

# Patient characteristics and treatment outcomes from MSF's cutaneous leishmaniasis programme in Pakistan: a retrospective cohort.



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## Background

**Cutaneous leishmaniasis (CL)** is highly endemic in **Pakistan**, with an estimated annual incidence of 50-100,000. **CL is a neglected tropical disease**, transmitted by sand-flies. It causes disfiguring wounds, which often lead to stigmatization and psycho-social suffering. The mainstay of treatment is pentavalent antimonial injections. Médecins Sans Frontières (MSF) **has supported the Ministry of Health with free CL diagnosis and treatment services** in Khyber Pakhtunkhwa since 2018 and in Balochistan since 2008.

A patient line-list of almost **20,000 CL patients has been maintained since 2014.**



#EndTheNeglect #BeatNTDs

## Results

Of the **17,404 patients** with complete records, 47.2% were female; median age was 10 years. 51.1% had facial lesions, and male patients presented with larger lesions. The proportion of patients receiving intramuscular injections vs. local intralesional injections gradually increased from 17.6% in 2014 to 49.0% in 2020. **Poor/no initial response rate was 4.2%. Treatment failure rate was 5.8% and relapse rate 0.9%.** Univariate analyses showed that female sex, age <16 years, lesion duration ≤two months, lesion size <5cm, facial lesions, and parasitaemia higher than grade 3, were associated with treatment failure. The multivariable analyses showed that **sex, lesion location and size were risk factors of treatment failure.**

Children <16years had almost 3-fold higher odds of poor initial response (odds ratio, OR 2.77 (95% confidence interval, CI, 1.96-3.92). Treatment failure rate was 5.8% and relapse rate 0.9%.



## Discussion

This is a unique analysis including a large cohort of CL patients who received treatment. The increasing trend in patients requiring systemic treatment indicates that patients are presenting with more severe and larger lesions. The insights gained from this research can be used to improve treatment algorithms and patient follow up, and potentially contribute to Pakistan's national CL guidelines.

## Methods

A retrospective analysis was performed of the cohort of CL patients treated between 2014 and 2020. We analysed patient characteristics, trends over the years, treatment outcomes, and identified risk factors for treatment failure and relapse. For the analysis of treatment outcomes, variables were dichotomised into 'initial response' or 'no response' to antileishmanial treatment at end-of-treatment, and 'final cure' or 'treatment failure' (no response/relapse) at six weeks follow-up. Logistic regressions were conducted with Wald statistics using chi square and Fisher's exact test for statistical significance.

**Ethics:** This research fulfilled the exemption criteria set by the MSF Ethics Review Board (ERB) for a posteriori analyses of routinely collected clinical data and thus did not require MSF ERB review.



**“ M. Abdul: I felt shame, guilt, and I kept myself isolated, people told me to wash my hands, not touch and eat anything, making fun or scared of me. I quit my job, and was not able to take care of my family.”**



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