INTRODUCTION
The performance of ODTs depends on the technology used in their manufacture. The orally disintegrating property of these tablets is attributable to the quick ingress of water into the tablet matrix, which creates a porous structure and results in rapid disintegration [1, 2]. Hence, the basic approaches to develop ODTs include maximizing the porous structure of the tablet matrix, incorporating the appropriate disintegrating agent and using highly water-soluble excipients in the formulation. Fluoxetine hydrochloride is the first agent of the class of antidepressants known as selective serotonin-reuptake inhibitors (SSRIs) [5-7]. In this study, we did preformulation study.

MATERIALS AND METHODS
Materials
Fluoxetine, lactose, starch, aspartame, magnesium trisilicate, t alc cross carmellose, crospovidone & sodium starch glycolate

Methods
For the following study, we are taken captopril. Fluoxetine hydrochloride is the first agent of the class of antidepressants known as selective serotonin-reuptake inhibitors (SSRIs) [5-7]. In this study, we did preformulation study.

In this preformulation study, we studied about the API characterization of drug, Drug-Excipient compatibility studies, Analytical method development, and Precompression parameters.

API characterization
It is necessary to study the physicochemical properties of the bulk drug-like physical appearance, solubility, melting point, particle size, and incompatibilities [4].

Analytical method development
It is studied for knowing about the purity of the drug. It is carried out by two methods HPLC or U. V. Here we have followed U. V method [9, 10] Then we went for the formulation development.

Formulation development and evaluation
For this study, we developed 9 formulations in different ratio. The following table is shown formulation development for the present study.

Table 1: Formulation composition of orodispersible tablet of fluoxetine hydrochloride for wet granulation method

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>FW1 (mg)</th>
<th>FW2 (mg)</th>
<th>FW3 (mg)</th>
<th>FW4 (mg)</th>
<th>FW5 (mg)</th>
<th>FW6 (mg)</th>
<th>FW7 (mg)</th>
<th>FW8 (mg)</th>
<th>FW9 (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug(Fluoxetine)</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
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<tr>
<td>Lactose</td>
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<td>59.5</td>
<td>56.5</td>
<td>59.5</td>
<td>58</td>
<td>56.5</td>
<td>59.5</td>
<td>58</td>
<td>56.5</td>
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<tr>
<td>Starch</td>
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<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
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<td>Cross carmellose</td>
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<td>3</td>
<td>4.5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td>Crospovidone</td>
<td>-</td>
<td>-</td>
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<td>4.5</td>
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<td>-</td>
</tr>
<tr>
<td>Sodium starch glycolate</td>
<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>1.5</td>
<td>3</td>
<td>4.5</td>
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<tr>
<td>Poly vinyl pyrolidine</td>
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<td>5</td>
<td>5</td>
<td>5</td>
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<td>Aspartame</td>
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<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
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<tr>
<td>Magnesium stearate</td>
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<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
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<tr>
<td>Talc</td>
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<td>0.5</td>
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**Table 2: Formulation composition of orodispersible tablet of fluoxetine hydrochloride for sublimation method**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>FS1 (mg)</th>
<th>FS2 (mg)</th>
<th>FS3 (mg)</th>
<th>FS4 (mg)</th>
<th>FS5 (mg)</th>
<th>FS6 (mg)</th>
<th>FS7 (mg)</th>
<th>FS8 (mg)</th>
<th>FS9 (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug (Fluoxetine)</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
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<td>10</td>
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<td>Lactose</td>
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<td>53</td>
<td>51.5</td>
<td>54.5</td>
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<td>Starch</td>
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<td>20</td>
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<td>5</td>
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<td>5</td>
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<tr>
<td>Cross carmelllose</td>
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<td>3</td>
<td>4.5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Crospovidone</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1.5</td>
<td>3</td>
<td>4.5</td>
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<tr>
<td>Sodium starch glycolate</td>
<td>-</td>
<td>-</td>
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<td>-</td>
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<td>-</td>
<td>1.5</td>
<td>3</td>
<td>4.5</td>
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<tr>
<td>Poly vinyl pyrolidine</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
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<tr>
<td>Aspartame</td>
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<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
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<tr>
<td>Magnesium stearate</td>
<td>0.5</td>
<td>0.5</td>
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<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
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<td>0.5</td>
</tr>
<tr>
<td>Talc</td>
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<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
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</tr>
</tbody>
</table>

