**eTable 2. Risk of bias assessments of included randomized controlled trials**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |
| **Study** | **Random Sequence Generation** | **Allocation Concealment** | **Blinding: Participant and Personnel** | **Blinding: Outcome Assessment** | **Incomplete Outcome Data** | **Selective Outcome Reporting** | **Other Sources of Bias** | **Summary** |
| Abdelfattah et al. (2018)1 | Unclear | Unclear | Unclear | Unclear | Unclear | Low | Low | Unclear |
| Acín et al. (2009)2 | Unclear | Unclear | Unclear | Low | Unclear | Unclear | Low | Unclear |
| Adam et al. (2006)3 | Low | Low | Low | Low | Unclear | Unclear | Low | Unclear |
| Adam et al. (2012)4 | Low | Low | Low | Low | Low | Unclear | Low | Unclear |
| Agarwal et al. (2008)5 | Low | Low | Low | Low | Low | High | Low | High |
| Ahiskalioglu et al. (2016)6 | Low | Low | Unclear | Unclear | Unclear | High | Low | High |
| Ahiskalioglu et al. (2016)7 | Low | Low | Unclear | Unclear | Low | Unclear | Low | Unclear |
| Ahn et al. (2016)8 | Low | Unclear | Low | Low | Low | Unclear | Low | Unclear |
| Ajori et al. (2012)9 | Low | Low | Low | Low | Low | Low | Low | Low |
| Akarsu et al. (2012)10 | Unclear | Unclear | High | Unclear | Unclear | Low | Low | High |
| Akhan et al. (2016)11 | Unclear | Unclear | Unclear | Low | Low | Unclear | Low | Unclear |
| Akhavanakbari et al. (2013)12 | Low | Low | Low | Low | Unclear | Low | Low | Unclear |
| Ali et al. (2012)13 | Unclear | Unclear | Unclear | Low | Unclear | High | Low | High |
| Alimian et al. (2012)14 | Low | Unclear | Low | Unclear | Unclear | Unclear | Low | Unclear |
| Al-Mujadi et al. (2006)15 | Low | Low | Low | Low | Low | Unclear | Low | Unclear |
| Amminikutty et al. (2015)16 | Low | Low | Unclear | Low | Unclear | Unclear | Low | Unclear |
| Amr et al. (2010)17 | Low | Unclear | Low | Low | Low | High | Low | High |
| Anand et al. (2017)18 | Low | Unclear | Unclear | Unclear | Low | Unclear | Low | Unclear |
| Asgari et al. (2017)19 | Low | Low | Low | Low | Low | Low | Low | Low |
| Ayatollahi et al. (2014)20 | Low | Unclear | Unclear | Low | Unclear | Unclear | Low | Unclear |
| Aydoǧan et al. (2013)21 | Low | Unclear | Low | Low | Low | Low | Low | Unclear |
| Azemati et al. (2013)22 | Low | Unclear | Unclear | Low | Low | Low | Low | Unclear |
| Bafna et al. (2014)23 | Low | Unclear | Unclear | Unclear | Low | Low | Low | Unclear |
| Bala et al. (2012)24 | Low | Low | Low | Low | Unclear | Low | Low | Unclear |
| Bala et al. (2015)25 | Low | Low | Low | Low | Unclear | Unclear | Low | Unclear |
| Balaban et al. (2012)26 | Low | Unclear | Unclear | Low | Low | Low | Low | Unclear |
| Bang et al. (2010)27 | Low | Low | Low | Low | Low | Unclear | Low | Unclear |
| Bartholdy et al. (2006)28 | Low | Low | Low | Low | Low | High | Low | High |
| Bashir et al. (2009)29 | Unclear | Unclear | Low | Low | Low | Unclear | Low | Unclear |
| Batista et al. (2015)30 | Low | Unclear | High | High | Unclear | High | Low | High |
| Behdad et al. (2012)31 | Unclear | Unclear | Unclear | Low | Low | High | Low | High |
| Bekawi et al. (2014)32 | Low | Low | Unclear | Unclear | Low | Low | Low | Unclear |
| Belhaj et al. (2010)33 | Unclear | Unclear | Unclear | Low | Unclear | Unclear | Low | Unclear |
| Benton et al. (2016)34 | Unclear | Unclear | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Bharti et al. (2013)35 | Low | Low | Low | Low | Low | Unclear | Low | Unclear |
| Bhatia et al. (2016)36 | Low | Unclear | Unclear | Unclear | Unclear | High | Low | High |
| Bhosale et al. (2017)37 | Low | Unclear | Unclear | Low | Unclear | Unclear | Low | Unclear |
| Bhure et al. (2015)38 | Low | Unclear | Unclear | Low | Unclear | High | Low | High |
| Borde et al. (2017)39 | Low | Unclear | Low | Low | Low | Unclear | Low | Unclear |
| Bornemann-Cimenti et al. (2012)40 | Low | Low | Low | Low | Low | Unclear | Low | Unclear |
| Bouzia et al. (2017)41 | Low | Unclear | Low | Low | Low | Low | Low | Unclear |
| Brindley (2012)42 | Unclear | Unclear | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Brogly et al. (2008)43 | Low | Unclear | Unclear | Low | Low | High | Low | High |
| Brulotte et al. (2015)44 | Low | Low | Low | Low | Low | High | Low | High |
| Burke et al. (2010)45 | Low | Unclear | Unclear | Unclear | Low | Unclear | Low | Unclear |
| Buvanendran et al. (2010)46 | Low | Low | Low | Low | Low | Unclear | Low | Unclear |
| Carvalho et al. (2014)47 | Unclear | Unclear | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Cegin et al. (2016)48 | Unclear | Unclear | Low | Unclear | Unclear | Unclear | Low | Unclear |
| Chang et al. (2009)49 | Unclear | Unclear | Low | Unclear | Low | Unclear | Low | Unclear |
| Chaparro et al. (2012)50 | Low | Low | Low | Low | Low | Low | Low | Low |
| Chiravanich et al. (2012)51 | Low | Low | Low | Low | Low | Low | Low | Low |
| Chotton et al. (2014)52 | Low | Unclear | Unclear | Low | Unclear | High | Low | High |
| Chowdhury et al. (2010)53 | Unclear | Low | Low | Low | Unclear | Low | Low | Unclear |
| Çinar et al. (2012)54 | Unclear | Unclear | Unclear | Low | Unclear | Unclear | Low | Unclear |
| Clarke et al. (2009)55 | Low | Low | Low | Low | Low | Unclear | Low | Unclear |
| Clarke et al. (2009)56 | Low | Low | Unclear | Unclear | High | Unclear | Low | High |
| Clarke et al. (2013)57 | Low | Low | Low | Low | Low | Unclear | Low | Unclear |
| Clarke et al. (2014)58 | Low | Low | Low | Low | Low | Unclear | Low | Unclear |
| Clarke et al. (2015)59 | Low | Low | Low | Low | Low | Unclear | Low | Unclear |
| Clendenen et al. (2010)60 | Low | Low | Low | Low | Low | Low | Low | Low |
| Damshenas et al. (2016)61 | High | Unclear | Unclear | Unclear | Unclear | Unclear | Low | High |
| Debaecker et al. (2014)62 | Unclear | Unclear | Unclear | Low | Unclear | Unclear | Low | Unclear |
| Deniz et al. (2012)63 | Low | Low | Unclear | Low | Low | High | Low | High |
| Dierking et al. (2004)64 | Low | Low | Low | Low | Low | High | Low | High |
| Dirks et al. (2002)65 | Low | Low | Low | Low | Low | High | Low | High |
| Doha et al. (2010)66 | Low | Low | Unclear | Unclear | Low | High | Low | High |
| Eidy et al. (2017)67 | Low | Unclear | Low | Low | Unclear | High | Low | High |
| El Bakry et al. (2012)68 | Low | Unclear | Low | Low | Low | Low | Low | Unclear |
| El Kenany et al. (2016)69 | Low | Low | Low | Low | Low | Low | Low | Low |
| El Rahmawy et al. (2013)70 | Low | Low | Unclear | Unclear | Low | Low | Low | Unclear |
| Eman et al. (2014)71 | Low | Unclear | Unclear | Low | Unclear | High | Low | High |
| Ercan et al. (2014)72 | Unclear | Unclear | Unclear | Unclear | Low | Unclear | Low | Unclear |
| Eskandar et al. (2013)73 | Low | Unclear | Unclear | Unclear | Unclear | Low | Low | Unclear |
| Esmat et al. (2015)74 | Unclear | Unclear | Unclear | Unclear | Low | Unclear | Low | Unclear |
| Faraji et al. (2015)75 | Low | Unclear | Unclear | Unclear | Unclear | Low | Low | Unclear |
| Fassoulaki et al. (2002)76 | Unclear | Unclear | Low | Low | Low | Unclear | Low | Unclear |
| Fassoulaki et al. (2006)77 | Low | High | Unclear | Unclear | Low | Unclear | Low | High |
| Fassoulaki et al. (2012)78 | Low | Low | Low | Unclear | High | Unclear | Low | High |
| Foroozanfard et al. (2012)79 | Unclear | Unclear | Unclear | Low | Unclear | Unclear | Low | Unclear |
| Francois et al. (2015)80 | Unclear | Low | Low | Low | Unclear | Unclear | Low | Unclear |
| Freedman et al. (2008)81 | Unclear | Unclear | High | Low | Unclear | Unclear | Low | High |
| Frouzanfard et al. (2013)82 | Low | Unclear | Unclear | Low | Unclear | Unclear | Low | Unclear |
| Fujita et al. (2016)83 | Low | Unclear | Unclear | Low | Unclear | Low | Low | Unclear |
| Gautam et al. (2016)84 | Unclear | Unclear | Unclear | Unclear | Low | Unclear | Low | Unclear |
| George et al. (2014)85 | Low | Low | Low | Low | Low | Low | Low | Low |
| Ghai et al. (2011)86 | Low | Low | Low | Low | Low | High | Low | High |
| Ghai et al. (2012)87 | Low | Low | Low | Low | Unclear | Unclear | Low | Unclear |
| Gianesello et al. (2010)88 | Unclear | Unclear | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Gianesello et al. (2012)89 | Low | Low | Low | Low | Unclear | Unclear | Low | Unclear |
| Gonano et al. (2011)90 | Low | Unclear | Low | Low | Low | Unclear | Low | Unclear |
