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Abstract	:	In this study, the removal of pharmaceutical waste products from aqueous solutions has been investigated using oil palm frond based mesoporous silica nanoparticles (MSN) synthesized via modification of sol-gel process. The removal and adsorption study using MSN were tested toward three type of pharmaceutical product which are paracetamol, ibuprofen and aspirin. The performance study was performed and shown that ibuprofen give the highest removal percentage up to 97%, followed by paracetamol and aspirin with the percentage removal of 67% and 50% respectively. The result was confirmed that mesoporous silica nanoparticle (MSN) might be utilised as a low-cost adsorbent with excellent pharmaceutical product removal in aqueous solution.