Insomnia NMA

Prepared by Virginia Chiocchia on 28th July, refers to a single outcome analysis (Total Sleep Time) in a frequentist setting

## Description of the network

Below is a description for the network formed by studies examining the outcome Total Sleep Time.

Number of included interventions:

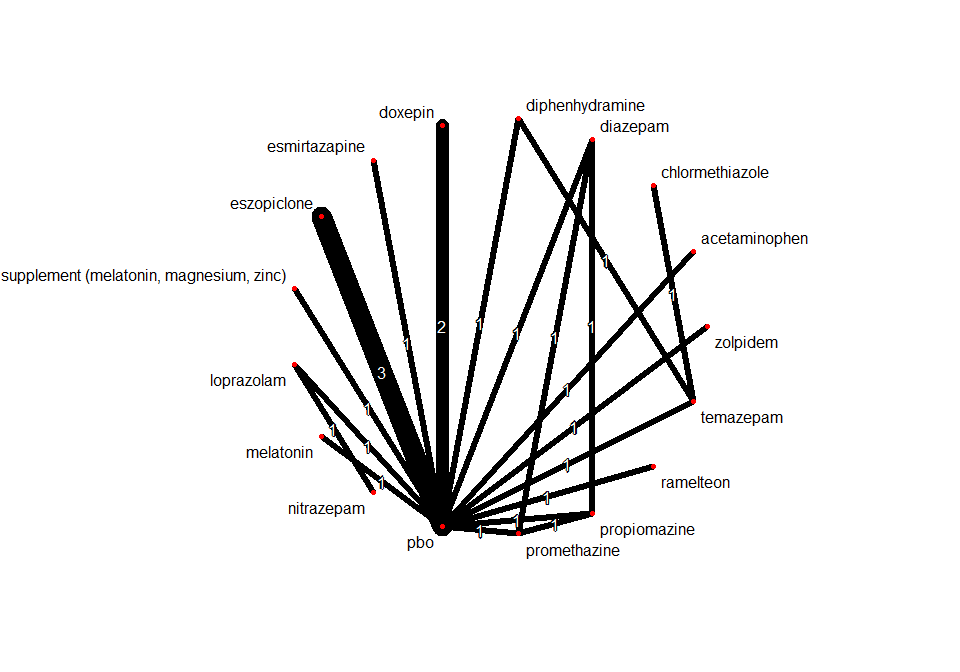
## [1] 17

Number of included studies:

## [1] 16

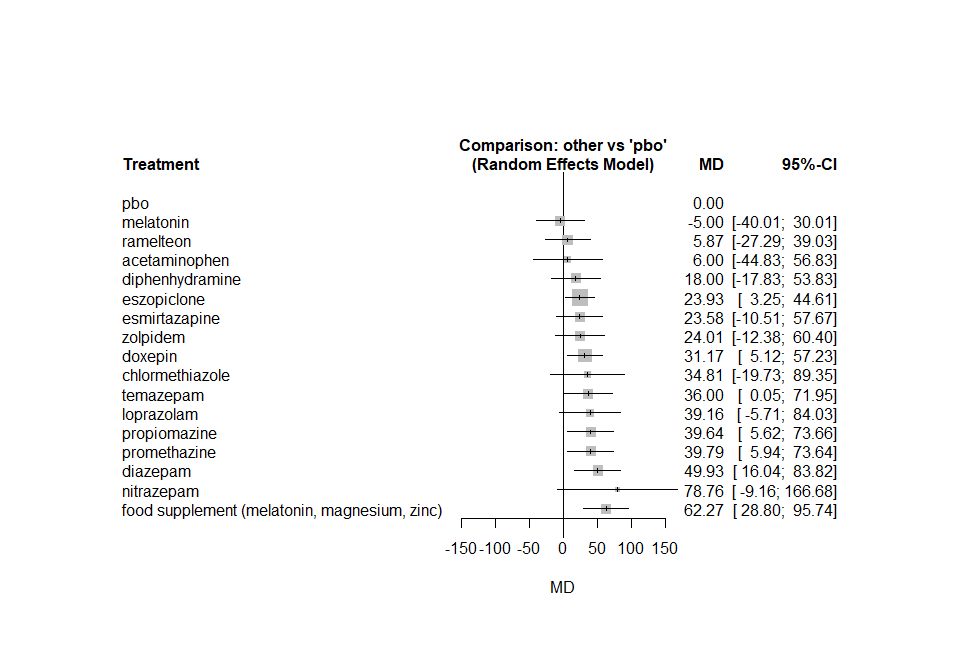
The following treatments were excluded as they were disconnected to the main network:

* MAT
* LAT
* MAT+LAT
* sleep hygiene
* lormetazepam + sleep hygiene
* BBT I
* self-monitoring control
* midazolam
* oxazepam
* artificial juice
* tart cherry juice

The plot below shows the available data  


## Frequentist network meta-analysis

Below are the relative treatment effects from the NMA model.



## League table (random effects model):  
##   
## acetaminophen .  
## -28.8100 [-103.3651; 45.7451] chlormethiazole  
## -43.9300 [-105.0196; 17.1596] -15.1200 [ -79.3327; 49.0927]  
## -12.0000 [ -74.1871; 50.1871] 16.8100 [ -37.7326; 71.3526]  
## -25.1748 [ -82.2918; 31.9423] 3.6352 [ -56.8105; 64.0809]  
## -17.5796 [ -78.7800; 43.6208] 11.2304 [ -53.0877; 75.5485]  
## -17.9304 [ -72.8065; 36.9457] 10.8796 [ -47.4532; 69.2124]  
## -56.2740 [-117.1331; 4.5851] -27.4640 [ -91.4574; 36.5294]  
## -33.1600 [-100.9611; 34.6411] -4.3500 [ -74.9781; 66.2781]  
## 11.0000 [ -50.7213; 72.7213] 39.8100 [ -25.0040; 104.6240]  
## -72.7600 [-174.3119; 28.7919] -43.9500 [-147.4107; 59.5107]  
## 6.0000 [ -44.8288; 56.8288] 34.8100 [ -19.7326; 89.3526]  
## -33.7900 [ -94.8592; 27.2792] -4.9800 [ -69.1732; 59.2132]  
## -33.6400 [ -94.8045; 27.5245] -4.8300 [ -69.1139; 59.4539]  
## 0.1305 [ -60.5585; 60.8195] 28.9405 [ -34.8912; 92.7722]  
## -30.0000 [ -92.2573; 32.2573] -1.1900 [ -42.2082; 39.8282]  
## -18.0100 [ -80.5247; 44.5047] 10.8000 [ -54.7699; 76.3699]  
##   
## . .  
## . .  
## diazepam .  
## 31.9300 [ -17.3857; 81.2457] diphenhydramine  
## 18.7552 [ -23.9900; 61.5005] -13.1748 [ -57.4744; 31.1249]  
## 26.3504 [ -21.7150; 74.4158] -5.5796 [ -55.0325; 43.8733]  
## 25.9996 [ -13.7016; 65.7008] -5.9304 [ -47.3006; 35.4398]  
## -12.3440 [ -59.9741; 35.2861] -44.2740 [ -93.3039; 4.7559]  
## 10.7700 [ -45.4598; 66.9998] -21.1600 [ -78.5803; 36.2603]  
## 54.9300 [ 6.2030; 103.6570] 23.0000 [ -27.0961; 73.0961]  
## -28.8300 [-123.0509; 65.3909] -60.7600 [-155.6962; 34.1762]  
## 49.9300 [ 16.0424; 83.8176] 18.0000 [ -17.8284; 53.8284]  
## 10.1400 [ -23.7842; 44.0642] -21.7900 [ -71.0804; 27.5004]  
## 10.2900 [ -23.7592; 44.3392] -21.6400 [ -71.0485; 27.7685]  
## 44.0605 [ -3.3521; 91.4731] 12.1305 [ -36.6882; 60.9492]  
## 13.9300 [ -35.4742; 63.3342] -18.0000 [ -53.9501; 17.9501]  
## 25.9200 [ -23.8081; 75.6481] -6.0100 [ -57.0804; 45.0604]  
##   
## . .  
## . .  
## . .  
## . .  
## doxepin .  
## 7.5952 [ -35.3082; 50.4986] esmirtazapine  
## 7.2444 [ -26.0213; 40.5101] -0.3508 [ -40.2223; 39.5207]  
## -31.0992 [ -73.5143; 11.3159] -38.6944 [ -86.4664; 9.0776]  
## -7.9852 [ -59.8717; 43.9013] -15.5804 [ -71.9305; 40.7697]  
## 36.1748 [ -7.4685; 79.8181] 28.5796 [ -20.2862; 77.4454]  
## -47.5852 [-139.2803; 44.1099] -55.1804 [-149.4732; 39.1124]  
## 31.1748 [ 5.1212; 57.2283] 23.5796 [ -10.5073; 57.6665]  
## -8.6152 [ -51.3312; 34.1008] -16.2104 [ -64.2498; 31.8290]  
## -8.4652 [ -51.3174; 34.3870] -16.0604 [ -64.2210; 32.1002]  
## 25.3053 [ -16.8655; 67.4761] 17.7101 [ -29.8452; 65.2654]  
## -4.8252 [ -49.2233; 39.5729] -12.4204 [ -61.9615; 37.1207]  
## 7.1648 [ -37.5935; 51.9230] -0.4304 [ -50.2945; 49.4337]  
##   
## .  
## .  
## .  
## .  