| Grosen et al. (2014)91 | Low | Low | Low | Low | Low | Low | Low | Low |
| Grover et al. (2009)92 | Low | Low | Low | Low | Low | High | Low | High |
| Gupta et al. (2011)93 | Unclear | Unclear | Low | Low | Unclear | Low | Low | Unclear |
| Gupta et al. (2011)94 | Unclear | Unclear | Unclear | Low | Low | Unclear | Low | Unclear |
| Gupta et al. (2017)95 | Low | Low | Low | Low | Unclear | Unclear | Low | Unclear |
| Hafez et al. (2017)96 | Low | Low | Low | Unclear | Low | Unclear | Low | Unclear |
| Hah et al. (2017)97 | Low | Low | Low | Low | Low | Low | Low | Low |
| Hamal et al. (2015)98 | Low | Unclear | Unclear | Unclear | Low | Unclear | Low | Unclear |
| Hassani et al. (2015)99 | Low | Unclear | Low | Low | Low | Low | Low | Unclear |
| Hegarty et al. (2011)100 | Low | Unclear | Low | Low | Low | Unclear | Low | Unclear |
| Heidari et al. (2015)101 | Low | Low | Unclear | Low | Unclear | Unclear | Low | Unclear |
| Hetta et al. (2016)102 | Low | Low | Low | Low | High | High | Low | High |
| Huot et al. (2008)103 | Low | Low | Low | Low | Low | Unclear | Low | Unclear |
| Imani et al. (2009)104 | Unclear | Unclear | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Işik et al. (2014)105 | High | Unclear | Unclear | Unclear | Unclear | Unclear | Low | High |
| Ittichaikulthol et al. (2009)106 | Unclear | Unclear | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Jahromi et al. (2013)107 | Unclear | Unclear | High | Low | Unclear | Unclear | Low | High |
| Jain et al. (2012)108 | Low | Low | Low | Unclear | Low | Unclear | Low | Unclear |
| Jeon et al. (2009)109 | Low | Low | Unclear | Unclear | Unclear | Low | Low | Unclear |
| Jokela et al. (2008)110 | Low | Low | Low | Low | Low | High | Low | High |
| Jokela et al. (2008)111 | Low | Low | Low | Unclear | Low | Unclear | Low | Unclear |
| Joseph et al. (2014)112 | Low | Low | Low | Low | Low | Low | Low | Low |
| Joshi et al. (2013)113 | Low | Low | Low | Low | Low | Low | Low | Low |
| Kang et al. (2009)114 | Unclear | Unclear | High | Unclear | Unclear | Unclear | Low | High |
| Kapse et al. (2016)115 | Low | Low | Unclear | Low | Unclear | Unclear | Low | Unclear |
| Karbić et al. (2014)116 | Unclear | Low | Low | Low | Low | Low | Low | Unclear |
| Kavitha et al. (2013)117 | Low | Low | Unclear | Low | Unclear | High | Low | High |
| Kazak et al. (2010)118 | Low | Low | Low | Low | Low | Low | Low | Low |
| Khademi et al. (2010)119 | High | Unclear | Low | Unclear | Low | Unclear | Low | High |
| Khahi et al. (2011)120 | Low | Low | Low | Low | Low | Unclear | Low | Unclear |
| Khahi et al. (2012)121 | Low | Unclear | Unclear | Low | Unclear | Unclear | Low | Unclear |
| Khalili et al. (2017)122 | Low | Unclear | Low | Unclear | Unclear | High | Low | High |
| Khan et al. (2011)123 | Low | Unclear | Low | Unclear | Low | Unclear | Low | Unclear |
| Khan et al. (2013)124 | Low | Unclear | Low | Low | Low | Unclear | Low | Unclear |
| Khan et al. (2016)125 | Unclear | Unclear | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Khan et al. (2017)126 | Low | Unclear | Low | Low | Low | Unclear | Low | Unclear |
| Khetarpal et al. (2016)127 | Low | Unclear | Low | Unclear | Unclear | Unclear | Low | Unclear |
| Khezri et al. (2013)128 | Low | Low | Low | Low | Low | Low | Low | Low |
| Khurana et al. (2014)129 | Low | Low | Unclear | Low | Unclear | High | Low | High |
| Kiatchai et al. (2017)130 | Low | Low | Low | Low | Low | Low | Low | Low |
| Kılıç et al. (2014)131 | Unclear | Unclear | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Kim et al. (2004)132 | Unclear | Unclear | Unclear | Low | Low | Unclear | Low | Unclear |
| Kim et al. (2010)133 | Unclear | Low | Low | Low | Low | High | Low | High |
| Kim et al. (2011)134 | Low | Low | Low | Low | Low | Low | Low | Low |
| Kim et al. (2011)135 | Low | Low | Low | Low | Low | High | Low | High |
| Kim et al. (2014)136 | Unclear | Unclear | Low | Low | Low | High | Low | Unclear |
| Kim et al. (2017)137 | Low | Unclear | Low | Unclear | Low | Unclear | Low | Unclear |
| Kinney et al. (2012)138 | Low | Low | Low | Low | Low | Low | Low | Low |
| Kochhar et al. (2017)139 | Low | Unclear | High | Unclear | Low | Unclear | Low | High |
| Kohli et al. (2011)140 | Low | Low | High | Low | Unclear | Unclear | Low | High |
| Konstantatos et al. (2016)141 | Low | Low | Low | Low | Low | High | Low | High |
| Koşucu et al. (2014)142 | Low | Unclear | Low | Low | Low | Unclear | Low | Unclear |
| Koyuncu et al. (2013)143 | Unclear | Unclear | Unclear | Unclear | Low | High | Low | High |
| Kuhnle et al. (2011)144 | Low | Low | Low | Low | Low | Unclear | Low | Unclear |
| Kumar et al. (2013)145 | Low | Low | Low | Unclear | Low | Unclear | Low | Unclear |
| Kumar et al. (2015)146 | Unclear | Unclear | Unclear | Low | Low | High | Low | High |
| Lee et al. (2013)147 | Low | Low | Low | Low | Low | High | Low | High |
| Lee et al. (2015)148 | Low | Unclear | Low | Low | Low | Unclear | Low | Unclear |
| Leung et al. (2017)149 | Low | Low | Low | Low | Low | Low | Low | Low |
| Lunn et al. (2015)150 | Low | Low | Low | Low | Low | Low | Low | Low |
| Macheridou et al. (2011)151 | Unclear | Unclear | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Macheridou et al. (2012)152 | Unclear | Unclear | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Maghsoudi et al. (2017)153 | Low | Unclear | Unclear | Unclear | Low | Low | Low | Unclear |
| Mahoori et al. (2014)154 | Low | Low | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Mahran et al. (2015)155 | Low | Low | Low | Low | Unclear | Unclear | Low | Unclear |
| Maleh et al. (2013)156 | Unclear | Unclear | Unclear | Low | Unclear | Unclear | Low | Unclear |
| Manorema et al. (2017)157 | Unclear | Unclear | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Mansor et al. (2015)158 | Low | Low | Unclear | Low | Unclear | Unclear | Low | Unclear |
| Mardani-Kivi et al. (2013)159 | Low | Unclear | Unclear | Low | Low | Unclear | Low | Unclear |
| Mardani-Kivi et al. (2016)160 | Low | Unclear | Unclear | Low | Low | Low | Low | Unclear |
| Matsutani et al. (2015)161 | Low | Low | Unclear | Unclear | Low | Unclear | Low | Unclear |
| Meek et al. (2014)162 | Low | Low | Unclear | Unclear | Low | Unclear | Low | Unclear |
| Memari et al. (2015)163 | Unclear | Unclear | Unclear | Low | Unclear | Unclear | Low | Unclear |
| Menda et al. (2010)164 | Low | Low | Low | Low | Low | Low | Low | Low |
| Ménigaux et al. (2005)165 | Low | Low | Low | Low | Low | High | Low | High |
| Metry et al. (2008)166 | Low | Low | Low | Low | Low | Unclear | Low | Unclear |
| Mikkelsen et al. (2006)167 | Low | Low | Low | Low | Low | Low | Low | Low |
| Mishra et al. (2013)168 | Unclear | Unclear | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Mishra et al. (2016)169 | Low | Unclear | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Misra et al. (2013)170 | Low | Low | Low | Low | Low | Low | Low | Low |
| Miyazaki et al. (2016)171 | Low | Unclear | Unclear | Unclear | Low | Low | Low | Unclear |
| Mohamed et al. (2016)172 | Low | Unclear | Low | Unclear | Low | Low | Low | Unclear |
| Mohammadi et al. (2008)173 | Low | Low | Low | Low | Low | Low | Low | Low |
| Mohammadi et al. (2008)174 | Low | Low | Unclear | Low | Unclear | Unclear | Low | Unclear |
| Mohammed et al. (2012)175 | Low | Low | Low | Low | Low | High | Low | High |
| Monks et al. (2015)176 | Low | Low | Low | Unclear | Low | Unclear | Low | Unclear |
| Montazeri et al. (2007)177 | Low | Low | Unclear | Low | Unclear | Unclear | Low | Unclear |
| Moore et al. (2011)178 | Low | Low | Low | Unclear | Low | Low | Low | Unclear |
| Myhre et al. (2017)179 | Low | Low | Low | Low | Low | High | Low | High |
| Nasr et al. (2014)180 | Low | Low | Low | Low | Unclear | Unclear | Low | Unclear |
| Nella et al. (2012)181 | Unclear | Unclear | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Neogi et al. (2012)182 | Low | Low | Low | Low | Unclear | Unclear | Low | Unclear |
| Nikhil et al. (2016)183 | Unclear | Unclear | Low | Low | Low | Unclear | Low | Unclear |
| Nikolajsen et al. (2006)184 | Low | Low | Low | Low | Low | Low | Low | Low |
| Nimmaanrat et al. (2012)185 | Low | Low | Unclear | Low | Unclear | High | Low | High |
| NM (2013)186 | Unclear | Unclear | Unclear | Low | Unclear | High | Low | High |
