**Table 1 Quantitative face and content validity**

| Item | | Quantitate face validity | Quantitate content validity | |
|---|---|---|---|---|
| | | Impact score% | CVR | K* |
| **1** | I measure BMI before initiating drug treatment if the patient with the acute phase of bipolar disorder cooperates. | 5 | 0 | ------- |
| **2** | I evaluate the serum level of liver enzymes (ALT, AST, and ALP) before initiating treatment with valproate or carbamazepine if the patient with the acute phase of bipolar disorder cooperates. | 5 | 1 | 1 |
| **3** | I will evaluate serum creatinine level (and calculate creatinine clearance) at baseline in case of the decision to prescribe lithium on the condition of the patient's cooperation. | 5 | 1 | 0.89 |
| **4** | I request a UA test Before initiating drug treatment if the patient with the acute phase of bipolar disorder cooperates. | 5 | -0.2 | ------- |
| **5** | I evaluate the symptoms of movement disorders before initiating drug treatment if the patient with the acute phase of bipolar disorder cooperates. | 4.9 | -0.2 | ------- |
| **6** | I request a pregnancy test before initiating drug treatment if the woman with an acute phase of bipolar disorder cooperates. | 5 | 1 | 0.89 |
| **7** | I request a blood cell count (CBC) test at the base (initiating drug treatment) if the patient cooperation. | 5 | 1 | 0.79 |
| **8** | I will evaluate the serum level of TSH before initiating treatment with lithium if the patient with the acute phase of bipolar disorder cooperates. | 5 | 1 | 0.89 |

| Item | | Quantitate face validity | Quantitate content validity | |
|---|---|---|---|---|
| | | Impact score% | CVR | K* |
| **9** | I will evaluate the serum level of calcium before initiating treatment with lithium if the patient with the acute phase of bipolar disorder cooperates. | 4.23 | 1 | 0.79 |
| **10** | I will evaluate the sodium serum level before initiating treatment with carbamazepine if the patient with the acute phase of bipolar disorder cooperates. | 5 | -0.4 | ------- |
| **11** | I will evaluate the blood pressure before initiating treatment with antipsychotic drugs if the patient with the acute phase of bipolar disorder cooperates. | 5 | 0.6 | ------- |
| **12** | I evaluate the history of obesity in the patient or the patient's first-degree family members before initiating the treatment with antipsychotic drugs if the patient with the acute phase of bipolar disorder cooperates. | 4.9 | -0.2 | ------- |
| **13** | I request a serum prolactin level test before initiating treatment with antipsychotic drugs in a patient with the acute phase of bipolar disorder with clinical symptoms of hyperprolactinemia and if the patient with the acute phase of bipolar disorder cooperates. | 5 | 1 | 1 |
| **14** | I request an FBS test before initiating treatment with atypical antipsychotic drugs if the patient with an acute phase of bipolar disorder cooperates. | 5 | 1 | 1 |
| **15** | I request blood lipid tests before initiating treatment with atypical antipsychotic drugs if the patient with the acute phase of bipolar disorder cooperates. | 5 | 1 | 0.89 |

| Item | | Quantitate face validity | Quantitate content validity | |
|---|---|---|---|---|
| | | Impact score% | CVR | K* |
| | In choosing a medication regimen for a patient with the acute phase of bipolar disorder, I consider the following: | | | |
| **16** | A: History of response to treatment in the patient | 5 | 1 | 1 |
| **17** | B: Family history of drug response | 5 | 1 | 1 |
| **18** | C: Clinical manifestations | 5 | 1 | 0.89 |
| **19** | D: Common side effects of the drug | 5 | 1 | 1 |
| **20** | E: underlying diseases | 5 | 1 | 1 |
| **21** | F: other factors related to drugs as drug cost, available formulations, drug interactions, and pharmacokinetic considerations | 5 | 1 | 1 |
| **22** | G: Preference of the patient or his caregiver | 5 | 0.2 | ------- |
| **23** | In a patient with the acute phase of mania of bipolar disorder, I initiate the medication based on the patient's clinical condition and tolerance and gradually increase the medication dose until reaching the therapeutic dose range. | 4.23 | 0.2 | ------- |
| **24** | In a patient with the acute phase of mania of bipolar disorder, if after receiving one to two weeks of the drug(s) within the therapeutic dose range, a minimal improvement in his symptoms (minimum 20% reduction in symptoms) is observed, I continue the drug(s) with the same dose and assess the patient's clinical condition every week. | 5 | 0.8 | 0.89 |

