

The reliability of direct smear microscopy for diagnosis of tuberculosis has frequently been questioned due to low sensitivity. Treatment of sputum with sodium hypochlorite (NaOCl) has been used to increase sensitivity in many settings. However, no study has established the effect of NaOCl on fluorescent microscopy.

To establish whether NaOCl concentration method enhances positivity of fluorescent microscopy smear negative sputum for diagnosis of tuberculosis.

A prospective study.

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Forty five (22%) specimens were culture positive. Fluorescent microscopy sensitivity was 28.9% and 22.2% after centrifugation and sedimentation with 3.5% NaOCl, respectively ($P > 0.05$). Sensitivity was 24.4% and 17.8% after centrifugation and sedimentation with 5% NaOCl, respectively ($P > 0.05$).

Although there was no statistical significance difference between the two NaOCl concentration methods, 3.5% NaOCl with centrifugation indicated a higher yield.

Use of NaOCl significantly enhances positivity of smear negative sputum for diagnosis of tuberculosis when used with fluorescent microscopy. This approach could be recommended for screening all tuberculosis suspects especially in settings with potential smear negative tuberculosis.