| Nofal et al. (2014)187 | Low | Low | Low | Low | Unclear | Unclear | Low | Unclear |
| Nutt et al. (2009)188 | Unclear | Unclear | Unclear | Low | Unclear | Unclear | Low | Unclear |
| Nutthachote et al. (2014)189 | Low | Low | Low | Low | Low | High | Low | High |
| Ogunnaike (2014)190 | Unclear | Unclear | Unclear | Low | Unclear | High | Low | High |
| Olmedo-Gaya et al. (2016)191 | Low | Low | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Ommid et al. (2015)192 | Low | Unclear | Unclear | Low | Unclear | Unclear | Low | Unclear |
| Ozgencil et al. (2011)193 | Low | Low | Low | Unclear | Unclear | Unclear | Low | Unclear |
| Paech et al. (2007)194 | Low | Low | Low | Low | Low | High | Low | High |
| Pakravan et al. (2012)195 | Low | Low | Low | Low | Low | Unclear | Low | Unclear |
| Pandey et al. (2004)196 | Low | Low | Unclear | Low | Low | Low | Low | Unclear |
| Pandey et al. (2004)197 | Low | Unclear | Unclear | Low | Unclear | Unclear | Low | Unclear |
| Pandey et al. (2005)198 | Low | Unclear | Unclear | Low | Low | Unclear | Low | Unclear |
| Pandey et al. (2005)199 | Low | Unclear | Unclear | Low | Low | Unclear | Low | Unclear |
| Pandey et al. (2006)200 | Low | Unclear | Unclear | Low | Low | Unclear | Low | Unclear |
| Pandey et al. (2012)201 | Low | Unclear | Unclear | Low | Low | Unclear | Low | Unclear |
| Pandey et al. (2014)202 | Low | Low | Low | Low | Low | High | Low | High |
| Parikh et al. (2010)203 | Low | Low | Unclear | Unclear | Unclear | High | Low | High |
| Park et al. (2015)204 | Low | Low | Unclear | Unclear | High | Low | Low | High |
| Park et al. (2016)205 | Low | Low | Low | Low | Low | Low | Low | Low |
| Parveen et al. (2016)206 | Low | Unclear | Low | Unclear | Unclear | Unclear | Low | Unclear |
| Paul et al. (2013)207 | Low | Low | Low | Low | Low | Low | Low | Low |
| Paul et al. (2015)208 | Low | Low | Low | Low | Low | Unclear | Low | Unclear |
| Pavoni et al. (2010)209 | Unclear | Unclear | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Peng et al. (2010)210 | Low | Low | Low | Low | Low | Low | Low | Low |
| Pesonen et al. (2011)211 | Low | Low | Low | Low | High | Low | Low | High |
| Pourfakhr et al. (2016)212 | Unclear | Unclear | Unclear | Low | Unclear | High | Low | High |
| Prabhakar et al. (2007)213 | Low | Low | Low | Unclear | Unclear | Unclear | Low | Unclear |
| Prasad et al. (2014)214 | Low | Unclear | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Przesmycki et al. (2011)215 | Low | Unclear | Unclear | Unclear | Low | Unclear | Low | Unclear |
| Radhakrishnan et al. (2005)216 | Low | Low | Low | Low | Unclear | Unclear | Low | Unclear |
| Raghove et al. (2010)217 | Low | Unclear | Unclear | Low | Unclear | High | Low | High |
| Rajappa et al. (2016)218 | Low | Low | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Rajendran et al. (2014)219 | Low | Low | Low | Low | Low | Low | Low | Low |
| Rapchuk et al. (2010)220 | Low | Low | Low | Low | Low | Unclear | Low | Unclear |
| Rastogi et al. (2012)221 | Low | Unclear | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Ray et al. (2015)222 | Low | Low | Low | Low | Low | Unclear | Low | Unclear |
| Rezaeian (2017)223 | Low | Low | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Rimaz et al. (2012)224 | Low | Unclear | Unclear | Low | Low | Unclear | Low | Unclear |
| Rodgers (2012)225 | Unclear | Unclear | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Rorarius et al. (2004)226 | Low | Low | Low | Unclear | Low | Low | Low | Unclear |
| Rupniewska-Ladyko et al. (2017)227 | Low | Unclear | Unclear | Unclear | Low | Unclear | Low | Unclear |
| Sadatsune et al. (2016)228 | Low | Low | Low | Low | High | Low | Low | High |
| Sagit et al. (2013)229 | Low | Unclear | Unclear | Low | Low | Unclear | Low | Unclear |
| Said-Ahmed (2007)230 | Unclear | Unclear | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Samal et al. (2017)231 | Low | Unclear | High | Low | Low | Unclear | Low | Unclear |
| Sanders et al. (2017)232 | Low | Low | Low | Low | High | High | Low | High |
| Sanie et al. (2017)233 | Unclear | Unclear | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Sanin et al. (2010)234 | Unclear | Unclear | Unclear | Unclear | Unclear | High | Low | High |
| Sarakatsianou et al. (2013)235 | Low | Unclear | Unclear | Low | Low | High | Low | High |
| Sava et al. (2009)236 | Unclear | Unclear | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Saxena et al. (2016)237 | Low | Low | Low | Low | Unclear | Unclear | Low | Unclear |
| Schulmeyer et al. (2010)238 | Low | Low | Low | Low | Low | Unclear | Low | Unclear |
| Sebastian et al. (2016)239 | Low | Low | Unclear | Low | Unclear | Unclear | Low | Unclear |
| Sekhavat et al. (2009)240 | Low | Unclear | Low | Low | Low | Low | Low | Unclear |
| Şen et al. (2009)241 | Low | Low | Low | Low | Low | Low | Low | Low |
| Şen et al. (2009)242 | Low | Low | Low | Unclear | Low | Unclear | Low | Unclear |
| Shimony et al. (2016)243 | Low | Low | Unclear | Unclear | Low | High | Low | High |
| Short et al. (2012)244 | Low | Low | Low | Low | Low | High | Low | High |
| Siddiqui et al. (2013)245 | Low | Low | Low | Low | Low | Unclear | Low | Unclear |
| Singla et al. (2014)246 | Low | Unclear | Low | Unclear | High | High | Low | High |
| Singla et al. (2014)246 | Low | Unclear | Low | Unclear | High | High | Low | High |
| Singla et al. (2014)246 | Low | Unclear | Low | Unclear | High | High | Low | High |
| Soltanzadeh et al. (2011)247 | Low | Unclear | Unclear | Low | Low | Unclear | Low | Unclear |
| Spence et al. (2011)248 | Low | Low | Low | Low | Unclear | Unclear | Low | Unclear |
| Spreng et al. (2011)249 | Low | Low | Low | Unclear | High | High | Low | High |
| Srivastava et al. (2010)250 | Low | Low | Low | Low | Low | Unclear | Low | Unclear |
| Srivastava et al. (2014)251 | Low | Low | High | Unclear | Low | Low | Low | High |
| Sundar et al. (2012)252 | Low | Low | Low | Low | Unclear | Unclear | Low | Unclear |
| Takmaz et al. (2007)253 | Unclear | Unclear | High | Low | Unclear | High | Low | High |
| Talikoti et al. (2013)254 | Low | Unclear | Low | Low | Unclear | Unclear | Low | Unclear |
| Thananun et al. (2016)255 | Unclear | Unclear | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Tirault et al. (2010)256 | Low | Low | Low | Low | Low | Unclear | Low | Unclear |
| Tiwari et al. (2014)257 | Unclear | Unclear | Low | Low | Unclear | High | Low | High |
| Tsitsopoulos et al. (2007)258 | Low | Unclear | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Tunç et al. (2014)259 | Unclear | Unclear | Unclear | Unclear | Unclear | Unclear | Low | Unclear |
| Tuncer et al. (2005)260 | Unclear | Unclear | Low | Low | Low | Unclear | Low | Unclear |
| Turan et al. (2004)261 | Low | Low | Unclear | Low | Low | High | Low | High |
| Turan et al. (2004)262 | Low | Low | Unclear | Low | Low | Low | Low | Unclear |
| Turan et al. (2004)263 | Low | Low | Unclear | Low | Low | Low | Low | Unclear |
| Turan et al. (2006)264 | Low | Low | Low | Low | Low | Low | Low | Low |
| Turan et al. (2007)265 | Low | Low | Low | Low | Low | High | Low | High |
| Ucak et al. (2011)266 | Low | Low | Low | Low | Unclear | Unclear | Low | Unclear |
| Vahabi et al. (2014)267 | Low | Unclear | Low | Low | Unclear | Unclear | Low | Unclear |
| Vahedi et al. (2011)268 | Low | Low | Unclear | Low | Low | Low | Low | Unclear |
| Valadan et al. (2015)269 | Low | Low | Low | Low | High | High | Low | High |
| Vasigh et al. (2016)270 | Low | Unclear | Low | Low | Low | Unclear | Low | Unclear |
| Wang et al. (2010)271 | Low | Low | Low | Low | Low | High | Low | High |
| Wei et al. (2015)272 | Low | Low | Low | Unclear | Low | Unclear | Low | Unclear |
| White et al. (2009)273 | Low | Low | Low | Low | Low | Low | Low | Low |
| YaDeau et al. (2012)274 | Low | Low | Low | Low | Low | Low | Low | Low |
| YaDeau et al. (2015)275 | Low | Low | Low | Low | Low | High | Low | High |
| Yoon et al. (2001)276 | Unclear | Unclear | Unclear | Unclear | Low | Unclear | Low | Unclear |
| Yücel et al. (2011)277 | Low | Low | Low | Low | Low | Low | Low | Low |
| Zarei et al. (2016)278 | Low | Low | Low | Unclear | Unclear | High | Low | Unclear |
| Ziyaeifard et al. (2015)279 | Low | Low | Low | Unclear | Unclear | Unclear | Low | Unclear |
|  |  |  |  |  |  |  |  |  |