| Item | | Quantitate face validity | Quantitate content validity | |
|---|---|---|---|---|
| | | Impact score% | CVR | K* |
| **25** | In a patient with the acute phase of depression of bipolar disorder, if after receiving one to two weeks of the drug(s) within the therapeutic dose range, a minimum improvement in his symptoms (minimum 20% reduction in symptoms) is observed, I continue the drug(s) with the same dose and assess the patient's clinical condition every week. | 4.23 | 0.8 | 0.89 |
| **26** | In a patient with the acute phase of bipolar disorder, after receiving two weeks of the drug(s) within the therapeutic range, despite accepting appropriate treatment, a minimal improvement is not observed in his symptoms (minimum 20% reduction in symptoms), I will increase the drug(s) to the maximum therapeutic dose tolerated by the patient and monitor the patient again for at least two weeks with the same dose. | 4.9 | 1 | 0.89 |
| **27** | In a patient with the acute phase of bipolar disorder, if after receiving at least two weeks of the maximum tolerable therapeutic dose of the drug(s), a minimum improvement in the patient's symptoms (minimum 20% reduction in symptoms) is not observed, I will change the patient's drug to another. | 4.9 | 0.8 | 0.89 |
| **28** | In a patient with the acute phase of bipolar disorder who is receiving lithium and I decide to prescribe electroconvulsive therapy, I stop the patient's lithium one to two doses before receiving electroconvulsive therapy. | 5 | 0.8 | 0.89 |
| **29** | In the patient with the acute phase of bipolar disorder who is taking anti-depressant drug(s) in the acute phase of mania, I immediately stop these drugs. | 4.9 | 1 | 1 |

| Item | | Quantitate face validity | Quantitate content validity | |
|---|---|---|---|---|
| | | Impact score% | CVR | K* |
| **30** | In a patient with the acute phase of mania of bipolar disorder, based on the patient's condition, one of the drug regimens such as monotherapy with lithium, monotherapy with Divalproex, monotherapy with valproate, monotherapy with quetiapine, monotherapy with risperidone, a combination of quetiapine with I prescribes lithium or Divalproex or valproate, a combination of aripiprazole with lithium or Divalproex or valproate, combination of risperidone with lithium or Divalproex or valproate, combination of lithium with Divalproex or valproate as the first line of treatment. | 4.23 | 1 | 0.79 |
| **31** | In a patient with the acute phase of bipolar disorder type 1 depression, based on the patient's condition, I prescribe one of the drug regimens such as monotherapy with lithium, monotherapy with quetiapine, the combination of lamotrigine with lithium as the first line of treatment. | 4.23 | 1 | 0.89 |
| **32** | In a patient with the acute phase of bipolar disorder type 2 depression, based on the patient's condition, I prescribe one of the drug regimens, such as monotherapy with quetiapine or monotherapy with lithium as the first line of treatment. | 5 | 1 | 1 |
| | In patients with the acute phase of bipolar disorder, in the presence of any of the following conditions, I prescribe electroconvulsive therapy as the first line of treatment: | | | |
| **33** | A: High risk of suicide | 5 | 1 | 1 |
| **34** | B: Catatonia | 5 | 1 | 0.89 |

| Item | | Quantitate face validity | Quantitate content validity | |
|---|---|---|---|---|
| | | Impact score% | CVR | K* |
| **35** | C: Depression with psychotic signs | 5 | 1 | 0.89 |
| **36** | If it is decided to administer lamotrigine and valproate concurrently, I will start lamotrigine with half of the minimum allowed dose and increase it to half of the maximum allowed dose. | 5 | 1 | 0.89 |
| **37** | In patients with the acute phase of bipolar disorder under drug treatment, if the patient cooperates, I request tests based on clinical necessity. | 4.8 | 0.8 | 0.89 |
| **38** | In a patient suffering from the acute phase of bipolar disorder, I measure the lithium serum level in a stable state (at least five days after initiating or changing the dose). | 5 | 1 | 1 |
| **39** | In patients with the acute phase of bipolar disorder, at the beginning of treatment or changing the dose of lithium, I measure the serum level of lithium until obtaining two consecutive serum levels within the therapeutic range. | 4.14 | 1 | 0.89 |
| **40** | In a patient with the acute phase of bipolar disorder, I measure the lithium serum level in a stable state in the time range of 11 to 13 hours after taking the last dose (in the morning before taking the next daily dose). | 4.9 | 1 | 1 |
| | In a patient suffering from the acute phase of bipolar disorder, if the serum level of lithium is reported to be outside the therapeutic range (lower/higher), before changing the dose of the drug, I evaluate the following: | | | |