**RESULTS AND DISCUSSION**

**Standard graph of Fluoxetine hydrochloride in 0.1N HCl**

**Table 3: Data of the standard calibration curve of fluoxetine hydrochloride. Medium 0.1N HCl; }_{\text{max}}=226 \text{ nm}**

<table>
<thead>
<tr>
<th>Concentration (µg/ml)</th>
<th>Absorbance at 226 nm</th>
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<tbody>
<tr>
<td>0</td>
<td>0</td>
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<tr>
<td>2</td>
<td>0.066</td>
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<td>4</td>
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<tr>
<td>10</td>
<td>0.418</td>
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<tr>
<td>12</td>
<td>0.505</td>
</tr>
<tr>
<td>14</td>
<td>0.582</td>
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<tr>
<td>16</td>
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<td>18</td>
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</tr>
<tr>
<td>20</td>
<td>0.836</td>
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</tbody>
</table>

**Preformulation studies**

Fourier transforms infrared spectroscopy (FTIR)

**Table 4: Observed frequencies in the FTIR spectra of pure drug (fluoxetine hydrochloride) and physical mixture with their assignments**

<table>
<thead>
<tr>
<th>Frequency observed in IR spectrum (cm$^{-1}$)</th>
<th>Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>3440.7</td>
<td>Amines stretching vibration (N-H)</td>
</tr>
<tr>
<td>3014.5</td>
<td>Aromatic (C-H stretching)</td>
</tr>
<tr>
<td>1518.2</td>
<td>(C=C stretching)</td>
</tr>
<tr>
<td>1331</td>
<td>Halide stretching vibration (C-Cl group)</td>
</tr>
<tr>
<td>1108</td>
<td>Fingerprint absorption bands</td>
</tr>
<tr>
<td>842</td>
<td></td>
</tr>
<tr>
<td>588</td>
<td></td>
</tr>
<tr>
<td>526</td>
<td></td>
</tr>
</tbody>
</table>

**Powder characterization**

The powder mixtures of different formulations were evaluated for angle of repose, Hausner ratio, and compressibility index and their values were shown in table 6, 3.

**Evaluation of tablets**

The Oro dispersible tablets of different formulations were evaluated for Weight variation, Hardness, Thickness, Friability test, Drug content and their values were shown in (table 6, 4).
Fig. 3: FTIR spectra of physical mixture containing drug and Cross carmellose

Fig. 4: FTIR spectra of physical mixture containing drug and Cross povidone

Fig. 5: FTIR spectra of physical mixture containing drug and Sodium starch glycolate
Fig. 6: FTIR spectra of physical mixture containing drug and starch

Fig. 7: FTIR spectra of physical mixture containing drug and PVP

Fig. 8: FTIR spectra of physical mixture containing drug and lactose
Table 5: Flow properties of the final powder blend