1. Abdelfattah AAM, Rizk F, Hawash N, Hanafy A, El-Kalla F, Abd-Elsalam S. Randomized trial of preoperative administration of oral pregabalin for postoperative analgesia in patients scheduled for radiofrequency ablation of focal lesions in the liver. *Int J Hyperthermia* 2018; **17**: 1-5.

2. Acín MP, Bono MC, Rodrigo MD, Martínez R, Faci A, Escartín R. Preventive analgesia with pregabalin in mesh hernia repair. Review at 1 year. *Revista de la Sociedad Espanola del Dolor* 2009; **16**(4): 215-21.

3. Adam F, Ménigaux C, Sessler DI, Chauvin M. A single preoperative dose of gabapentin (800 milligrams) does not augment postoperative analgesia in patients given interscalene brachial plexus blocks for arthroscopic shoulder surgery. *Anesthesia and analgesia* 2006; **103**(5): 1278-82.

4. Adam F, Bordenave L, Sessler DI, Chauvin M. Effects of a single 1200-mg preoperative dose of gabapentin on anxiety and memory. *Annales francaises d'anesthesie et de reanimation* 2012; **31**(10): 223-7.

5. Agarwal A, Gautam S, Gupta D, Agarwal S, Singh PK, Singh U. Evaluation of a single preoperative dose of pregabalin for attenuation of postoperative pain after laparoscopic cholecystectomy. *British journal of anaesthesia* 2008; **101**(5): 700-4.

6. Ahiskalioglu EO, Ahiskalioglu A, Aydin P, Arslan Z, Aksoy M, Temiz A. Effects of a single-dose preemptive pregabalin on acute and chronic pain after inguinal hernia repair with mesh under spinal anaesthesia: A randomised controlled trial. *European journal of anaesthesiology* 2016; **33**(8): 605-7.

7. Ahiskalioglu A, Ince I, Aksoy M, Yalcin E, Ahiskalioglu EO, Kilinc A. Effects of a single-dose of pre-emptive pregabalin on postoperative pain and opioid consumption after double-jaw surgery: A randomized controlled trial. *Journal of Oral & Maxillofacial Surgery* 2016; **74**(1): 53.e1-7.

8. Ahn S, Byun SH, Park K, Ha JL, Kwon B, Kim JC. Analgesic efficacy of preemptive pregabalin administration in arthroscopic shoulder surgery: A randomized controlled trial. *Canadian Journal of Anesthesia* 2016; **63**(3): 283-9.

9. Ajori L, Nazari L, Mazloomfard MM, Amiri Z. Effects of gabapentin on postoperative pain, nausea and vomiting after abdominal hysterectomy: A double blind randomized clinical trial. *Archives of Gynecology & Obstetrics* 2012; **285**(3): 677-82.

10. Akarsu T, Tür H, Bolat C, Özkaynak I. Comparison of pre-emptive pregabalin with placebo and diclofenac combination for postoperative analgesia and cognitive functions after laparoscopic cholecystectomy. *Turkiye Klinikleri Journal of Medical Sciences* 2012; **32**(4): 963-70.

11. Akhan A, Subasi FD, Bosna G, et al. Comparison of mirtazapine, gabapentin and ondansetron to prevent intrathecal morphine-induced pruritus. *North Clin Istanbul* 2016; **3**(1): 53-9.

12. Akhavanakbari G, Entezariasl M, Isazadehfar K, Mirzarahimi T. The effects of oral pregabalin on post-operative pain of lower limb orthopedic surgery: A double-blind, placebo-controlled trial. *Perspectives in clinical research* 2013; **4**(3): 165-8.

13. Ali A, Babar KM. Comparison of preoperative dose of pregabalin with celecoxib for attenuation of postoperative pain after open cholecystectomy. *Anaesthesia, Pain and Intensive Care* 2012; **16**(2): 137-41.

14. Alimian M, Imani F, Hassani V, Rahimzadeh P, Sharifian M, Safari S. Effects of single-dose pregabalin on postoperative pain in dacryocystorhinostomy surgery. *Anesth* 2012; **2**(2): 72-6.

15. Al-Mujadi H, A-Refai AR, Katzarov MG, Dehrab NA, Batra YK, Al-Qattan AR. Preemptive gabapentin reduces postoperative pain and opioid demand following thyroid surgery. *Canadian Journal of Anaesthesia* 2006; **53**(3): 268-73.

16. Amminikutty CM, Biji KP. Study comparing preemptive analgesic effects of oral gabapentin and clonidine against placebo in total abdominal hysterectomy under combined spinal epidural anaesthesia. *International Journal of Pharma and Bio Sciences* 2015; **6**(3): P290-P5.

17. Amr YM, Yousef AAA-M. Evaluation of efficacy of the perioperative administration of venlafaxine or gabapentin on acute and chronic postmastectomy pain. *Clinical Journal of Pain* 2010; **26**(5): 381-5.

18. Anand LK, Sandhu M, Singh J, Mitra S. Evaluation of analgesic efficacy of pregabalin for postoperative pain relief after laparoscopic cholecystectomy: A double blind study. *Anaesthesia Pain & Intensive Care* 2017; **21**(2): 174-80.

19. Asgari Z, Rouholamin S, Nataj M, Sepidarkish M, Hosseini R, Razavi M. Dose ranging effects of pregabalin on pain in patients undergoing laparoscopic hysterectomy: A randomized, double blinded, placebo controlled, clinical trial. *Journal of clinical anesthesia* 2017; **38**: 13-7.

20. Ayatollahi V, Mirshamsi P, Behdad S, Amirdosara M, Vaziribozorg S. Effect of oral gabapentin on haemodynamic variables during microlaryngoscopic surgery. *Anestezjologia intensywna terapia* 2014; **46**(1): 17-22.

21. Aydoǧan H, Kucuk A, Yuce HH, et al. Adding 75 mg pregabalin to analgesic regimen reduces pain scores and opioid consumption in adults following percutaneous nephrolithotomy. *Revista brasileira de anestesiologia* 2014; **64**(5): 335-42.

22. Azemati S, Dokouhaki AG, Talei A, Khademi S, Moin-Vaziri N. Evaluation of the effect of a preoperative single dose of gabapentin on emergence agitation in patients undergoing breast cancer surgery. *Middle East Journal of Cancer* 2013; **4**(4): 145-51.

23. Bafna U, Rajarajeshwaran K, Khandelwal M, Verma AP. A comparison of effect of preemptive use of oral gabapentin and pregabalin for acute post-operative pain after surgery under spinal anesthesia. *Journal of Anaesthesiology Clinical Pharmacology* 2014; **30**(3): 373-7.

24. Bala I, Bharti N, Chaubey VK, Mandal AK. Efficacy of gabapentin for prevention of postoperative catheter-related bladder discomfort in patients undergoing transurethral resection of bladder tumor. *Urology* 2012; **79**(4): 853-7.

25. Bala I, Bharti N, Ramesh NP. Effect of gabapentin pretreatment on the hemodynamic response to laryngoscopy and tracheal intubation in treated hypertensive patients. *Acta Anaesthesiologica Taiwanica: Official Journal of the Taiwan Society of Anesthesiologists* 2015; **53**(3): 95-8.

26. Balaban F, Yagar S, Ozgok A, Koc M, Gullapoglu H. A randomized, placebo-controlled study of pregabalin for postoperative pain intensity after laparoscopic cholecystectomy. *Journal of clinical anesthesia* 2012; **24**(3): 175-8.

27. Bang SR, Yu SK, Kim TH. Can gabapentin help reduce postoperative pain in arthroscopic rotator cuff repair? A prospective, randomized, double-blind study. *Arthroscopy : the journal of arthroscopic & related surgery : official publication of the Arthroscopy Association of North America and the International Arthroscopy Association* 2010; **26**(9): S106-11.

28. Bartholdy J, Hilsted KL, Hjortsoe NC, Engbaek J, Dahl JB. Effect of gabapentin on morphine demand and pain after laparoscopic sterilization using filshie clips. A double blind randomized clinical trial. *BMC anesthesiology* 2006; **6**(1): 12.

29. Bashir F, Mohammad Bhat K, Qazi S, Hashia AM. A randomized, double blind, placebo controlled study evaluating preventive role of gabapentin for ponv in patients undergoing laparascopic cholecystectomy. *JK Science* 2009; **11**(4): 190-3.

30. Batista JA, Errigo MM. Preoperative gabapentin as adjuvant in the management of acute postoperative pain in abdominal hysterectomy. *Revista de la Sociedad Espanola del Dolor* 2015; **22**(5): 200-4.

31. Behdad S, Ayatollahi V, Bafghi AT, Tezerjani MD, Abrishamkar M. Effect of gabapentin on postoperative pain and operation complications: A randomized placebo controlled trial. *The West Indian medical journal* 2012; **61**(2): 128-33.

32. Bekawi MS, El Wakeel LM, Al Taher WMA, Mageed WMA. Clinical study evaluating pregabalin efficacy and tolerability for pain management in patients undergoing laparoscopic cholecystectomy. *Clinical Journal of Pain* 2014; **30**(11): 944-52.

33. Belhaj H, Zaabar MA, Bouali Y, Rais K, Askri A, Kaabachi O. Pregabalin in the management of the postoperative analgesia after scoliosis surgery. A primarily results. *Regional anesthesia and pain medicine* 2010; **35**(5): E116-E7.

34. Benton AS, Riley KA, Leung LD, Pacis MQ, Deimling TA, Harkins GJ. Administration of pre-operative gabapentin to patients undergoing laparoscopy: A prospective double-blind, placebo-controlled randomized trial. *Journal of minimally invasive gynecology* 2016; **23**(7): S101.

35. Bharti N, Bala I, Narayan V, Singh G. Effect of gabapentin pretreatment on propofol consumption, hemodynamic variables, and postoperative pain relief in breast cancer surgery. *Acta Anaesthesiologica Taiwanica* 2013; **51**(1): 10-3.

36. Bhatia U, Panchal M, Gupta N. To evaluate the role of gabapentin as preemptive analgesic in patients undergoing total abdominal hysterectomy in spinal anesthesia. *European Journal of General Medicine* 2016; **13**(4): 97-100.

37. Bhosale UA, Yegnanarayan R, Gupta A, Shah P, Sardesai S. Comparative pre-emptive analgesic efficacy study of novel antiepileptic agents gabapentin, lamotrigine and topiramate in patients undergoing major surgeries at a tertiary care hospital: A randomized double blind clinical trial. *Journal of Basic & Clinical Physiology & Pharmacology* 2017; **28**(1): 59-66.

38. Bhure R, Kshirsagar J, Pawar A. Evaluation of pre-emptive gabapentin 600 mg for postoperative analgesia for laparoscopic cholecystectomy. *International Journal of Scientific Study* 2015; **3**(1): 78-83.

39. Borde DP, Futane SS, Asegaonkar B, et al. Effect of perioperative pregabalin on postoperative quality of recovery in patients undergoing off-pump coronary artery bypass grafting (OPCABG): A prospective, randomized, double-blind trial. *Journal of cardiothoracic and vascular anesthesia* 2017; **31**(4): 1241-5.

40. Bornemann-Cimenti H, Lederer AJ, Wejbora M, et al. Preoperative pregabalin administration significantly reduces postoperative opioid consumption and mechanical hyperalgesia after transperitoneal nephrectomy. *British journal of anaesthesia* 2012; **108**(5): 845-9.

41. Bouzia A, Tassoudis V, Karanikolas M, et al. Pregabalin effect on acute and chronic pain after cardiac surgery. *Anesthesiology Research and Practice* 2017; **2017**: 1-7.