| Item | | Quantitate face validity | Quantitate content validity | |
|---|---|---|---|---|
| | | Impact score% | CVR | K* |
| **41** | A: Regular and correct use of medicine by the patient | 5 | 1 | 1 |
| **42** | B: Sampling time: The measurement of lithium blood level should be done in a steady state and within the time range of 11 to 13 hours after taking the last dose. | 5 | 1 | 1 |
| **43** | C: Patient blood sample collection technique (use of laboratory tubes containing heparin is associated with false reports of elevated serum lithium levels.) | 5 | 0.8 | 1 |
| **44** | E: lithium interaction with other drugs or food | 5 | 1 | 1 |
| **45** | F: Change in the formulation of lithium carbonate received by the patient | 5 | 0.6 | |
| **46** | G: change in the number of times of receiving lithium carbonate during the day (replacing the once-a-day regimen with a daily divided regimen) | 5 | 0.8 | 0.89 |
| **47** | H: Change in the patient's daily activity level | 5 | 1 | 1 |
| **48** | I: a balance in the volume of liquids received and lost during the day | 5 | 1 | 1 |
| **49** | I evaluate the frequency of daily urine discharge at each visit of the patient treated with lithium. | 5 | 0.8 | 1 |
| **50** | In a patient treated with a slow-release formulation of valproate, if it is decided to measure the serum level of valproate, I measure its serum level in the time range of 18-24 hours after taking the last dose (And before prescribing the next daily dose) 3 to 5 days | 4.9 | 1 | 0.89 |

| Item | | Quantitate face validity | Quantitate content validity | |
|---|---|---|---|---|
| | | Impact score% | CVR | K* |
| | after initiating or increasing the dose of the drug. | | | |
| **51** | In a patient treated with a regular formulation (non-slow release) of valproate, if it is decided to measure the serum level of valproate, I measure its serum level within the time range of 8-12 hours after the last dose (and before prescribing the next daily dose) 3 to 5 days after initiating or increasing the dose of the drug. | 4.8 | 1 | 0.89 |
| **52** | I teach the patient about the risk of skin rash and symptoms of Steven Johnson syndrome and toxic epidermal necrosis in the patient treated with lamotrigine or carbamazepine. | 5 | 1 | 1 |
| **53** | I measure the weight monthly in the first three months of initiating the drug in the patient being treated with antipsychotic drugs if the patient cooperates. | 5 | 0.6 | ------- |
| **54** | I evaluate the symptoms of hyperprolactinemia in every visit to the patient under treatment with antipsychotic drugs if the patient cooperates. | 5 | 0.2 | ------- |