<table>
<thead>
<tr>
<th>Formula code</th>
<th>Bulk density (gm/cm³)</th>
<th>Tapped density(gm/cm³)</th>
<th>Carss index (%)</th>
<th>Angle of repose</th>
<th>Hausners ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>FW1</td>
<td>0.34±0.04</td>
<td>0.422±0.04</td>
<td>12.46±1.87</td>
<td>27°.11±0.65</td>
<td>1.14±0.01</td>
</tr>
<tr>
<td>FW2</td>
<td>0.357±0.03</td>
<td>0.423±0.06</td>
<td>9.50±1.23</td>
<td>26°.12±0.43</td>
<td>1.10±0.03</td>
</tr>
<tr>
<td>FW3</td>
<td>0.365±0.12</td>
<td>0.405±0.06</td>
<td>12.75±1.98</td>
<td>28°.21±0.32</td>
<td>1.14±0.01</td>
</tr>
<tr>
<td>FW4</td>
<td>0.333±0.32</td>
<td>0.403±0.02</td>
<td>11.11±0.05</td>
<td>28°.32±0.05</td>
<td>1.12±0.03</td>
</tr>
<tr>
<td>FW5</td>
<td>0.371±0.05</td>
<td>0.417±0.05</td>
<td>13.08±0.42</td>
<td>27°.09±0.06</td>
<td>1.15±0.02</td>
</tr>
<tr>
<td>FW6</td>
<td>0.370±0.06</td>
<td>0.467±0.09</td>
<td>12.69±0.05</td>
<td>29°.12±0.03</td>
<td>1.15±0.03</td>
</tr>
<tr>
<td>FW7</td>
<td>0.364±0.06</td>
<td>0.467±0.16</td>
<td>10.61±0.76</td>
<td>27°.34±0.07</td>
<td>1.14±0.06</td>
</tr>
<tr>
<td>FW8</td>
<td>0.369±0.09</td>
<td>0.428±0.14</td>
<td>10.73±0.32</td>
<td>30°.20±0.04</td>
<td>1.11±0.02</td>
</tr>
<tr>
<td>FW9</td>
<td>0.375±0.05</td>
<td>0.408±0.31</td>
<td>12.55±0.64</td>
<td>26°.10±0.08</td>
<td>1.12±0.03</td>
</tr>
<tr>
<td>FS1</td>
<td>0.378±0.01</td>
<td>0.403±0.07</td>
<td>11.21±0.46</td>
<td>27°.22±0.03</td>
<td>1.14±0.05</td>
</tr>
<tr>
<td>FS2</td>
<td>0.339±0.07</td>
<td>0.402±0.54</td>
<td>11.81±0.97</td>
<td>27°.31±0.03</td>
<td>1.17±0.06</td>
</tr>
<tr>
<td>FS3</td>
<td>0.357±0.12</td>
<td>0.413±0.07</td>
<td>12.09±0.97</td>
<td>28°.08±0.07</td>
<td>1.13±0.03</td>
</tr>
<tr>
<td>FS4</td>
<td>0.378±0.14</td>
<td>0.427±0.34</td>
<td>9.95±0.13</td>
<td>29°.32±0.07</td>
<td>1.12±0.02</td>
</tr>
<tr>
<td>FS5</td>
<td>0.369±0.15</td>
<td>0.431±0.24</td>
<td>11.13±0.11</td>
<td>31°.41±0.08</td>
<td>1.08±0.01</td>
</tr>
<tr>
<td>FS6</td>
<td>0.381±0.21</td>
<td>0.410±0.65</td>
<td>11.28±1.09</td>
<td>29°.28±0.09</td>
<td>1.12±0.02</td>
</tr>
<tr>
<td>FS7</td>
<td>0.384±0.06</td>
<td>0.422±0.06</td>
<td>11.57±1.65</td>
<td>28°.21±0.04</td>
<td>1.21±0.05</td>
</tr>
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<td>FS8</td>
<td>0.344±0.25</td>
<td>0.413±0.07</td>
<td>11.75±0.05</td>
<td>29°.08±0.03</td>
<td>1.32±0.02</td>
</tr>
<tr>
<td>FS9</td>
<td>0.362±0.14</td>
<td>0.395±0.03</td>
<td>12.53±0.06</td>
<td>27°.11±0.05</td>
<td>1.14±0.05</td>
</tr>
</tbody>
</table>

Data represents mean±SD (n=3)

Table 6: Physical evaluation parameters of orodispersible tablets

<table>
<thead>
<tr>
<th>Formula code</th>
<th>Weight variation(mg)</th>
<th>Hardness (Kg/cm²)</th>
<th>Thickness (mm)</th>
<th>Friability (%)</th>
<th>Carss (%)</th>
<th>Angle of repose</th>
<th>Hausners ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>FW1</td>
<td>99.4±0.6</td>
<td>3.1±0.1</td>
<td>2.2±0.01</td>
<td>0.41±0.03</td>
<td>95.9±0.07</td>
<td>1.14±0.01</td>
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</tr>
<tr>
<td>FW2</td>
<td>98.9±0.81</td>
<td>3.2±0.12</td>
<td>2.22±0.03</td>
<td>0.57±0.04</td>
<td>98.6±0.06</td>
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</tr>
<tr>
<td>FW3</td>
<td>100.05±0.85</td>
<td>3.3±0.15</td>
<td>2.23±0.035</td>
<td>0.47±0.02</td>
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<td>1.14±0.01</td>
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<tr>
<td>FW4</td>
<td>99.6±0.37</td>
<td>3.1±0.13</td>
<td>2.12±0.03</td>
<td>0.34±0.035</td>
<td>97.6±0.02</td>
<td>1.12±0.03</td>
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</tr>
<tr>
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<td>100.3±0.53</td>
<td>3.2±0.14</td>
<td>2.20±0.015</td>
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<td>FW6</td>
<td>99.5±0.97</td>
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<td>2.11±0.03</td>
<td>0.35±0.015</td>
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<td>FW8</td>
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<td>96.4±0.05</td>
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<tr>
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<td>2.8±0.2</td>
<td>2.25±0.036</td>
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<tr>
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<td>2.45±0.06</td>
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<td>96.9±0.06</td>
<td>1.14±0.03</td>
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</tr>
<tr>
<td>FS8</td>
<td>98.0±1.46</td>
<td>2.9±0.16</td>
<td>2.51±0.03</td>
<td>0.65±0.04</td>
<td>97.6±0.04</td>
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<td>97.8±0.05</td>
<td>1.13±0.03</td>
<td></td>
</tr>
</tbody>
</table>

