* Figure 1: Study flowchart (CONSORT format)

Figure 2: The effect of CE+risperidone on the mean amount of each parameters of positive and negative symptoms of patients based on PANSS questionnaire in different weeks compared to the pre-intervention status of patients

Figure 3: The effect of placebo+risperidone on the mean amount of each parameters of positive and negative symptoms of patients based on PANSS questionnaire in different weeks compared to the pre-intervention status of patients

Figure 4: The effect of CE+risperidone on the mean amount of each parameters of cognitive status of patients based on SCoRS questionnaire in different weeks compared to the pre-intervention status of patients

Figure 5: The effect of placebo+risperidone on the mean amount of each parameters of cognitive status of patients based on SCoRS questionnaire in different weeks compared to the pre-intervention status of patients

Table 1: Comparison of effects of CE+risperdone and placebo+risperdone on the mean±SD of each parameters of positive and negative symptoms of patients based on PANSS questionnaire in different weeks on the positive and negative symptoms of patients

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| After 8 weeks | After 4 weeks | After 2 weeks | Before Intervention | Clinical Symptoms |
| P  | Placebo | CE | P  | Placebo | CE | P  | Placebo | CE | P  | Placebo | CE |
| **006.**  | 1±3 | 9. 0±93. 1 | **.04** | 1±86. 2 | 9. 0±2. 2 | 16.  | 2. 1±4. 3 | 8. 0±93. 2 | 35.  | 4. 1±26. 3 | 3. 1±93. 3 | P1 Delusions  |
| **009.**  | 6. 0±53. 2 | 6. 0±4. 1 | 12.  | 6. 0±73. 2 | 9. 0±2 | 12.  | 5. 1±1. 3 | 9. 0±06. 2 | 39.  | 5. 1±4. 3 | 9. 0±73. 2 | P2 Conceptual disorganisation |
| **008.**  | 9. 0±2. 3 | 9. 0±13. 2 | 06.  | 1±3 | 9. 0±53. 2 | 08.  | 7. 1±93. 3 | 4. 1±6. 2 | 3.  | 6. 1±6. 3 | 2±26. 3 | P3 Hallucinatory behaviour |
| 07.  | 6. 0±06. 2 | 4. 0±2. 1 | 15.  | 6. 0±2. 2 | 5. 0±53. 1 | 27.  | 9. 0±2 | 7. 0±46. 1 | 87.  | 9. 0±26. 2 | 1±46. 2 | P4 Excitement |
| **02.**  | 6. 0±4. 2 | 6. 0±26. 1 | 26.  | 7. 0±46. 2 | 8. 0±93. 1 | 54.  | 4. 1±73. 2 | 1±86. 1 | 83.  | 5. 1±8. 2 | 3. 1±93. 2 | P5 Grandiosity |
| 07.  | 8. 0±86. 2 | 7. 0±86. 1 | 08.  | 8. 0±8. 2 | 7. 0±4. 2 | 1.  | 6. 1±86. 2 | 7. 0±6. 2 | 63.  | 4. 1±3 | 4. 1±26. 3 | P6 Suspiciousness/persecution |
| 17.  | 8. 0±73. 2 | 6. 0±46. 1 | 45.  | 8. 0±73. 2 | 6. 0±06. 2 | 58.  | 3. 1±86. 1 | 6. 0±4. 1 | 82.  | 3. 1±26. 2 | 1. 1±26. 2 | P7 Hostility  |
| **005.**  | 9. 0±66. 2 | 7. 0±66. 1 | 43.  | 1±73. 2 | 8. 0±06. 2 | 24.  | 6. 0±86. 1 | 1. 1±86. 1 | 05.  | 1. 1±46. 2 | 8. 1±8. 2 | N1 Blunted affect |
| 28.  | 8. 0±06. 3 | 1. 1±13. 2 | 23.  | 1±06. 3 | 1. 1±6. 2 | 26.  | 4. 1±86. 2 | 3. 1±33. 2 | 78.  | 4. 1±86. 2 | 7. 1±93. 2 | N2 Emotional withdrawal |
| **004.**  | 1±53. 2 | 8. 0±73. 1 | 24.  | 9. 0±46. 2 | 8. 0±93. 1 | 49.  | 2. 1±73. 2 | 2. 1±2. 2 | 5.  | 73. 2±2. 1 | 6. 1±86. 2 | N3 Poor rapport  |
| **008.**  | 7. 0±26. 3 | 1±2. 2 | 05.  | 8. 0±06. 3 | 9. 0±6. 2 | 73.  | 4. 1±06. 3 | 3. 1±73. 2 | 48.  | 4. 1±4. 3 | 6. 1±8. 2 | N4 Passive/apathetic social withdrawal |