42. Brindley GW. Pain control with total knee replacement (l12-078). 2012. <https://clinicaltrials.gov/ct2/show/NCT01680549>.

43. Brogly N, Wattier J-M, Andrieu G, et al. Gabapentin attenuates late but not early postoperative pain after thyroidectomy with superficial cervical plexus block. *Anesthesia & Analgesia* 2008; **107**(5): 1720-5.

44. Brulotte V, Ruel MM, Lafontaine E, Chouinard P, Girard F. Impact of pregabalin on the occurrence of postthoracotomy pain syndrome: A randomized trial. *Regional anesthesia and pain medicine* 2015; **40**(3): 262-9.

45. Burke SM, Shorten GD. Perioperative pregabalin improves pain and functional outcomes 3 months after lumbar discectomy. *Anesthesia & Analgesia* 2010; **110**(4): 1180-5.

46. Buvanendran A, Kroin JS, Della Valle CJ, Kari M, Moric M, Tuman KJ. Perioperative oral pregabalin reduces chronic pain after total knee arthroplasty: A prospective, randomized, controlled trial. *Anesthesia & Analgesia* 2010; **110**(1): 199-207.

47. Carvalho J, Monks D, Downey K, Shah V, Bernstein P, Hoppe D. A perioperative course of gabapentin improves pain relief after cesarean delivery: A randomized controlled trial. *Canadian Journal of Anesthesia* 2014; **61**: S150.

48. Cegin MB, Soyoral L, Yuzkat N, Baydi V, Goktas U. Pregabalin administered as an anxiolytic agent in ultrasound-guided infraclavicular block: A controlled, double-blind, dose-ranging trial. *European Review for Medical & Pharmacological Sciences* 2016; **20**(3): 568-74.

49. Chang S-H, Lee H-W, Kim H-K, Kim S-H, Kim D-K. An evaluation of perioperative pregabalin for prevention and attenuation of postoperative shoulder pain after laparoscopic cholecystectomy. *Anesthesia & Analgesia* 2009; **109**(4): 1284-6.

50. Chaparro LE, Clarke H, Valdes PA, Mira M, Duque L, Mitsakakis N. Adding pregabalin to a multimodal analgesic regimen does not reduce pain scores following cosmetic surgery: A randomized trial. *Journal of anesthesia* 2012; **26**(6): 829-35.

51. Chiravanich W, Oofuvong M, Kovitwanawong N. Single dose of gabapentin for prophylaxis intrathecal morphine-induced pruritus in orthopedic surgery: A randomized controlled trial. *Journal of the Medical Association of Thailand* 2012; **95**(2): 186-90.

52. Chotton T, Singh NR, Singh LC, Laithangbam PS, Singh HS. The effect of pregabalin for relief of postoperative pain after abdominal hysterectomy. *JMS - Journal of Medical Society* 2014; **28**(1): 18-21.

53. Chowdhury L, Chakraborty S, Chakrabarti J, Bhattacharya D, Mandal M. Analgesic effect of low dose gabapentin in day-case gynaecological surgery under general anaesthesia. *Journal of the Indian Medical Association* 2010; **108**(11): 734-7.

54. Çinar D, Tunc¸ M, Sahin S, et al. Effect of oral pregabalin on postthoracotomy pain, pulmonary functions and postoperative epidural analgesia. *Pain Practice* 2012; **12**: 139.

55. Clarke H, Pereira S, Kennedy D, et al. Adding gabapentin to a multimodal regimen does not reduce acute pain, opioid consumption or chronic pain after total hip arthroplasty. *Acta anaesthesiologica Scandinavica* 2009; **53**(8): 1073-83.

56. Clarke H, Pereira S, Kennedy D, et al. Gabapentin decreases morphine consumption and improves functional recovery following total knee arthroplasty. *Pain research & management* 2009; **14**(3): 217-22.

57. Clarke H, Kirkham KR, Orser BA, et al. Gabapentin reduces preoperative anxiety and pain catastrophizing in highly anxious patients prior to major surgery: A blinded randomized placebo-controlled trial. *Canadian journal of anaesthesia = Journal canadien d'anesthesie* 2013; **60**(5): 432-43.

58. Clarke HA, Katz J, McCartney CJL, et al. Perioperative gabapentin reduces 24 h opioid consumption and improves in-hospital rehabilitation but not post-discharge outcomes after total knee arthroplasty with peripheral nerve block. *British journal of anaesthesia* 2014; **113**(5): 855-64.

59. Clarke H, Page GM, McCartney CJL, et al. Pregabalin reduces postoperative opioid consumption and pain for 1 week after hospital discharge, but does not affect function at 6 weeks or 3 months after total hip arthroplasty. *British journal of anaesthesia* 2015; **115**(6): 903-11.

60. Clendenen SR, Rajendran S, Kopacz DJ, et al. Pregabalin as an adjunct to a multimodal analgesic regimen to achieve opioid sparing in arthroscopic rotator cuff repair. *Jurnalul Roman de Anestezie Terapie Intensiva/Romanian Journal of Anaesthesia and Intensive Care* 2010; **17**(1): 5-10.

61. Damshenas MH, Radmehr M, Rastegarian A. The effect of preoperative single dose of oral pregabalin on postoperative pain of orthopedic surgery of lower limbs. *Iioab Journal* 2016; **7**(1): 384-7.

62. Debaecker L, Roosebeke A, Garot M, et al. Administration préopératoire de gabapentine et douleurs résiduelles après chirurgie thyroïdienne: Une étude randomisé double aveugle contre placebo. *Annales francaises d'anesthesie et de reanimation* 2014; **33**(2): A147-A8.

63. Deniz MN, Sertoz N, Erhan E, Ugur G. Effects of preoperative gabapentin on postoperative pain after radical retropubic prostatectomy. *Journal of International Medical Research* 2012; **40**(6): 2362-9.

64. Dierking G, Duedahl TH, Rasmussen ML, et al. Effects of gabapentin on postoperative morphine consumption and pain after abdominal hysterectomy: A randomized, double-blind trial. *Acta anaesthesiologica Scandinavica* 2004; **48**(3): 322-7.

65. Dirks J, Fredensborg BB, Christensen D, Fomsgaard JS, Flyger H, Dahl JB. A randomized study of the effects of single-dose gabapentin versus placebo on postoperative pain and morphine consumption after mastectomy. *Anesthesiology* 2002; **97**(3): 560-4.

66. Doha NM, Rady A, El Azab SR. Preoperative use of gabapentin decreases the anesthetic and analgesic requirements in patients undergoing radical mastectomy. *Egyptian Journal of Anaesthesia* 2010; **26**(4): 287-91.

67. Eidy M, Fazel MR, Abdolrahimzadeh H, Moravveji AR, Kochaki E, Mohammadzadeh M. Effects of pregabalin and gabapentin on postoperative pain and opioid consumption after laparoscopic cholecystectomy. *Korean journal of anesthesiology* 2017; **70**(4): 434-8.

68. El Bakry AEA, Marey H. The effect of gabapentin premedication on pain and anxiety during cataract surgery under peribulbar block. *Egyptian Journal of Anaesthesia* 2012; **28**(1): 43-7.

69. El Kenany S, El Tahan MR. Effect of preoperative pregabalin on post-caesarean delivery analgesia: A dose-response study. *International journal of obstetric anesthesia* 2016; **26**: 24-31.

70. El Rahmawy G, Rashwan D, Mohamed NN. The efficacy of preoperative pregabalin on reduction of the incidence and severity of postdural puncture headache after spinal anesthesia. *Egyptian Journal of Anaesthesia* 2013; **29**(4): 357-61.

71. Eman A, Bilir A, Beyaz SG. The effects of preoperative pregabalin on postoperative analgesia and morphine consumption after abdominal hysterectomy. *Acta Medica Mediterranea* 2014; **30**(2): 481-5.

72. Ercan S, Akpek E, Aslim E, Akay T, Dönmez A. The effects of gabapentin on intraoperative cooperation, stress response and postoperative analgesia in patients undergoing carotid endartectomy with regional anesthesia. *Gogus-Kalp-Damar Anestezi ve Yogun Bakim Dernegi Dergisi* 2014; **20**(1): 7-15.

73. Eskandar AM, Ebeid AM. Effect of pregabalin on postoperative pain after shoulder arthroscopy. *Egyptian Journal of Anaesthesia* 2013; **29**(4): 363-7.

74. Esmat IM, Farag HM. Comparative study between paracetamol and two different doses of pregabalin on postoperative pain in laparoscopic cholecystectomy. *Saudi journal of anaesthesia* 2015; **9**(4): 376-80.

75. Faraji R, Haryalchi K, Fashkhami F, Pourmarzi D. Comparison of low dose gabapentin and diclofenac efficacy for postoperative pain reduction after abdominal hysterectomy: A randomized clinical trial. *Journal of guilan university of med sci* 2015; **24**(93): 63-9.

76. Fassoulaki A, Patris K, Sarantopoulos C, Hogan Q. The analgesic effect of gabapentin and mexiletine after breast surgery for cancer. *Anesthesia and analgesia* 2002; **95**(4): 985-91.

77. Fassoulaki A, Stamatakis E, Petropoulos G, Siafaka I, Hassiakos D, Sarantopoulos C. Gabapentin attenuates late but not acute pain after abdominal hysterectomy. *European journal of anaesthesiology* 2006; **23**(2): 136-41.

78. Fassoulaki A, Melemeni A, Tsaroucha A, Paraskeva A. Perioperative pregabalin for acute and chronic pain after abdominal hysterectomy or myomectomy: A randomised controlled trial. *European journal of anaesthesiology* 2012; **29**(11): 531-6.

79. Foroozanfard F, Fazel MR, Moraveji AR, Gha M, Abolhasani A. The gabapentin effect on pain morphin consumption after total abdominal hysterectomy. *Journal of Zanjan University of Medical Sciences and Health Services* 2012; **20**(78).

80. Francois A, Pappas A, Pawlowski J, Hartwig J. A randomized, double blind placebo controlled study of pregabalin vs placebo for postoperative pain control after knee arthroscopy. 2015.

81. Freedman BM, O'Hara E. Pregabalin has opioid-sparing effects following augmentation mammaplasty. *Aesthetic surgery journal* 2008; **28**(4): 421-4.

82. Frouzanfard F, Fazel MR, Abolhasani A, Fakharian E, Mousavi G, Moravveji A. Effects of gabapentin on pain and opioid consumption after abdominal hysterectomy. *Pain research & management* 2013; **18**(2): 94-6.