Data represents mean±SD (n=3)
Disintegration time

The Orodispersible tablets of disintegration time were evaluated, and their values were shown in (table.6.5. and in fig. 6.10).

<table>
<thead>
<tr>
<th>Formula code</th>
<th>Disintegration time (sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FW1</td>
<td>86±4.35</td>
</tr>
<tr>
<td>FW2</td>
<td>76±2.51</td>
</tr>
<tr>
<td>FW3</td>
<td>72±1.5</td>
</tr>
<tr>
<td>FW4</td>
<td>75±1.4</td>
</tr>
<tr>
<td>FW5</td>
<td>43±1.15</td>
</tr>
<tr>
<td>FW6</td>
<td>35±3.6</td>
</tr>
<tr>
<td>FW7</td>
<td>106±4.09</td>
</tr>
<tr>
<td>FW8</td>
<td>97±3.6</td>
</tr>
<tr>
<td>FW9</td>
<td>86±6.5</td>
</tr>
<tr>
<td>FS1</td>
<td>64±4.5</td>
</tr>
<tr>
<td>FS2</td>
<td>45±2.51</td>
</tr>
<tr>
<td>FS3</td>
<td>41±2.2</td>
</tr>
<tr>
<td>FS4</td>
<td>25±3.05</td>
</tr>
<tr>
<td>FS5</td>
<td>20±1.08</td>
</tr>
<tr>
<td>FS6</td>
<td>13±1.5</td>
</tr>
<tr>
<td>FS7</td>
<td>86±3.7</td>
</tr>
<tr>
<td>FS8</td>
<td>74±4.3</td>
</tr>
<tr>
<td>FS9</td>
<td>65±3.6</td>
</tr>
</tbody>
</table>

Data represents mean±SD (n=3)

Wetting time

Wetting time of dosage form is related to the contact angle. The Orodispersible tablets of disintegration time were evaluated, and their values were shown in (table.6.6. and in fig. 6.11 and 6.12).

<table>
<thead>
<tr>
<th>Formula code</th>
<th>Wetting time (sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FW1</td>
<td>82±2.3</td>
</tr>
<tr>
<td>FW2</td>
<td>71±3.1</td>
</tr>
<tr>
<td>FW3</td>
<td>65±2.45</td>
</tr>
<tr>
<td>FW4</td>
<td>59±3.54</td>
</tr>
<tr>
<td>FW5</td>
<td>38±4.12</td>
</tr>
<tr>
<td>FW6</td>
<td>30±1.23</td>
</tr>
<tr>
<td>FW7</td>
<td>94±5.2</td>
</tr>
<tr>
<td>FW8</td>
<td>89±3.21</td>
</tr>
<tr>
<td>FW9</td>
<td>80±1.8</td>
</tr>
<tr>
<td>FS1</td>
<td>51±1.32</td>
</tr>
<tr>
<td>FS2</td>
<td>40±1.42</td>
</tr>
<tr>
<td>FS3</td>
<td>37±1.23</td>
</tr>
<tr>
<td>FS4</td>
<td>23±1.54</td>
</tr>
<tr>
<td>FS5</td>
<td>16±2.32</td>
</tr>
<tr>
<td>FS6</td>
<td>18±1.23</td>
</tr>
<tr>
<td>FS7</td>
<td>75±1.24</td>
</tr>
<tr>
<td>FS8</td>
<td>65±1.45</td>
</tr>
<tr>
<td>FS9</td>
<td>54±2.34</td>
</tr>
</tbody>
</table>

