Summary and Conclusion
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Results indicate that compounds Y and P extracted from fruits of *Piper longum* do not possess significant anti-mycobacterial activity at low concentrations. All the basic compounds precipitated from the aqueous extract as WP also does not possess significant anti-mycobacterial activity at low concentrations.

The aqueous extract of fruits of *Piper longum* does not act as a bio-enhancer *in vitro* when administered along with drugs Rifampicin, Ethambutol, Isoniazid and Ofloxacin as concluded from the disc diffusion studies.

The results of the study show that the aqueous extract of fruits of *Piper longum* exerts a hepato-protective effect in uninfected experimental animals and the effect is comparable to that of piperine as indicated by the level of reduced glutathione and lipid peroxides.

The results of the study also point out that aqueous extract of fruits of *Piper longum* also exerts a hepato protective effect in infected experimental animals.
The administration of fruits of *Piper longum* along with the four drugs Rifampicin, Isoniazid, Ethambutol and Pyrazinamide enhances the bioavailability of Rifampicin and Pyrazinamide. The bioavailability of isoniazid is not affected as evidenced from the blood levels of this drug at different time points.

The results also point out that administration of 0.5g of fruits of *Piper longum* does not adversely affect the various biological and hematological parameters in healthy human volunteers.

Based on the above observations it is concluded that though the compounds extracted from fruits of *Piper longum* do not possess significant anti mycobacterial activity and the aqueous extract of the fruit does not act as a bioenhancer *in vitro*, it acts as a bioavailability enhancer of anti TB drugs and also exerts a hepatoprotective effect.

There is a scope for further study in this area to evaluate the immuno modulatory effect of *Piper longum*, which is another important criteria to be evaluated for its use in the treatment of tuberculosis. The hepatoprotective and bioavailability enhancer effects of fruits of *Piper longum* may also be assessed in infected human volunteers.