**Table 1 The four factors of the $MAT_{APBP}$ and their factor loadings (N = 216)**

| Factors | Items | Factor loading | *h*2 | *λ* | % Variance |
|---|---|---|---|---|---|
| **1. laboratory tests before treatment initiation** | 8. When treatment with atypical antipsychotic drugs is planned, if the patient cooperates, I request a fasting serum glucose (FBS) test at the baseline**.** | 0.832 | 0.659 | 3.925 | 23.086 |
| | 9. When treatment with atypical antipsychotic drugs is planned, if the patient cooperates, I request blood lipid panel at the baseline. | 0.827 | 0.662 | | |
| | 1. When treatment with valproate or carbamazepine is planned, if the patient cooperates, I request the serum level of liver enzymes (ALT, AST and ALP) at baseline. | 0.815 | 0.647 | | |
| | 4. Before initiation of treatment, if the patient cooperates, I request a blood cell count (CBC) test. | 0.811 | 0.648 | | |
| | 5. When treatment with lithium is planned, if the patient cooperates, I request thyroid stimulating hormone (TSH) test at baseline. | 0.734 | 0.524 | | |
| | 2. When treatment with lithium is planned, if the patient cooperates, I request the serum creatinine level (and calculate creatinine clearance) at baseline. | 0.637 | 0.484 | | |
| | 3. Before initiation of treatment in female patient who is in reproductive age, if the patient cooperates, I request a pregnancy test. | 0.595 | 0.484 | | |
| | 6. When treatment with lithium is planned, if the patient cooperates, I request the serum level of calcium at baseline. | 0.545 | 0.344 | | |
| **2. monitoring during treatment** | 20. If measurement of serum level of valproate is planned in a patient treating with a non-sustained release formulation of valproate, the serum level should be taken 3 to 5 days after the starting or increasing of the valproate dose, within 8-12 hours after the last dose (and before taking the next daily dose). | 0.952 | 0.903 | 1.867 | 10.983 |
| | 19. If measurement of serum level of valproate is planned in a patient treating with a sustained release formulation of | 0.932 | 0.846 | | |

| | | | | | |
|---|---|---|---|---|---|
| | valproate, the serum level should be taken 3 to 5 days after the starting or increasing of the valproate dose, within 18-24 hours after the last dose (and before taking the next daily dose). | | | | |
| | 18. In a patient taking lithium, I evaluate the frequency of daily urination at each visit. | 0.517 | 0.289 | | |
| | 17. If serum lithium level is reported outside the expected treatment range, I evaluate the following before any treatment intervention (change in lithium dose):<br>• Regular and correct use of medication by the patient<br>• Correct sampling time: Measurement of lithium blood levels should be performed at steady state serum concentration (achievement of steady state time) and within 12 ± 0.5 hours after the last dose.<br>• Interaction of lithium with other drugs or foods<br>• Change in lithium taking frequency (single or divided daily dose)<br>• Change in the patient's daily activity<br>• balance in the input and output of daily fluids | 0.423 | 0.235 | | |
| **3. first line regimes** | 14. In the acute phase of depression of type 1 bipolar disorder, based on the patient's condition, I prescribe one of the following regimens as the first line regimen of treatment.<br>• Lithium<br>• Quetiapine<br>• Combination of lamotrigine with lithium<br>• Electroconvulsive therapy (ECT) in a patient with clinical manifestations of catatonia / high risk of suicide / psychotic panel | 0.844 | 0.728 | 2.581 | 15.179 |
| | 15. In the acute phase of depression of type 2 bipolar disorder, based on the patient's condition, I prescribe one of the following regimens as the first line regimen of treatment.<br>• Quetiapine<br>• Lithium<br>• Electroconvulsive therapy (ECT) in a patient with clinical manifestations of catatonia / high risk of suicide | 0.761 | 0.608 | | |

| | | | | | |
|---|---|---|---|---|---|
| | / psychotic panel | | | | |
| | 13. In the acute phase of mania of type 1 bipolar disorder, based on the patient's condition, I prescribe one of the following regimens as the first line regimen of treatment.<br>• Lithium<br>• Valproate products<br>• Quetiapine<br>• Risperidone<br>• Combination of quetiapine with lithium / valproate products<br>• Combination of aripiprazole with lithium / valproate products<br>• Combination of risperidone with lithium / valproate products<br>• Combination of lithium with valproate products<br>• Electrical seizure (ECT) in a patient with clinical manifestations of catatonia / high risk of suicide | 0.480 | 0.240 | | |
| **4. time interval of patient evaluation** | 10. If a minimal improvement in the patient's symptoms (at least a 20% reduction in symptoms) is observed after taking the drug (s) for one to two weeks within the tolerable therapeutic dose range, I continue that drug (s) continued at the same dose and evaluate the patient's clinical condition every week. | 0.957 | 0.915 | 1.483 | 8.724 |
| | 11. If no minimal improvement in the patient's symptoms (reduction of at least 20% in the symptoms) is observed after one to two weeks of taking the maximum tolerable dose of the drug (s) in the therapeutic dose range, I change current regimen to another first-line regimen or add the another first-line drug to the patient's current regimen. | 0.808 | 0.679 | | |