Data represents mean±SD (n=3)

---

**Table 7: Disintegration times of orodispersible tablets**

**Table 8: Wetting time of orodispersible tablets**

**Fig. 10: Disintegration time profile of orodispersible tablets**

**Fig. 11: Wetting time profile of orodispersible tablets**

**Fig. 12: Photograph of wetting of oro dispersible tablets**

**Before wetting**

**After wetting**
**In vitro dissolution studies**

Table 9: Cumulative percent drug release of formulation with cross carmellose as super disintegrant. Medium= 0.1N HCl, $\lambda_{max}$=226 nm

<table>
<thead>
<tr>
<th>Time (min)</th>
<th>FW1</th>
<th>FW2</th>
<th>FW3</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>51.5±0.87</td>
<td>53.3±0.98</td>
<td>57.1±0.57</td>
</tr>
<tr>
<td>10</td>
<td>58.3±0.77</td>
<td>60.3±1.04</td>
<td>64.5±0.98</td>
</tr>
<tr>
<td>15</td>
<td>67.2±0.98</td>
<td>71.4±0.82</td>
<td>72.3±0.67</td>
</tr>
<tr>
<td>20</td>
<td>73.4±1.07</td>
<td>76.3±1.18</td>
<td>79.3±1.67</td>
</tr>
<tr>
<td>30</td>
<td>79.3±0.89</td>
<td>81.2±0.87</td>
<td>85.9±1.34</td>
</tr>
<tr>
<td>45</td>
<td>82.3±1.06</td>
<td>84.3±0.73</td>
<td>88.5±0.98</td>
</tr>
<tr>
<td>60</td>
<td>85.2±0.75</td>
<td>87.5±0.65</td>
<td>91.5±0.85</td>
</tr>
</tbody>
</table>

Data represents mean±SD (n=3)

Fig. 13: Cumulative % drug release of orodispersible tablets incorporated with cross carmellose Vs Time, Medium= 0.1N HCl, $\lambda_{max}$=226 nm

Fig. 14: Cumulative % drug release of orodispersible tablets incorporated with Crospovidone Vs Time, Medium= 0.1N HCl, $\lambda_{max}$=226 nm

Table 10: Cumulative percent drug releases of formulations with Crospovidone as super disintegrant. Medium= 0.1N HCl, $\lambda_{max}$=226 nm

<table>
<thead>
<tr>
<th>Time (min)</th>
<th>FW4</th>
<th>FW5</th>
<th>FW6</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>58.1±0.87</td>
<td>63.2±0.97</td>
<td>67.5±0.87</td>
</tr>
<tr>
<td>10</td>
<td>64.4±0.93</td>
<td>69.7±1.38</td>
<td>72.3±0.53</td>
</tr>
<tr>
<td>15</td>
<td>70.5±0.65</td>
<td>74.7±0.67</td>
<td>79.6±1.25</td>
</tr>
<tr>
<td>20</td>
<td>74.5±0.98</td>
<td>79.4±1.67</td>
<td>84.5±0.76</td>
</tr>
<tr>
<td>30</td>
<td>78.3±1.07</td>
<td>86.8±0.65</td>
<td>92.3±1.38</td>
</tr>
<tr>
<td>45</td>
<td>82.1±0.89</td>
<td>92.3±0.98</td>
<td>99.4±0.67</td>
</tr>
<tr>
<td>60</td>
<td>87.3±1.46</td>
<td>97.5±0.77</td>
<td>-</td>
</tr>
</tbody>
</table>

Data represents mean±SD (n=3)

Table 11: Cumulative percent drug releases of formulations with sodium starch glycolate as super disintegrant. Medium= 0.1N HCl, $\lambda_{max}$=226 nm

