Supplementary table 1. Medications for depression and insomnia

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| --- |
| **Depression** |
| imipramine, clomipramine, amitriptyline, doxepin, melitracen, maprotiline, fluoxetine, citalopram/escitalopram, paroxetine, sertraline, fluvoxamine, moclobemide, mianserin, trazodone, viloxazine, mirtazapine, bupropion, venlafaxine, milnacipran, duloxetine, agomelatine, oxitriptan, tryptophan. |
| **Insomnia** |
| diazepam, chlordiazepoxide, medazepam, oxazepam, lorazepam, bromazepam, clobazam, prazepam, alprazolam, nordazepam, fludiazepam, cloxazolam, buspirone, flurazepam, nitrazepam, flunitrazepam, estazolam, triazolam, lormetazepam, temazepam, midazolam, brotizolam, zopiclone/eszopiclone, zolpidem, zaleplon, bromisoval, scopolamine, apronal, dexmedetomidine. |

Supplementary Table 2. The decreased rates of prevalence of depression and insomnia before and after biologics treatment by stratification.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| (%) | DMARDs¶ | Biologics | Treatment episodes | Age | Arthritis | Gender | MTX |
| Mo\* |  |  | Continuous† | Interrupted† | < 45 | >= 45 | Yes | No | Male | Female | Yes | No |
| 1-3 | 5.81 | 1.99 | 3.75 | -6.06 | 9.39 | -2.65 | 2.19 | 1.04 | 2.90 | 0.48 | 1.55 | 2.38 |
| 4-6 | 10.54 | 8.70 | 8.17 | 11.11 | 12.21 | 6.49 | 8.55 | 9.38 | 11.88 | 3.38 | 3.88 | 12.93 |
| 7-9 | 11.83 | 17.93 | 20.75 | 5.05 | 22.54 | 15.04 | 14.47 | 34.38 | 17.39 | 18.84 | 11.24 | 23.81 |
| 10-12 | 3.66 | 23.01 | 27.81 | 1.01 | 19.72 | 25.07 | 19.08 | 41.67 | 21.74 | 25.12 | 19.38 | 26.19 |
| 13-15 | 6.02 | 33.51 | 36.64 | 19.19 | 34.74 | 32.74 | 30.04 | 50 | 33.62 | 33.33 | 32.95 | 34.01 |
| 16-18 | 8.82 | 38.04 | 44.59 | 8.08 | 38.50 | 37.76 | 32.24 | 65.63 | 38.26 | 37.68 | 33.72 | 41.84 |
| 19-21 | 11.61 | 40.92 | 45.47 | 20.20 | 44.13 | 38.94 | 37.94 | 55.21 | 44.06 | 35.75 | 33.72 | 47.28 |
| 22-24 | 10.32 | 43.84 | 46.58 | 31.31 | 37.56 | 47.79 | 39.91 | 62.5 | 46.67 | 39.13 | 35.27 | 51.36 |

Abbreviations: DMARDs, disease modifying anti-rheumatic drugs; Mo, months after starting biologics; MTX, methotrexate.

† Continuous treatment indicates treatment duration without interruption or interrupted for less than 3 months; interrupted indicates treatment duration ever been interrupted for more than 3 months.

\* Indicating months after biologics therapy; and the decreased rate of prevalence was estimated with the prevalence in the preceding month before biologics therapy as the reference.

¶ DMARDs treatment for the first time after diagnosis of psoriasis or psoriatic arthritis.