83. Fujita N, Tobe M, Tsukamoto N, Saito S, Obata H. A randomized placebo-controlled study of preoperative pregabalin for postoperative analgesia in patients with spinal surgery. *Journal of clinical anesthesia* 2016; **31**: 149-53.

84. Gautam A, Tandon N, Masar R, et al. A comparative evaluation of pre-emptive doses of gabapentin and pregabalin for postoperative relief of pain in patients scheduled for surgery under general anaesthesia. *Journal of Evolution of Medical and Dental Sciences-Jemds* 2016; **5**(74): 5459-62.

85. George RB, McKeen DM, Andreou P, Habib AS. A randomized placebo-controlled trial of two doses of pregabalin for postoperative analgesia in patients undergoing abdominal hysterectomy. *Canadian journal of anaesthesia = Journal canadien d'anesthesie* 2014; **61**(6): 551-7.

86. Ghai A, Gupta M, Hooda S, Singla D, Wadhera R. A randomized controlled trial to compare pregabalin with gabapentin for postoperative pain in abdominal hysterectomy. *Saudi journal of anaesthesia* 2011; **5**(3): 252-7.

87. Ghai A, Gupta M, Rana N, Wadhera R. The effect of pregabalin and gabapentin on preoperative anxiety and sedation: A double blind study. *Anaesthesia, Pain and Intensive Care* 2012; **16**(3): 257-61.

88. Gianesello L, Pavoni V, Buoninsegni, L. T, Paparella L, Barboni E. Preemptive analgesia with pregabalin to postoperative pain management after spine surgery for decompression and stabilization: 14ap5–2. *European journal of anaesthesiology* 2010; **27**(47): 204.

89. Gianesello L, Pavoni V, Barboni E, Galeotti I, Nella A. Perioperative pregabalin for postoperative pain control and quality of life after major spinal surgery. *Journal of neurosurgical anesthesiology* 2012; **24**(2): 121-6.

90. Gonano C, Latzke D, Sabeti-Aschraf M, Kettner SC, Chiari A, Gustorff B. The anxiolytic effect of pregabalin in outpatients undergoing minor orthopaedic surgery. *Journal of Psychopharmacology* 2011; **25**(2): 249-53.

91. Grosen K, Drewes AM, Højsgaard A, Pfeiffer-Jensen M, Hjortdal VE, Pilegaard HK. Perioperative gabapentin for the prevention of persistent pain after thoracotomy: A randomized controlled trial. *European Journal of Cardio-thoracic Surgery* 2014; **46**(1): 76-85.

92. Grover VK, Mathew PJ, Yaddanapudi S, Sehgal S. A single dose of preoperative gabapentin for pain reduction and requirement of morphine after total mastectomy and axillary dissection: Randomized placebo-controlled double-blind trial. *Journal of postgraduate medicine* 2009; **55**(4): 257-60.

93. Gupta K, Sharma D, Gupta PK. Oral premedication with pregabalin or clonidine for hemodynamic stability during laryngoscopy and laparoscopic cholecystectomy: A comparative evaluation. *Saudi journal of anaesthesia* 2011; **5**(2): 179-84.

94. Gupta K, Bansal P, Gupta PK, Singh YP. Pregabalin premedication - a new treatment option for hemodynamic stability during general anesthesia: A prospective study. *Albang Maqalat Wa Abhat Fi Altahdir Waalinas* 2011; **5**(1): 57-62.

95. Gupta P, Saxena A, Chaudhary L. Effect of pregabalin premedication on the requirement of anesthetic and analgesic drugs in laparoscopic cholecystectomy: Randomized comparison of two doses. *Albang Maqalat Wa Abhat Fi Altahdir Waalinas* 2017; **11**(2): 330-3.

96. Hafez M, Abdelhamid M, Youssef M, Abdelrahim I. Randomized controlled trial of two oral regimens of gabapentin versus placebo in patients for cesarean section under spinal anesthesia regarding postoperative pain, sedation, nausea and vomiting. *Egyptian journal of anaesthesia* 2017; **33**(1): 59-65.

97. Hah JM, Bateman BT, Ratliff J, Curtin C, Sun E. Chronic opioid use after surgery: Implications for perioperative management in the face of the opioid epidemic. *Anesthesia and analgesia* 2017; **125**(5): 1733-40.

98. Hamal PK, Shrestha AB, Shrestha RR. Efficacy of preemptive gabapentin for lower extremity orthopedic surgery under subarachnoid block. *Jnm* 2015; **53**(200): 210-3.

99. Hassani V, Pazouki A, Nikoubakht N, Chaichian S, Sayarifard A, Shakib Khankandi A. The effect of gabapentin on reducing pain after laparoscopic gastric bypass surgery in patients with morbid obesity: A randomized clinical trial. *Anesth* 2015; **5**(1): e22372.

100. Hegarty DA, Shorten GD. A randomised, placebo-controlled trial of the effects of preoperative pregabalin on pain intensity and opioid consumption following lumbar discectomy. *The Korean journal of pain* 2011; **24**(1): 22-30.

101. Heidari M, Honarmand A, Safavi M, Chitsazi M, Khalighinejad F. Geranisetron versus gabapentin in preventing postoperative nausea and vomiting after middle ear surgery in adults: A double-blinded randomized clinical trial study. *Advanced biomedical research* 2015; **4**(1): 22.

102. Hetta DF, Mohamed MA, Mohammad MF. Analgesic efficacy of pregabalin in acute postmastectomy pain: Placebo controlled dose ranging study. *Journal of clinical anesthesia* 2016; **34**: 303-9.

103. Huot M-P, Chouinard P, Girard F, Ruel M, Lafontaine ER, Ferraro P. Gabapentin does not reduce post-thoracotomy shoulder pain: A randomized, double-blind placebo-controlled study. *Canadian Journal of Anaesthesia* 2008; **55**(6): 337-43.

104. Imani F, Entezary SR, Alebouyeh MR, Hassani V, Bazargani B. The effects of preemptive gabapentin on postoperative pain after thoracotomy. *Pain Practice* 2009; **9**: 145.

105. Işik B, Yaman S, Aktuna S, Turan A. Analgesic efficacy of prophylactic gabapentin and lornoxicam in preventing postendodontic pain. *Pain Medicine (United States)* 2014; **15**(12): 2150-5.

106. Ittichaikulthol W, Virankabutra T, Kunopart M, Khamhom W, Putarawuthichai P, Rungphet S. Effects of pregabalin on post operative morphine consumption and pain after abdominal hysterectomy with/without salphingo-oophorectomy: A randomized, double-blind trial. *Journal of the Medical Association of Thailand* 2009; **92**(10): 1318-23.

107. Jahromi HE, Gholami M, Rezaei F. A randomized double-blinded placebo controlled study of four interventions for the prevention of postoperative nausea and vomiting in maxillofacial trauma surgery. *Journal of Craniofacial Surgery* 2013; **24**(6): e623-7.

108. Jain P, Jolly A, Bholla V, Adatia S, Sood J. Evaluation of efficacy of oral pregabalin in reducing postoperative pain in patients undergoing total knee arthroplasty. *Indian journal of orthopaedics* 2012; **46**(6): 646-52.

109. Jeon EJ, Park YS, Park SS, Lee SK, Kim DH. The effectiveness of gabapentin on post-tonsillectomy pain control. *European Archives of Oto-Rhino-Laryngology* 2009; **266**(10): 1605-9.

110. Jokela R, Ahonen J, Tallgren M, Haanpaa M, Korttila K. A randomized controlled trial of perioperative administration of pregabalin for pain after laparoscopic hysterectomy. *Pain* 2008; **134**(1-2): 106-12.

111. Jokela R, Ahonen J, Tallgren M, Haanpää M, Korttila K. Premedication with pregabalin 75 or 150 mg with ibuprofen to control pain after day-case gynaecological laparoscopic surgery. *British journal of anaesthesia* 2008; **100**(6): 834-40.

112. Joseph TT, Krishna HM, Kamath S. Premedication with gabapentin, alprazolam or a placebo for abdominal hysterectomy: Effect on pre-operative anxiety, post-operative pain and morphine consumption. *Indian journal of anaesthesia* 2014; **58**(6): 693-9.

113. Joshi S, Jagadeesh A. Efficacy of perioperative pregabalin in acute and chronic postoperative pain after opcab: A randomized, double blind placebo controlled trial. *Applied Cardiopulmonary Pathophysiology* 2012; **16**(3): 209-10.

114. Kang HS, Park HJ, Choi J, Park SJ, Lee S. The optimal preemptive dose of gabapentin following gynecologic surgery. *Korean journal of anesthesiology* 2009; **56**(3): 309-12.

115. Kapse UKS, Bhalerao PM. Oral clonidine and gabapentin suppress pressor response: A prospective, randomized, double blind study. *Albang Maqalat Wa Abhat Fi Altahdir Waalinas* 2016; **10**(1): 17-22.

116. Karbić VO, Škoda M, Antončić D, Krištofić I, Komar D, Trobonjača Z. Gabapentin-induced changes of plasma cortisol level and immune status in hysterectomized women. *International immunopharmacology* 2014; **23**(2): 530-6.

117. Kavitha J, Parida S, Kundra P, Srinivasan R. Oral gabapentin premedication for elderly patients undergoing intraocular surgery. *British Journal of Ophthalmology* 2013; **97**(7): 900-4.

118. Kazak Z, Mortimer NM, Sekerci S. Single dose of preoperative analgesia with gabapentin (600 mg) is safe and effective in monitored anesthesia care for nasal surgery. *European archives of oto-rhino-laryngology* 2010; **267**(5): 731-6.

119. Khademi S, Ghaffarpasand F, Heiran HR, Asefi A. Effects of preoperative gabapentin on postoperative nausea and vomiting after open cholecystectomy: A prospective randomized double-blind placebo-controlled study. *Medical Principles & Practice* 2010; **19**(1): 57-60.

120. Khahi MP, Yaghooti AA, Marashi SH, Nadjafi A. Effect of pre-emptive gabapentin on postoperative pain following lower extremity orthopaedic surgery under spinal anaesthesia. *Singapore medical journal* 2011; **52**(12): 879-82.

121. Khahi MP, Marashi S, Khajavi MR, Najafi A, Yaghooti A, Imani F. Postoperative gabapentin to prevent postoperative pain: A randomized clinical trial. *Anesth* 2012; **2**(2): 77-80.

