This patent application deals with the revealing of the effectiveness of Balanites aegyptica bark aqueous extract in treatment of both Aids and Leukemia. It also reveals the magnitude of safety of the aqueous extract. An oral administration of the aqueous extract (30 % w/v given at 100ml every 8hrs for 30 days) for the treatment of Hiv/Aids patients have shown excellent results. The same was given to patients with Leukemia and a good increase in platelets (25000 weekly), (TwBc 500 weakly) and a normal blood differential reading after one month. The treatment was very well tolerated by the patients without side effects or complication.