**ABSTRACT**

Triazolo-thiadiazoles are the fused heterocyclic ring systems consisting of a triazole and a thiadiazole ring moiety. A triazolo-thiadiazole ring moiety exhibits wide range of pharmacological activities such as anti-bacterial, anti-fungal, anti-oxidant, anti-HIV, plant growth stimulating, anti-viral, anti-inflammatory, analgesic, anti-cancer activity etc. Based on the above facts we are reporting the synthesis and pharmacological evaluation of some triazolo-thiadiazole derivatives from isoniazid. Isoniazid isconverted to 4-amino-5-(pyridin-4-yl)-4H-1,2,4-triazole-3-thiol via cyclization using hydrazine hydrate which is then treated with different aromatic acids in presence of Phosphrous oxychloride to yield the cyclized triazolo-thiadiazole derivatives. Thestructures of all newly synthesized compounds were confirmed by FT-IR, 1H NMR and LCMS spectral data. Antimicrobial, Anti-tuberculosis and anti-inflammatory activities of the synthesized compounds were studied. The results of the activity studies showed that some of the compounds possess moderate to good activity.

**Key words:** Triazolo-thiadiazole; isoniazid; anti-tuberculosis; anti-inflammatory

activity; antimicrobial activity.