<table>
<thead>
<tr>
<th>Time (min)</th>
<th>FW7</th>
<th>FW8</th>
<th>FW9</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>50.8±0.97</td>
<td>52.5±1.53</td>
<td>56.3±1.65</td>
</tr>
<tr>
<td>10</td>
<td>57.3±1.07</td>
<td>59.5±0.65</td>
<td>62.8±0.98</td>
</tr>
<tr>
<td>15</td>
<td>65.5±1.03</td>
<td>68.3±0.97</td>
<td>71.4±0.47</td>
</tr>
<tr>
<td>20</td>
<td>71.6±0.63</td>
<td>75.8±0.76</td>
<td>78.3±1.42</td>
</tr>
<tr>
<td>30</td>
<td>77.4±0.99</td>
<td>80.3±1.45</td>
<td>82.6±0.95</td>
</tr>
<tr>
<td>45</td>
<td>80.6±1.42</td>
<td>83.1±0.63</td>
<td>85.9±0.86</td>
</tr>
<tr>
<td>60</td>
<td>83.4±0.86</td>
<td>86.0±0.99</td>
<td>90.4±1.45</td>
</tr>
</tbody>
</table>

Data represents mean±SD (n=3)

Table 12: Cumulative percent drug releases of formulations with Cross carmellose as super disintegrant, Medium= 0.1N HCl, $\lambda_{max}$=226 nm

<table>
<thead>
<tr>
<th>Time (min)</th>
<th>FS1</th>
<th>FS2</th>
<th>FS3</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>60.3±0.43</td>
<td>64.3±0.64</td>
<td>67.5±0.83</td>
</tr>
<tr>
<td>10</td>
<td>68.6±0.93</td>
<td>70.9±0.46</td>
<td>71.7±0.93</td>
</tr>
<tr>
<td>15</td>
<td>73.6±1.36</td>
<td>76.3±0.82</td>
<td>78.3±0.78</td>
</tr>
<tr>
<td>20</td>
<td>78.4±0.75</td>
<td>80.2±0.93</td>
<td>85.9±0.63</td>
</tr>
<tr>
<td>30</td>
<td>81.3±0.78</td>
<td>85.6±0.62</td>
<td>91.3±1.26</td>
</tr>
<tr>
<td>45</td>
<td>87.5±0.86</td>
<td>92.4±0.87</td>
<td>99.3±0.73</td>
</tr>
<tr>
<td>60</td>
<td>94.1±0.93</td>
<td>99.1±1.07</td>
<td>-</td>
</tr>
</tbody>
</table>

Data represents mean±SD (n=3)
The orodispensible tablets prepared by sublimation method FS-1 to FS-9 by using super disintegrates were evaluated for in vitro drug release behavior, and the results of the formulations were expressed in (tables 6.10-6.12).

### Table 13: Cumulative percent drug releases of formulations with Cross povidone as super disintegrant, Medium= 0.1N HCl, \( \lambda_{\text{max}}=226 \text{ nm} \)

<table>
<thead>
<tr>
<th>Time (min)</th>
<th>FS4</th>
<th>FS5</th>
<th>FS6</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>69.8±0.88</td>
<td>72.3±0.72</td>
<td>78.9±0.91</td>
</tr>
<tr>
<td>10</td>
<td>75.7±0.93</td>
<td>80.3±0.67</td>
<td>89.3±0.85</td>
</tr>
<tr>
<td>15</td>
<td>78.6±0.76</td>
<td>88.7±0.94</td>
<td>99.5±0.95</td>
</tr>
<tr>
<td>20</td>
<td>81.3±0.83</td>
<td>95.4±0.76</td>
<td>-</td>
</tr>
<tr>
<td>30</td>
<td>88.6±0.67</td>
<td>98.9±1.12</td>
<td>-</td>
</tr>
<tr>
<td>45</td>
<td>92.4±1.04</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>60</td>
<td>99.3±0.95</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Data represents mean±SD (n=3)

### Table 14: Cumulative percent drug releases of formulations with sodium starch glycolate as super disintegrant, Medium= 0.1N HCl, \( \lambda_{\text{max}}=226 \text{ nm} \)

<table>
<thead>
<tr>
<th>Time (min)</th>
<th>FS7</th>
<th>FS8</th>
<th>FS9</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>59.8±0.96</td>
<td>61.4±1.07</td>
<td>65.3±0.84</td>
</tr>
<tr>
<td>10</td>
<td>65.8±0.45</td>
<td>67.3±0.87</td>
<td>70.4±0.73</td>
</tr>
<tr>
<td>15</td>
<td>71.9±1.13</td>
<td>74.8±0.97</td>
<td>78.3±0.67</td>
</tr>
<tr>
<td>20</td>
<td>77.6±0.99</td>
<td>78.8±0.87</td>
<td>83.2±0.68</td>
</tr>
<tr>
<td>30</td>
<td>80.4±0.82</td>
<td>84.9±0.73</td>
<td>90.5±0.56</td>
</tr>
<tr>
<td>45</td>
<td>85.3±0.95</td>
<td>90.3±0.75</td>
<td>98.9±0.86</td>
</tr>
<tr>
<td>60</td>
<td>92.5±0.86</td>
<td>96.3±0.98</td>
<td>-</td>
</tr>
</tbody>
</table>