## .  
## .  
## eszopiclone  
## -38.3436 [ -77.6892; 1.0020]  
## -15.2296 [ -64.6385; 34.1793]  
## 28.9304 [ -11.7362; 69.5970]  
## -54.8296 [-145.1459; 35.4867]  
## 23.9304 [ 3.2466; 44.6142]  
## -15.8596 [ -55.5294; 23.8102]  
## -15.7096 [ -55.5260; 24.1068]  
## 18.0609 [ -21.0212; 57.1430]  
## -12.0696 [ -53.5452; 29.4060]  
## -0.0796 [ -41.9405; 41.7813]  
##   
## .  
## .  
## .  
## .  
## .  
## .  
## .  
## food supplement (melatonin, magnesium, zinc)  
## 23.1140 [ -32.8653; 79.0933]  
## 67.2740 [ 18.8364; 115.7116]  
## -16.4860 [-110.5576; 77.5856]  
## 62.2740 [ 28.8038; 95.7442]  
## 22.4840 [ -25.1198; 70.0878]  
## 22.6340 [ -25.0921; 70.3601]  
## 56.4045 [ 9.2893; 103.5197]  
## 26.2740 [ -22.8448; 75.3928]  
## 38.2640 [ -11.1806; 87.7086]  
##   
## . .  
## . .  
## . .  
## . .  
## . .  
## . .  
## . .  
## . .  
## loprazolam .  
## 44.1600 [ -12.7555; 101.0755] melatonin  
## -39.6000 [-115.2028; 36.0028] -83.7600 [-178.3917; 10.8717]  
## 39.1600 [ -5.7112; 84.0312] -5.0000 [ -40.0136; 30.0136]  
## -0.6300 [ -56.8376; 55.5776] -44.7900 [ -93.4913; 3.9113]  
## -0.4800 [ -56.7912; 55.8312] -44.6400 [ -93.4608; 4.1808]  
## 33.2905 [ -22.5039; 89.0849] -10.8695 [ -59.0933; 37.3543]  
## 3.1600 [ -54.3363; 60.6563] -41.0000 [ -91.1832; 9.1832]  
## 15.1500 [ -42.6249; 72.9249] -29.0100 [ -79.5121; 21.4921]  
##   
## . 6.0000 [ -44.8288; 56.8288]  
## . .  
## . 49.9300 [ 16.0424; 83.8176]  
## . 18.0000 [ -17.8284; 53.8284]  
## . 31.1748 [ 5.1212; 57.2283]  
## . 23.5796 [ -10.5073; 57.6665]  
## . 23.9304 [ 3.2466; 44.6142]  
## . 62.2740 [ 28.8038; 95.7442]  
## -39.6000 [-115.2028; 36.0028] 39.1600 [ -5.7112; 84.0312]  
## . -5.0000 [ -40.0136; 30.0136]  
## nitrazepam .  
## 78.7600 [ -9.1559; 166.6759] pbo  
## 38.9700 [ -55.2376; 133.1776] -39.7900 [ -73.6407; -5.9393]  
## 39.1200 [ -55.1495; 133.3895] -39.6400 [ -73.6624; -5.6176]  
## 72.8905 [ -21.0712; 166.8522] -5.8695 [ -39.0296; 27.2906]  
## 42.7600 [ -52.2222; 137.7422] -36.0000 [ -71.9501; -0.0499]  
## 54.7500 [ -40.4010; 149.9010] -24.0100 [ -60.4039; 12.3839]  
##   
## . .  
## . .  
## 10.1400 [ -23.7842; 44.0642] 10.2900 [ -23.7592; 44.3392]  
## . .  
## . .  
## . .  
## . .  
## . .  
## . .  
## . .  
## . .  
## -39.7900 [ -73.6407; -5.9393] -39.6400 [ -73.6624; -5.6176]  
## promethazine 0.1500 [ -33.8859; 34.1859]  
## 0.1500 [ -33.8859; 34.1859] propiomazine  
## 33.9205 [ -13.4658; 81.3068] 33.7705 [ -13.7386; 81.2796]  
## 3.7900 [ -45.5889; 53.1689] 3.6400 [ -45.8568; 53.1368]  
## 15.7800 [ -33.9230; 65.4830] 15.6300 [ -34.1900; 65.4500]  
##   
## . .  
## . -1.1900 [ -42.2082; 39.8282]  
## . .  
## . -18.0000 [ -53.9501; 17.9501]  
## . .  
## . .  
## . .  
## . .  
## . .  
## . .  
## . .  
## -5.8695 [ -39.0296; 27.2906] -36.0000 [ -71.9501; -0.0499]  
## . .  
## . .  
## ramelteon .  
## -30.1305 [ -79.0385; 18.7775] temazepam  
## -18.1405 [ -67.3757; 31.0947] 11.9900 [ -39.1658; 63.1458]  
##   
## .  
## .  
## .  
## .  
## .  
## .  
## .  
## .  
## .  
## .  
## .  
## -24.0100 [ -60.4039; 12.3839]  
## .  
## .  
## .  
## .  
## zolpidem

