**Supplementary**

| Databases | Search strategy | Result |
| --- | --- | --- |
| PubMed | 1. (((narcolepsy[MeSH Terms]) OR (Narcolepsy OR Excessive Daytime Sleepiness OR EDS OR Hypersomnia OR Sleep Disorder OR Daytime Sleepiness OR Somnolence OR Hypnolepsy OR Sleep Attacks)) AND ((Armodafinil OR Nuvigil OR Waklert OR Artvigil) OR (Armodafinil[MeSH Terms]))) AND ((Modafinil[MeSH Terms]) OR (Modafinil OR Provigil OR Alertec OR Modalert OR Modvigil OR Modiodal)) | 977(06/03/2024)689Filters applied:HumansEnglish |
|  | 2.((((Modafinil[MeSH Terms]) OR (Modafinil OR Provigil OR Alertec OR Modalert OR Modvigil OR Modiodal)) AND ((Armodafinil OR Nuvigil OR Waklert OR Artvigil) OR (Armodafinil[MeSH Terms]))) AND ((narcolepsy[MeSH Terms]) OR (Narcolepsy OR Excessive Daytime Sleepiness OR EDS OR Hypersomnia OR Sleep Disorder OR Daytime Sleepiness OR Somnolence OR Hypnolepsy OR Sleep Attacks))) AND ((Wakefulness OR Alertness OR Vigilance OR Awareness OR Attentiveness OR Consciousness OR Watchfulness OR Lucidity OR Readiness) OR (wakefulness[MeSH Terms])) | 546(06/03/2024)383Filters applied:HumansEnglish |
|  | 3.((Armodafinil OR "R-Modafinil" OR NuvigilOR "Armodafinil"[MeSH]) AND (Modafinil OR Modiodal OR ModalertOR Alertec OR "Modafinil"[MeSH]) AND (Narcolepsy OR "Daytime Sleepiness" OR "Excessive Daytime Sleepiness" OR Hypersomnia OR Cataplexy OR "Sleep Paralysis" OR "Narcolepsy"[MeSH] OR "Sleep Attacks" OR "Excessive Somnolence" OR "Daytime somnolence" OR "Sudden Sleep Onset") AND (Efficacy OR Effectiveness OR "Treatment Outcome" OR "Therapeutic Effectiveness" OR "Clinical Efficacy" OR "Outcome Assessment" OR "Clinical Outcome" OR "Therapeutic Outcome" OR Wakefulness OR "Wakefulness-Promoting Agents" OR "Daytime Wakefulness" OR "Wakefulness"[MeSH] OR "Alertness" OR "Vigilance" OR "Daytime Alertness" OR "Maintaining Wakefulness" OR "Reducing Sleepiness" OR "Sleep-Wake Transition")) | 663(06/23/2024)481Filters applied:HumanEnglish |
|  | 4.((((("narcolepsy"[MeSH Terms] OR "narcolepsy\*"[Title/Abstract]) AND "modafinil"[MeSHTerms]) OR "modafinil\*"[Title/Abstract]) AND ("modafinil"[MeSH Terms] OR "modafinil"[All Fields] OR "armodafinil"[All Fields]) AND "wakefulness"[MeSH Terms]) OR "wakefulness\*"[Title/Abstract]) AND ("efficacies"[All Fields] OR "efficacious"[All Fields] OR "efficaciously"[All Fields] OR "efficaciousness"[All Fields] OR "efficacy"[All Fields]) | 511(06/24/2024)351Filters applied:EnglishHumans |
| Embase | 'narcolepsy'/exp OR ‘narcolepsy’OR 'excessive daytime sleepiness'/exp OR 'excessive daytime sleepiness'AND 'modafinil'/exp OR ‘modafinil’ AND 'armodafinil'/exp OR ‘armodafinil’ AND 'wakefulness'/exp OR ‘wakefulness’ | 115(06/24/2024)27Filters applied:Clinical trials and RCT’sAdults only |
| Scopus | ( TITLE-ABS-KEY ( narcolepsy\* ) AND TITLE-ABS-KEY ( modafinil\* ) AND TITLE-ABS-KEY ( armodafinil\* ) AND TITLE-ABS-KEY ( "wakefulness" ) ) AND ( LIMIT-TO ( DOCTYPE , "ar" ) OR LIMIT-TO ( DOCTYPE , "re" ) ) AND ( LIMIT-TO ( LANGUAGE , "English" ) ) AND ( LIMIT-TO ( SRCTYPE , "j" ) ) AND ( LIMIT-TO ( EXACTKEYWORD , "Human" ) ) | 70(06/24/2024) |
| Science direct | (narcolepsy OR "excessive daytime sleepiness") AND modafinil AND armodafinil AND (wakefulness OR alertness) | 69(07/04/2024) |
| Web of Science | TS=(narcolepsy\* OR excessive daytime sleepiness\*) AND TS=(modafinil) AND TS=(armodafinil) AND TS=(wakefulness\*) | 42(06/26/2024) |
| Google scholar | Armodafinil OR Modafinil OR Provigil OR Nuvigil AND Narcolepsy OR Gelineau Syndrome AND Wakefulness | 9260(07/07/2024)8830Filters applied:English |