| **015.**  | 8. 0±73. 2 | 8. 0±66. 1 | **.01** | 7. 0±8. 2 | 8. 0±2. 2 | 09.  | 2. 1±8. 2 | 1±86. 1 | 7.  | 3. 1±86. 2 | 8. 1±2. 3 | N5 Difficulty in abstract thinking  |
| 08.  | 8. 0±13. 3 | 7. 0±93. 1 | 06.  | 7. 0±26. 3 | 8. 0±2. 2 | 62.  | 5. 1±4. 3 | 3. 1±53. 2 | 59.  | 6. 1±26. 3 | 2±2. 3 | N6 Lack of spontaneity &flow of conversation |
| 056.  | 8. 0±3 | 6. 0±2 | 4.  | 8. 0±66. 2 | 6. 0±4. 2 | 48.  | 5. 1±73. 2 | 3. 1±13. 2 | 45.  | 7. 1±2. 3 | 2±3 | N7 Stereotyped thinking  |
| **006.**  | 8. 0±73. 2 | 7. 0±73. 1 | 2.  | 9. 0±6. 2 | 9. 0±06. 2 | 13.  | 1. 1±06. 2 | 2. 1±6. 1 | 7.  | 6. 0±2 | 1±06. 2 | G1 Somatic concern  |
| **003.**  | 8. 0±73. 2 | 6. 0±8. 1 | **20.**  | 7. 0±8. 2 | 6. 0±26. 2 | 08.  | 1±4. 2 | 7. 0±53. 1 | 74.  | 1±2. 2 | 1±26. 2 | G2 Anxiety  |
| **005.**  | 7. 0±3 | 7. 0±2. 2 | 2.  | 7. 0±3 | 8. 0±73. 2 | 12.  | 8. 0±8. 1 | 6. 0±26. 1 | 86.  | 7. 0±2 | 8. 0±86. 1 | G3 Guilt feelings |
| 09.  | 7. 0±2. 2 | 4. 0±26. 1 | 16.  | 7. 0±2. 2 | 6. 0±6. 1 | 23.  | 8. 0±86. 1 | 6. 0±4. 1 | 62.  | 8. 0±2. 2 | 1. 1±26. 2 | G4 Tension |
| **03.**  | 1±46. 2 | 6. 0±53. 1 | 45.  | 7. 0±46. 2 | 7. 0±8. 1 | 35.  | 6. 1±2. 3 | 3. 1±2. 2 | 14.  | 8. 1±46. 3 | 2±66. 3 | G5 Mannerisms & posturing |
| 25.  | 8. 0±93. 2 | 1±13. 2 | 1.  | 6. 0±86. 2 | 9. 0±66. 2 | 22.  | 1±06. 2 | 6. 0±4. 1 | 14.  | 8. 0±26. 2 | 4. 1±13. 2 | G6 Depression  |
| 17.  | 1. 13±4. 53 | 11±8. 34 | 57.  | 13±1. 54 | 3. 12±6. 43 | 49.  | 2. 1±46. 2 | 4. 1±13. 2 | 91.  | 4. 1±93. 2 | 6. 1±93. 2 | G7 Motor retardation |
| 1.  | 2. 2±6. 5 | 2. 2±3 | 45.  | 1. 2±8. 5 | 1. 2±4 | 54.  | 6. 1±8. 2 | 9. 0±93. 1 | 46.  | 5. 1±53. 3 | 7. 1±93. 2 | G8 Uncooperativeness |
| 07.  | 9. 0±4 | 9. 0±5 | 1.  | 7. 0±13. 4 | 1±73. 4 | **.02** | 6. 1±3 | 7. 0±06. 2 | 25.  | 6. 1±2. 3 | 7. 1±1. 3 | G9 Unusual thought content |
| 09.  | 1±46. 2 | 6. 0±53. 1 | 4.  | 7. 0±46. 2 | 7. 0±8. 1 | 35.  | 4. 1±8. 2 | 8. 0±93. 1 | 17.  | 9. 1±86. 2 | 4. 1±46. 2 | G10 Disorientation  |
| **015.**  | 8. 0±93. 2 | 1±13. 2 | 09.  | 6. 0±86. 2 | 9. 0±66. 2 | 29.  | 4. 1±8. 3 | 2. 1±53. 2 | 54.  | 6. 1±06. 4 | 3. 1±53. 3 | G11 Poor attention  |
| **045.**  | 1. 13±4. 53 | 11±8. 34 | 28.  | 13±1. 54 | 3. 12±6. 43 | 26.  | 2. 1±13. 3 | 8. 0±13. 2 | 18.  | 4. 1±2. 3 | 2. 1±06. 3 | G12 Lack of judgment & insight  |
| **028.**  | 2. 2±6. 5 | 2. 2±3 | 16.  | 1. 2±8. 5 | 1. 2±4 | 16.  | 3. 1±06. 2 | 8. 0±4. 1 | 18.  | 1±86. 1 | 1±2 | G13 Disturbance of volition  |
| **008.**  | 9. 0±4 | 9. 0±5 | 25.  | 7. 0±13. 4 | 1±73. 4 | 25.  | 1±2 | 6. 0±46. 1 | 83.  | 1±26. 2 | 1. 1±33. 2 | G14 Poor impulse control  |
| **01.**  | 1±46. 2 | 6. 0±53. 1 | 13.  | 7. 0±46. 2 | 7. 0±8. 1 | 21.  | 1. 1±9. 2 | 8. 0±33. 2 | 28.  | 2. 1±66. 2 | 3. 1±3 | G15 Preoccupation  |
| 34.  | 8. 0±93. 2 | 1±13. 2 | 38.  | 6. 0±86. 2 | 9. 0±66. 2 | 43.  | 2. 1±86. 2 | 3. 1±6. 2 | 61.  | 5. 1±06. 3 | 4. 1±3 | G16 Active social avoidance |
| 56.  | 1. 13±4. 53 | 11±8. 34 | 3.  | 13±1. 54 | 3. 12±6. 43 | 3.  | 26±8. 80 | 17±1. 62 | 64.  | . 23±3. 85 | 25±1. 83 | Total |

