TB and Leprosy Supervisor
DHO	District Health Officer
DOT	Directly Observed Therapy
HCW	Health Care Worker
LPEP	Leprosy Post Exposure Prophylaxis
NCDR	New Case Detection Rate
NTLP	National Tuberculosis and Leprosy Program
PEP	Post Exposure Prophylaxis
RTLS	Regional Tuberculosis and Leprosy Supervisor
SDR	Single Dose Rifampicin
VHT	Volunteer Health Team
WHO	World Health Organization