Data represents mean±SD (n=3)
Fig. 19: Comparison of cumulative % drug release of oro dispersible tablets incorporated with Cross povidone Vs Time, Medium= 0.1N HCl, λmax=226 nm

Model fitting data for drug release

Table 15: Kinetic model fitting data for all the formulations prepared by wet granulation method

<table>
<thead>
<tr>
<th>Batch</th>
<th>Zero order</th>
<th>First order</th>
</tr>
</thead>
<tbody>
<tr>
<td>FW1</td>
<td>0.820</td>
<td>0.913</td>
</tr>
<tr>
<td>FW 2</td>
<td>0.794</td>
<td>0.913</td>
</tr>
<tr>
<td>FW 3</td>
<td>0.823</td>
<td>0.941</td>
</tr>
<tr>
<td>FW 4</td>
<td>0.894</td>
<td>0.971</td>
</tr>
<tr>
<td>FW 5</td>
<td>0.938</td>
<td>0.966</td>
</tr>
<tr>
<td>FW 6</td>
<td>0.958</td>
<td>0.986</td>
</tr>
<tr>
<td>FW 7</td>
<td>0.831</td>
<td>0.918</td>
</tr>
<tr>
<td>FW 8</td>
<td>0.811</td>
<td>0.917</td>
</tr>
<tr>
<td>FW 9</td>
<td>0.838</td>
<td>0.952</td>
</tr>
</tbody>
</table>

Table 16: Kinetic model fitting data for all the formulations prepared by sublimation method

<table>
<thead>
<tr>
<th>Batch</th>
<th>Zero order</th>
<th>First order</th>
</tr>
</thead>
<tbody>
<tr>
<td>FS1</td>
<td>0.921</td>
<td>0.976</td>
</tr>
<tr>
<td>FS2</td>
<td>0.956</td>
<td>0.997</td>
</tr>
<tr>
<td>FS 3</td>
<td>0.951</td>
<td>0.981</td>
</tr>
<tr>
<td>FS 4</td>
<td>0.964</td>
<td>0.989</td>
</tr>
<tr>
<td>FS 5</td>
<td>0.910</td>
<td>0.982</td>
</tr>
<tr>
<td>FS6</td>
<td>0.991</td>
<td>0.998</td>
</tr>
<tr>
<td>FS7</td>
<td>0.918</td>
<td>0.972</td>
</tr>
<tr>
<td>FS 8</td>
<td>0.926</td>
<td>0.974</td>
</tr>
<tr>
<td>FS 9</td>
<td>0.961</td>
<td>0.931</td>
</tr>
</tbody>
</table>

CONCLUSION

Oro dispersible tablet of fluoxetine hydrochloride prepared using various concentrations (1.5%, 3% & 4.5%) of super disintegrates like croscarmellose, crospovidone, sodium starch glycolate by wet granulation method & sublimation method. The preformulation studies by FTIR confirmed no interactions between drug and polymers. The prepared formulations were evaluated for the pre-compression parameters & the values were within prescribed limits and indicated good free flowing properties. The physical parameters were found satisfactory & within the limits. Upon comparison sublimation method showed good results for disintegration time, wetting time & in vitro drug release studies because sublimation of camphor to increase the porosity of the tablets. The tablets prepared with crospovidone at 4.5% concentration (FS-6) by sublimation method was found to be best formulation as it exhibited satisfactory physical parameters, least disintegration time (13 sec.), wetting time (10 sec.) & highest % drug release (99.5%) in 15 min. The drug release pattern from the optimized formulations was best fitted to first-order kinetics.

AKNOWLEDGEMENT

We would like to thank our Director sir and other teaching and nonteaching faculty who help to carry out this research in the institution.

CONFLICT OF INTERESTS

Declare none

REFERENCES