Table 2: Comparison of effects of CE+risperdone and placebo+risperdone on the mean±SD of each parameters of cognitive status of patients based on SCoRS questionnaire in different weeks on the cognitive status of patients

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| After 8 weeks | After 4 weeks | After 2 weeks | Before Intervention | Cognitive Aspects |
| P value  | Placebo | CE | P value | Placebo | CE | P value  | Placebo | CE | P value  | Placebo | CE |
| **04.**  | 1±3 | 9. 0±93. 1 | 2.  | 1±86. 2 | 9. 0±2. 2 | 42.  | 1±93. 2 | 1. 1±33. 2 | 23.  | 1. 1±8. 2 | 9. 0±73. 2 | Remember people |
| **001.**  | 6. 0±53. 2 | 6. 0±4. 1 | 05.  | 6. 0±73. 2 | 9. 0±2 | 08.  | 6. 0±73. 2 | 9. 0±06. 2 | 38.  | 1±46. 2 | 8. 0±4. 2 | Remember the places |
| **03.**  | 9. 0±2. 3 | 9. 0±13. 2 | 48.  | 1±3 | 9. 0±53. 2 | 6.  | 1±13. 3 | 9. 0±73. 2 | 1 | 8. 0±93. 2 | 8. 0±93. 2 | Follow the TV program |
| **001.**  | 6. 0±06. 2 | 4. 0±2. 1 | **02.**  | 6. 0±2. 2 | 5. 0±53. 1 | 11.  | 6. 0±2. 2 | 7. 0±66. 1 | 31.  | 6. 0±46. 2 | 5. 0±2. 2 | Remember the location of objects |
| **000.**  | 6. 0±4. 2 | 6. 0±26. 1 | 16.  | 7. 0±46. 2 | 8. 0±93. 1 | 18.  | 6. 0±6. 2 | 9. 0±13. 2 | 33.  | 5. 0±86. 2 | 9. 0±6. 2 | Remember the routine |
| **02.**  | 8. 0±86. 2 | 7. 0±86. 1 | 31.  | 8. 0±8. 2 | 7. 0±4. 2 | 66.  | 1±8. 2 | 8. 0±66. 2 | 53.  | 5. 0±93. 4 | 8. 0±73. 2 | Learn how to use new gadgets |
| **003.**  | 8. 0±73. 2 | 6. 0±46. 1 | 06.  | 8. 0±73. 2 | 6. 0±06. 2 | 06.  | 7. 0±8. 2 | 6. 0±13. 2 | 58.  | 7. 0±53. 2 | 6. 0±2. 2 | Establish information and instructions |
| **04.**  | 9. 0±66. 2 | 7. 0±66. 1 | 14.  | 1±73. 2 | 8. 0±06. 2 | 28.  | 9. 0±66. 2 | 8. 0±13. 2 | 7.  | 8. 0±4. 2 | 9. 0±66. 2 | Remember your speech |
| 05.  | 8. 0±06. 3 | 1. 1±13. 2 | 42.  | 1±06. 3 | 1. 1±6. 2 | 64.  | 1±13. 3 | 1. 1±73. 2 | 4.  | 9. 0±46. 3 | 1±3 | Account and money book |
| 11.  | 1±53. 2 | 8. 0±73. 1 | 22.  | 9. 0±46. 2 | 8. 0±93. 1 | 37.  | 9. 0±4. 2 | 8. 0±93. 1 | 96.  | 8. 0±26. 2 | 9. 0±1. 2 | Correct conversation and speech |
