Objective

Benign prostatic hyperplasia (BPH), a noncancerous enlargement of the prostate gland, makes urination difficult and uncomfortable. BPH growth is believed to begin at approximately age 30 years. An estimated 50% of men have histologic evidence of BPH by age 50 years and 75% by age 80 years; in 40-50% of these men, BPH becomes clinically significant. The two main medications for management of BPH are 5α-reductase inhibitors and alpha blockers. The 5α-reductase inhibitors such as finasteride and dutasteride are inhibit the growth of the prostate and decrease the size of the gland. These medications inhibit 5a-reductase, which in turn inhibits production of DHT, a hormone responsible for enlarging the prostate. Side effects include decreased libido and ejaculatory or erectile dysfunction. Alpha blockers used for BPH include doxazosin, terazosin, alfuzosin, tamsulosin, and silodosin. Alpha blockers relax smooth muscle in the prostate and the bladder neck, thus decreasing the blockage of urine flow. Common side effects of alpha blockers include orthostatic hypotension, ejaculation changes, nasal congestion, and weakness but among all five drugs alfuzosin has fewer side effects, shorter half life (10h) and bioavailability (49%) compare to other. Alpha blockers (technically α1-adrenergic receptor antagonists) are the most common choice for initial therapy of BPH as compared to 5-alpha-reductase inhibitors bcoz these medicines (5-alpha-reductase inhibitors) can take many months to become maximally effective since they rely on physically shrinking the enlarged prostate.

So far a few extended release matrix tablets of alfuzosine hydrochloride were prepared and available in the market with some drawback like less bioavailability. So present work aimed at design and evaluation of alfuzosin hydrochloride tablets with different polymers to improve bioavailability of alfuzosin hydrochloride. There are no other approaches like microspheres are attempted with alfuzosin hydrochloride. Microspheres provide more uniform distribution with reduced dose dumping, reduced dosing frequency and patient compliance. So present work aimed at design and evaluation of alfuzosin hydrochloride microspheres also.