**Supplementary Table 1**: Search strategy: The adjusted search terms as per searched electronic databases

| **Author, year** | **No.** **of patients** | **Gender (M/F)** | **Age (mean/SD)****(years)** | **Intervention** | **Maintenance of wakefulness test (MWT)** | **Epworth Sleepiness scale(ESS)** |
| --- | --- | --- | --- | --- | --- | --- |
| Billiard et al., (1994) | 50 | Male: 33Female: 17 | 40.88 +/- 13.27  | Modafinil dosage at 300 mg versus placebo | Modafinil group = 9.23 +/- 6.56placebo = 6.77 +/- 5.33 |  |
| Boivin et al., (1993) | 10 | Male : 4Female: 6 | 45.6 +/- 3.1  | Double blind and cross over administration of Modafinil and Placebo at a dosage of 200 mg in the morning and 100 mg at noon. | - | - |
| Broughton et al., (1997) | 75 | Female: 62.7 % | 43 +/- 16 years | 6 week, 3 period cross over trial with each patient receiving placebo, modafinil 200 mg or modafinil 400 mg in divided doses (morning and noon) during one of the three 2 week periods. | **MODAFINIL (400 MG):**1) SLEEP LATENCY (MIN):17.2 +/-13**PLACEBO:**SLEEP LATENCY (MIN):11.2 +/- 9.8 | **MODAFINIL GROUP (400 MG):**TOTAL EPWORTH SCORE: 14.1 +/- 5.6**PLACEBO:**TOTAL EPWORTH SCORE: 16.5 +/- 4.4 |
| Schwartz et al., (2003) | 32 | Male: 15Female: 17 |  | Modafinil 400-mgsplit-dose regimen with that vs Modafinil 400 mg once daily vs Modafinil 200 mg oncedaily | **MWT SLEEP LATENCY (PERIOD 1) :****MODAFINIL 200 MG QD:**10.5 +/- 10.21**MODAFINIL 400 MG QD:**16.8 +/- 11.12**MODAFINIL 400 MG SD:**9.9 +/- 8.36 | **ESS EXCESSIVE SLEEPINESS TOTAL SCORE (PERIOD 1):****MODAFINIL 200 MG QD:**17.3 +/- 3.17**MODAFINIL 400 MG QD:**15.6 (1.80)**MODAFINIL 400 MD SD:**15.3(2.67) |
| Schwartz et al., (2005) | 56 | Male: 29Female: 27 | Mean (Range (SD not available):43 (14-71)  | 200 mg once daily (0700hour), 400 mg once daily (0700 hour), 400 mg split dose(200 mg, 0700 hour; 200 mg, 1200 hour), and 600 mg splitdose (400 mg, 0700 hour; 200 mg, 1200 hour). | **MWT SESSION (# OF PATIENTS)**no. of patients sustaining wakefulness for first 20 mins of mwt session: **1) MODAFINIL 200 MG ONCE DAILY:**MORNING:BL: 0POST TREATMENT: 1AFTERNOON:BL: 0POST TREATMENT: 2EVENING:BL: 0POSTTREATMENT: 1**2) MODAFINIL 400 MG ONCE DAILY:**MORNING:BL: 0POSTTREATMENT: 7AFTERNOON:BL: 0POSTTREATMENT: 9EVENING:BL: 5POSTTREATMENT: 7**3) MODAFINIL****400 MG SPLIT DOSE**MORNING:BL: 0POST TREATMENT: 3AFTERNOON:BL: 0POST TREATMENT: 3EVENING:BL: 1POSTTREATMENT: **4) MODAFINIL****600 MG SPLIT DOSE**MORNING:BL: 0POST TREATMENT: 4AFTERNOON:BL: 0POST TREATMENT: 7EVENING:BL: 0POSTTREATMENT: 7 |  |