122. Khalili M, Modir H, Norouzi A, Mohammadbeigi A, Somesara SAB. Premedication with oral gabapentin versus intravenous paracetamol for post-operative analgesia after tibial fracture surgery. *Advances in Human Biology* 2017; **7**(3): 115-8.

123. Khan ZH, Rahimi M, Makarem J, Khan RH. Optimal dose of pre-incision/post-incision gabapentin for pain relief following lumbar laminectomy: A randomized study. *Acta anaesthesiologica Scandinavica* 2011; **55**(3): 306-12.

124. Khan MA, Siddiqi KJ, Aqeel M. Effect of gabapentin on opioid requirements in patients undergoing total abdominal hysterectomy. *Anaesthesia, Pain and Intensive Care* 2013; **17**(2): 131-5.

125. Khan MU. Effect of preoperative oral administration of gabapentin on preoperative anxiety, postoperative pain and opioid consumption in patients schedule for laproscopic sleeve gastrectomy surgery. 2016.

126. Khan MA, Siddiqi KJ, Khan MS. Prophylactic use of gabapentin to reduce postoperative nausea and vomiting in patients undergoing diagnostic gynecological laparoscopy. *Anaesthesia, Pain and Intensive Care* 2017; **21**(1): 19-24.

127. Khetarpal R, Kataria AP, Bajaj S, Kaur H, Singh S. Gabapentin vs pregabalin as a premedication in lower limb orthopaedics surgery under combined spinal epidural technique. *Albang Maqalat Wa Abhat Fi Altahdir Waalinas* 2016; **10**(2): 262-7.

128. Khezri M-B, Oladi M-R, Atlasbaf A. Effect of melatonin and gabapentin on anxiety and pain associated with retrobulbar eye block for cataract surgery: A randomized double-blind study. *Indian journal of pharmacology* 2013; **45**(6): 581-6.

129. Khurana G, Jindal P, Sharma JP, Bansal KK. Postoperative pain and long-term functional outcome after administration of gabapentin and pregabalin in patients undergoing spinal surgery. *Spine* 2014; **39**(6): E363-8.

130. Kiatchai T, Sanansilp V, Triyasunant N, Saengprateep S, Changkittirat P, Achariyapota V. Effects of pregabalin on postoperative pain after hysterectomy under spinal anesthesia with intrathecal morphine: A randomized controlled trial. *Journal of anesthesia* 2017; **31**(6): 861-8.

131. Kılıç E, Mızrak A, Göksu S, Cesur M. Preemptive analgesic efficacy of gabapentin and nimesulide in the functional endoscopic sinus surgery. *Agri Derg* 2014; **26**(2): 73-81.

132. Kim SI, Park DY, Ok SY, Kim SC. Effects of preemptive gabapentin on postoperative pain after mastectomy. *Korean journal of anesthesiology* 2004; **47**(4): 527-31.

133. Kim SY, Jeong JJ, Chung WY, Kim HJ, Nam K-H, Shim YH. Perioperative administration of pregabalin for pain after robot-assisted endoscopic thyroidectomy: A randomized clinical trial. *Surgical endoscopy* 2010; **24**(11): 2776-81.

134. Kim SY, Song JW, Park B, Park S, An YJ, Shim YH. Pregabalin reduces post-operative pain after mastectomy: A double-blind, randomized, placebo-controlled study. *Acta anaesthesiologica Scandinavica* 2011; **55**(3): 290-6.

135. Kim JC, Choi YS, Kim KN, Shim JK, Lee JY, Kwak YL. Effective dose of peri-operative oral pregabalin as an adjunct to multimodal analgesic regimen in lumbar spinal fusion surgery. *Spine* 2011; **36**(6): 428-33.

136. Kim JH, Seo MY, Hong SD, et al. The efficacy of preemptive analgesia with pregabalin in septoplasty. *Clin* 2014; **7**(2): 102-5.

137. Kim JC, Byun S, Kim S, Lee SY, Lee JH, Ahn S. Effect of preoperative pregabalin as an adjunct to a multimodal analgesic regimen in video-assisted thoracoscopic surgery: A randomized controlled trial. *Medicine* 2017; **96**(49): e8644.

138. Kinney MA, Mantilla CB, Carns PE, et al. Preoperative gabapentin for acute post-thoracotomy analgesia: A randomized, double-blinded, active placebo-controlled study. *Pain practice : the official journal of World Institute of Pain* 2012; **12**(3): 175-83.

139. Kochhar A, Banday J, Ahmad Z, Monga S, Vajifdar H. Pregabalin in monitored anesthesia care for ear-nose-throat surgery. *Anesthesia, essays and researches* 2017; **11**(2): 350-3.

140. Kohli M, Murali T, Gupta R, Khan P, Bogra J. Optimization of subarachanoid block by oral pregabalin for hysterectomy. *Journal of Anaesthesiology Clinical Pharmacology* 2011; **27**(1): 101-5.

141. Konstantatos AH, Howard W, Story D, Mok LYH, Boyd D, Chan MTV. A randomised controlled trial of peri-operative pregabalin vs. placebo for video-assisted thoracoscopic surgery. *Anaesthesia* 2016; **71**(2): 192-7.

142. Koşucu M, Tugcugil E, Erturk E, et al. The effects of the pre-emptive oral gabapentin on post-anesthesia recovery criteria, acute post-thoracotomy pain and development of chronicity in pain with benign thoracotomy operations. *Turk Gogus Kalp Damar Cerrahisi Dergisi-Turkish Journal of Thoracic and Cardiovascular Surgery* 2014; **22**(2): 389-96.

143. Koyuncu T, Oguz G, Akben S, Nas S, Unver S. The effects of pregabaline on postoperative pain and opioid consumption used perioperatively in patients undergoing modified radical mastectomy. *Agri Derg* 2013; **25**(4): 169-78.

144. Kuhnle MD, Ryan DS, Coe CD, et al. Oral gabapentin for photorefractive keratectomy pain. *Journal of Cataract & Refractive Surgery* 2011; **37**(2): 364-9.

145. Kumar KP, Kulkarni DK, Gurajala I, Gopinath R. Pregabalin versus tramadol for postoperative pain management in patients undergoing lumbar laminectomy: A randomized, double-blinded, placebo-controlled study. *Journal of pain research* 2013; **6**: 471-8.

146. Kumar PS, Bhanuprakash S, Sahajananda H. The effect of single dose oral gabapentin as preemptive analgesia for postoperative pain for orthopedic surgeries done under spinal anaesthesia. *Journal of Evolution of Medical and Dental Sciences-Jemds* 2015; **4**(103): 16857-64.

147. Lee JH, Lee HK, Chun NH, So Y, Lim CY. The prophylactic effects of gabapentin on postoperative sore throat after thyroid surgery. *Korean journal of anesthesiology* 2013; **64**(2): 138-42.

148. Lee JK, Chung K-S, Choi CH. The effect of a single dose of preemptive pregabalin administered with cox-2 inhibitor: A trial in total knee arthroplasty. *Journal of Arthroplasty* 2015; **30**(1): 38-42.

149. Leung JM, Sands LP, Chen NN, et al. Perioperative gabapentin does not reduce postoperative delirium in older surgical patients a randomized clinical trial. *Anesthesiology* 2017; **127**(4): 633-44.

150. Lunn TH, Husted H, Laursen MB, Hansen LT, Kehlet H. Analgesic and sedative effects of perioperative gabapentin in total knee arthroplasty: A randomized, double-blind, placebo-controlled dose-finding study. *Pain* 2015; **156**(12): 2438-48.

151. Macheridou AM, M.; Giannopoulou, A.; Vaivai, A.; Karafotia, A.; Michaloliakou, C. A randomized controlled trial of preoperative administration of pregabalin for acute pain after radical modified mastectomy. *European journal of anaesthesiology* 2011; **28**: 197.

152. Macheridou A, Giannopoulou A, Karafotia A, Boutsikou M, Kaliviti I, Michaloliakou C. A randomized controlled trial of perioperative pregabalin administration for acute and chronic pain after radical modified mastectomy (RMM). *European journal of anaesthesiology* 2012; **29**(50): 198.

153. Maghsoudi R, Farhadi-Niaki S, Etemadian M, et al. Comparing the efficacy of tolterodine and gabapentin versus placebo in catheter related bladder discomfort after percutaneous nephrolithotomy: A randomized clinical trial. *Journal of endourology* 2017; **32**(2): 168-74.

154. Mahoori A, Noroozinia H, Hasani E, Hosainzadeh S. The effect of pre-operative administration of gabapentin on post-operative pain relief after herniorrhaphy. *Saudi journal of anaesthesia* 2014; **8**(2): 220-3.

155. Mahran E, Hassan ME. Comparison of pregabalin versus ketamine in postoperative pain management in breast cancer surgery. *Saudi journal of anaesthesia* 2015; **9**(3): 253-7.

156. Maleh PA, Alijanpour E, Nickbakhsh N, Modarress R, Naghshineh A, Esmaeili M. Effects of gabapentin on postoperative pain following laparoscopic cholecystectomy. *Journal of Mazandaran University of Medical Sciences* 2013; **23**(103): 29-32.

157. Manorema V, Balakrishna R, Anandan H. Comparison of pregabalin and tramadol for post-operative pain management in patients undergoing lumbar laminectomy. *International Journal of Scientific Study* 2017; **5**(3): 1-4.

158. Mansor SH, Choy CY. Effect of preoperative oral pregabalin on postoperative pain after mastectomy. *Middle East journal of anaesthesiology* 2015; **23**(1): 63-8.

159. Mardani-Kivi M, Mobarakeh MK, Keyhani S, Motlagh KH, Ekhtiari KS. Is gabapentin effective on pain management after arthroscopic anterior cruciate ligament reconstruction? A triple blinded randomized controlled trial. *Arch* 2013; **1**(1): 18-22.

160. Mardani-Kivi M, Karimi Mobarakeh M, Keyhani S, Haghighi M, Hashemi-Motlagh K, Saheb-Ekhtiari K. Arthroscopic bankart surgery: Does gabapentin reduce postoperative pain and opioid consumption? A triple-blinded randomized clinical trial. *Orthopaedics & traumatology, surgery & research* 2016; **102**(5): 549-53.

161. Matsutani N, Dejima H, Takahashi Y, Kawamura M. Pregabalin reduces post-surgical pain after thoracotomy: A prospective, randomized, controlled trial. *Surgery today* 2015; **45**(11): 1411-6.