The heterogeneity standard deviation is estimated at

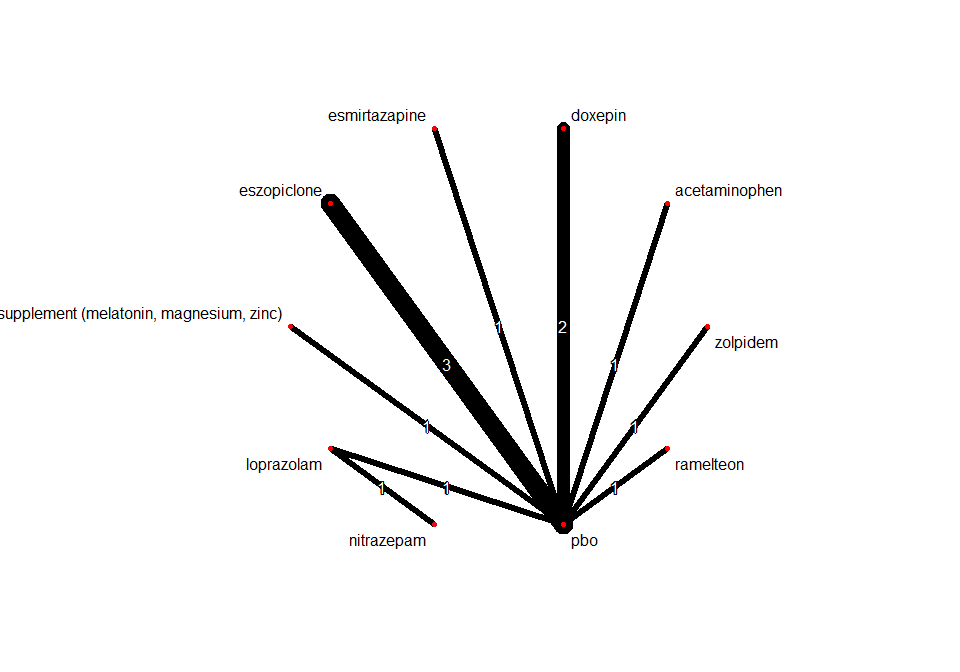
## tau= 16.435

and I-square (total) is

## I2= 80 %

### Sensitivity analyses and meta-regressions

We run a sensitivity analyses excluding the crossover studies



One study, comparing chlormethiazole versus temazepam, was also excluded from this sensitivity analysis because disconnected to the rest of the network