| Dauvilliers et al., (2017) | Randomized: 278Intention to treat:222 | Male: 107Female:115  | 38.6 +/- 14.6  | Placebo Vs. Sodium oxybate(SXB) + modafinil placebo Vs.SXB + modafinil Vs. SXB placebo + modafinil |  |  |
| Fry et al., (1998) | 283 | Male: 129Female:154 | Mean (Range):MODAFINIL (200 MG):40 (18-67)MODAFINIL 400 MG:44 (19-67)PLACEBO:42 (18-68) | -Modafinil 200 mg, Modafinil 400 mg, PlaceboIf randomized to Modafinil 400 mg, subjects received 200 mg on Day 1 and 400 mg for the remainder of the 9 weeks. | **MAINTENANCE OF WAKEFULNESS TEST (MIN):****1) MODAFINIL 400MG:**BL: 6.6 +/- 5.2WEEK 3: 9.2 +/- 5.7WEEK 6:9 +/- 5.8WEEK 9: 8.9 +/- 6.2**2) PLACEBO:**BL: 5.8 +/- 4.7WEEK 3: 5.6 +/- 4.5WEEK 6:5.4 +/- 5WEEK 9:5.1 +/- 4.7 | **ESS SCORE:****1) MODAFINIL 400MG**:BL: 17.1 +/- 4.2WEEK 3: 12.6 +/- 5.6WEEK 6: 12.6 +/- 5.6WEEK 9: 13 +/- 5.7**2) PLACEBO:**BL: 18.3 +/- 3.3WEEK 3: 16.8 +/- 4.7WEEK 6: 16.8 +/- 4.8WEEK 9: 17.1 +/- 5 |
| Moldofsky et al., (2000) | 69 | Male: : (33.3 %) 23Female: (66.7%) 46 | 45 +/- 16 years | Patients given a maximum of 500 mg daily dose on open label  | **MWT SLEEP LATENCIES:****MODAFINIL GROUP:**END OF PARALLELDOUBLE-BLIND(WEEK 24):16.4 +/- 13.7**PLACEBO GROUP**END OF PARALLELDOUBLE-BLIND(WEEK 24):9.7 +/- 7.9 | **ESS SCORE:** **MODAFINIL GROUP:**END OF PARALLELDOUBLE-BLIND(WEEK 24)13.2 +/- 5.7**PLACEBO GROUP:**END OF PARALLELDOUBLE-BLIND(WEEK 24)15.4 +/- 5.8 |
| Gross et al., (2000) | 273 | Male:124Female:147 | **PLACEBO:**41 (17-66)**MODAFINIL 200 MG:**42 (18-67**MODAFINIL 400 MG:**42 (18-66) | Administered Modafinil 200 mg Vs. Modafinil 400 mg Vs. Placebo | **MWT SLEEP LATENCY:****MODAFINIL 400 MG**BL: 5.9 +/- 4.4WEEK 9: 7.8 +/- 5.3**PLACEBO:**BL: 6 +/- 5WEEK 9: 5.5 +/- 4.5 | **ESS Score:****MODAFINIL 400 MG**BL: 18.0 +/- 3.4WEEK 9: 12.3 +/- 5.1**PLACEBO:**BL: 17.6 +/- 4.0WEEK 9:15.8 +/- 4.8 |

**Supplementary Table 2:** Data extraction sheet



**Supplementary Figure 1**: Analysis of the mean difference of MWT score between Modafinil treated group and placebo after removal of studies from Gross et al, 2000 and Moldofsky et al, 1999. (MWT =Maintenance of Wakefulness Test)



**Supplementary Figure 2**: Analysis of the mean difference of ESS score between Modafinil treated group and placebo after removal of study from Fry et al, 1998. (ESS =Epworth Sleepiness Scale)