| **02.**  | 7. 0±26. 3 | 1±2. 2 | 59.  | 8. 0±06. 3 | 9. 0±6. 2 | 13.  | 9. 0±33.  | 7. 0±86. 2 | 63.  | 1. 1±13. 3 | 8. 0±2. 3 | Focus on reading the text |
| **02.**  | 8. 0±73. 2 | 8. 0±66. 1 | 18.  | 7. 0±8. 2 | 8. 0±2. 2 | 53.  | 8. 0±86. 2 | 9. 0±4. 2 | 86.  | 9. 0±33. 2 | 9. 0±6. 2 | Getting to know everyday things |
| **002.**  | 8. 0±13. 3 | 7. 0±93. 1 | **01.**  | 7. 0±26. 3 | 8. 0±2. 2 | **02.**  | 6. 0±46. 3 | 9. 0±4. 2 | 9.  | 7. 0±06. 3 | 6. 0±3 | Keep focus |
| **008.**  | 8. 0±3 | 6. 0±2 | 2.  | 8. 0±66. 2 | 6. 0±4. 2 | 19.  | 8. 0±93. 2 | 6. 0±6. 2 | 49.  | 5. 0±86. 2 | 8. 0±93. 2 | Learn new content |
| **03.**  | 8. 0±73. 2 | 7. 0±73. 1 | 26.  | 9. 0±6. 2 | 9. 0±06. 2 | 16.  | 9. 0±73. 2 | 2. 1±33. 2 | **02.**  | 2. 1±8. 2 | 9. 0±46. 2 | Talking with the right speed |
| **03.**  | 8. 0±73. 2 | 6. 0±8. 1 | 1.  | 7. 0±8. 2 | 6. 0±26. 2 | 06.  | 8. 0±86. 2 | 5. 0±4. 2 | 98.  | 9. 0±53. 2 | 9. 0±46. 2 | Doing things at the right speed |
| 06.  | 7. 0±3 | 7. 0±2. 2 | 52.  | 7. 0±3 | 8. 0±73. 2 | 25.  | 7. 0±3 | 6. 0±8. 2 | 25.  | 7. 0±73. 2 | 6. 0±2. 3 | Manage changes in the everyday life plan |
| **004.**  | 7. 0±2. 2 | 4. 0±26. 1 | 07.  | 7. 0±2. 2 | 6. 0±6. 1 | 18.  | 9. 0±2. 2 | 6. 0±6. 1 | 47.  | 8. 0±2 | 7. 0±13. 2 | Understanding the order of individuals |
| **04.**  | 1±46. 2 | 6. 0±53. 1 | 12.  | 7. 0±46. 2 | 7. 0±8. 1 | 16.  | 8. 0±4. 2 | 7. 0±73. 1 | 5.  | 7. 0±46. 2 | 9. 0±26. 2 | Detect people's feelings about issues |
| 07.  | 8. 0±93. 2 | 1±13. 2 | 53.  | 6. 0±86. 2 | 9. 0±66. 2 | 32.  | 8. 0±93. 2 | 9. 0±66. 2 | 26.  | 1. 1±66. 2 | 7. 0±86. 2 | Follow the conversations in the crowd |
| 33.  | 1. 13±4. 53 | 11±8. 34 | 43.  | 13±1. 54 | 3. 12±6. 43 | 4.  | 7. 13±3. 55 | 6. 12±8. 46 | 58.  | 11±4. 52 | 10±6. 52 | Total |
| 07.  | 2. 2±6. 5 | 2. 2±3 | 22.  | 1. 2±8. 5 | 1. 2±4 | 15.  | 17. 2±6 | 2. 2±86. 4 | 74.  | 9. 1±46. 5 | 9. 1±66. 5 | General assessment |
| 08.  | 9. 0±4 | 9. 0±5 | 39.  | 7. 0±13. 4 | 1±73. 4 | 06.  | 3. 1±46. 3 | 8. 0±73. 4 | 23.  | 1. 1±8. 2 | - | General change of individual problems |