162. Meek JM, Rosbolt MB, Taylor KR, Fusco EA, Panday VA, Reilly CD. Pregabalin versus placebo in postoperative pain relief of patients' status post photorefractive keratectomy: A double-masked, randomized, prospective study. *Journal of Ocular Pharmacology & Therapeutics* 2014; **30**(7): 527-32.

163. Memari F, Jadidi R, Noroozi A, Mohammadbeigi A, Falahati J. Protecting effect of gabapentin for nausea and vomiting in the surgery of cesarean after spinal anesthesia. *Albang Maqalat Wa Abhat Fi Altahdir Waalinas* 2015; **9**(3): 401-4.

164. Menda F, Köner O, Sayn M, Ergenoǧlu M, Küçükaksu S, Aykaç B. Effects of single-dose gabapentin on postoperative pain and morphine consumption after cardiac surgery. *Journal of cardiothoracic and vascular anesthesia* 2010; **24**(5): 808-13.

165. Ménigaux C, Adam F, Guignard B, Sessler DI, Chauvin M. Preoperative gabapentin decreases anxiety and improves early functional recovery from knee surgery. *Anesthesia and analgesia* 2005; **100**(5): 1394-9.

166. Metry A, Ishak S, Khattab A. Does gabapentin have preemptive effects in women undergoing mastectomy? *Acta Anaesthesiologica Italica / Anaesthesia and Intensive Care in Italy* 2008; **59**(1): 62-76.

167. Mikkelsen S, Hilsted KL, Andersen PJ, et al. The effect of gabapentin on post-operative pain following tonsillectomy in adults. *Acta anaesthesiologica Scandinavica* 2006; **50**(7): 809-15.

168. Mishra A, Singh Nar A, Bawa A, Kaur G, Bawa S, Mishra S. Pregabalin in chronic post-thoracotomy pain. *Journal of Clinical and Diagnostic Research* 2013; **7**(8): 1659-61.

169. Mishra R, Tripathi M, Chandola HC. Comparative clinical study of gabapentin and pregabalin for postoperative analgesia in laparoscopic cholecystectomy. *Albang Maqalat Wa Abhat Fi Altahdir Waalinas* 2016; **10**(2): 201-6.

170. Misra S, Parthasarathi G, Vilanilam GC. The effect of gabapentin premedication on postoperative nausea, vomiting, and pain in patients on preoperative dexamethasone undergoing craniotomy for intracranial tumors. *Journal of neurosurgical anesthesiology* 2013; **25**(4): 386-91.

171. Miyazaki T, Sakai T, Sato S, et al. Is early postoperative administration of pregabalin beneficial for patients with lung cancer? - Randomized control trial. *Journal of Thoracic Disease* 2016; **8**(12): 3572-9.

172. Mohamed M, Othman A, Abd E-RA. Analgesic efficacy and safety of peri-operative pregabalin following radical cystectomy: A dose grading study. *Egyptian journal of anaesthesia* 2016; **32**(4): 513-7.

173. Mohammadi SS, Seyedi M. Comparing oral gabapentin versus clonidine as premedication on early postoperative pain, nausea and vomiting after general anesthesia. *International Journal of Pharmacology* 2008; **4**(2): 153-6.

174. Mohammadi SS, Seyedi M. Effects of gabapentin on early postoperative pain, nausea and vomiting in laparoscopic surgery for assisted reproductive technologies. *Pak* 2008; **11**(14): 1878-80.

175. Mohammed MH, Fahmy AM, Hakim KYK. Preoperative gabapentin augments intraoperative hypotension and reduces postoperative opioid requirements with functional endoscopic sinus surgery. *Egyptian Journal of Anaesthesia* 2012; **28**(3): 189-92.

176. Monks DT, Hoppe DW, Downey K, Shah V, Bernstein P, Carvalho JCA. A perioperative course of gabapentin does not produce a clinically meaningful improvement in analgesia after cesarean delivery: A randomized controlled trial. *Anesthesiology* 2015; **123**(2): 320-6.

177. Montazeri K, Kashefi P, Honarmand A. Pre-emptive gabapentin significantly reduces postoperative pain and morphine demand following lower extremity orthopaedic surgery. *Singapore medical journal* 2007; **48**(8): 748-51.

178. Moore A, Costello J, Wieczorek P, Shah V, Taddio A, Carvalho JCA. Gabapentin improves postcesarean delivery pain management: A randomized, placebo-controlled trial. *Anesthesia & Analgesia* 2011; **112**(1): 167-73.

179. Myhre M, Romundstad L, Stubhaug A. Pregabalin reduces opioid consumption and hyperalgesia but not pain intensity after laparoscopic donor nephrectomy. *Acta anaesthesiologica Scandinavica* 2017; **61**(10): 1314-24.

180. Nasr DA, Abdellatif AA. Efficacy of preoperative melatonin versus pregabalin on perioperative anxiety and postopera tive pain in gynecological surgeries. *Egyptian Journal of Anaesthesia* 2014; **30**(1): 89-93.

181. Nella A, Bovani R, Ricciardulli S, Ruggiano P, Gianesello L, Pavoni V. Effectiveness of multidisciplinary clinical approach on enhanced recovery after surgery in patients with inflammatory bowel diseases. *European journal of anaesthesiology* 2012; **29**(50): 206-7.

182. Neogi M, Basak S, Ghosh D, Mukherjee S, Dawn S, Bhattacharjee DP. A randomized double-blind placebo-controlled clinical study on the effects of gabapentin premedication on hemodynamic stability during laparoscopic cholecystectomy. *Journal of Anaesthesiology Clinical Pharmacology* 2012; **28**(4): 456-9.

183. Nikhil MP, Mallya P. The effect of preemptive gabapentin on postoperative pain and opioid requirement following surgeries in the anterior part of the neck. *Journal of Evolution of Medical and Dental Sciences-Jemds* 2016; **5**(36): 2142-6.

184. Nikolajsen L, Finnerup NB, Kramp S, Vimtrup AS, Keller J, Jensen TS. A randomized study of the effects of gabapentin on postamputation pain. *Anesthesiology* 2006; **105**(5): 1008-15.

185. Nimmaanrat S, Tangtrakulwanish B, Klabklay P, Boonriong T. Perioperative administration of pregabalin in patients undergoing arthroscopic anterior cruciate ligament reconstruction: Does it help to relieve postoperative pain? *Journal of the Medical Association of Thailand* 2012; **95**(10): 1297-301.

186. NM. Study to investigate the effectiveness of pregabalin for management of patients undergoing total hip replacement. 2013. <https://clinicaltrials.gov/ct2/show/results/NCT00905437?rslt=With&cond=pregabalin&rank=28&sect=X70156#outcome1>.

187. Nofal WH, Mahmoud MS, Al Alim AAA. Does preoperative gabapentin affects the characteristics of post-dural puncture headache in parturients undergoing cesarean section with spinal anesthesia? *Saudi journal of anaesthesia* 2014; **8**(3): 359-63.

188. Nutt D, Mandel F, Baldinetti F. Early onset anxiolytic efficacy after a single dose of pregabalin: Double-blind, placebo- and active-comparator controlled evaluation using a dental anxiety model. *Journal of Psychopharmacology* 2009; **23**(8): 867-73.

189. Nutthachote P, Sirayapiwat P, Wisawasukmongchol W, Charuluxananan S. A randomized, double-blind, placebo-controlled trial of oral pregabalin for relief of shoulder pain after laparoscopic gynecologic surgery. *Journal of minimally invasive gynecology* 2014; **21**(4): 669-73.

190. Ogunnaike B. Postoperative pain and morphine consumption after mastectomy - Lyrica. 2014.

191. Olmedo-Gaya M, Manzano-Moreno F, Galvez-Mateos R, Gonzalez-Rodriguez M, Talero-Sevilla C, Vallecillo-Capilla M. Oral pregabalin for postoperative pain relief after third molar extraction: A randomized controlled clinical trial. *Clinical oral investigations* 2016; **20**(7): 1819-26.

192. Ommid M, Taj A, Iqbal J, et al. Preemptive pregablin: Efficacy on postoperative pain relief and opioid sparing in lower abdominal surgeries. *Journal of Evolution of Medical and Dental Sciences-Jemds* 2015; **4**(9): 1449-56.

193. Ozgencil E, Yalcin S, Tuna H, Yorukoglu D, Kecik Y. Perioperative administration of gabapentin 1,200 mg day-1 and pregabalin 300 mg day-1 for pain following lumbar laminectomy and discectomy: A randomised, double-blinded, placebo-controlled study. *Singapore medical journal* 2011; **52**(12): 883-9.

194. Paech MF, Goy R, Chua S, Scott K, Christmas T, Doherty DA. A randomized, placebo-controlled trial of preoperative oral pregabalin for postoperative pain relief after minor gynecological surgery. *Anesthesia and analgesia* 2007; **105**(5): 1449-53.

195. Pakravan M, Roshani M, Yazdani S, Faramazi A, Yaseri M. Pregabalin and gabapentin for post-photorefractive keratectomy pain: A randomized controlled trial. *European journal of ophthalmology* 2012; **22**(7): S106-13.

196. Pandey CK, Priye S, Singh S, Singh U, Singh RB, Kumar Singh P. Preemptive use of gabapentin significantly decreases postoperative pain and rescue analgesic requirements in laparoscopic cholecystectomy. *Canadian Journal of Anesthesia* 2004; **51**(4): 358-63.

197. Pandey CK, Sahay S, Gupta D, et al. Preemptive gabapentin decreases postoperative pain after lumbar discoidectomy. *Canadian Journal of Anaesthesia* 2004; **51**(10): 986-9.

198. Pandey CK, Singhal V, Kumar M, et al. Gabapentin provides effective postoperative analgesia whether administered pre-emptively or post-incision. *Canadian Journal of Anaesthesia* 2005; **52**(8): 827-31.

199. Pandey CK, Navkar DV, Giri PJ, et al. Evaluation of the optimal preemptive dose of gabapentin for postoperative pain relief after lumbar diskectomy: A randomized, double-blind, placebo-controlled study. *Journal of neurosurgical anesthesiology* 2005; **17**(2): 65-8.

200. Pandey CK, Priye S, Ambesh SP, Singh S, Singh U, Singh PK. Prophylactic gabapentin for prevention of postoperative nausea and vomiting in patients undergoing laparoscopic cholecystectomy: A randomized, double-blind, placebo-controlled study. *Journal of postgraduate medicine* 2006; **52**(2): 97-100.

201. Pandey CK, Tripathi M, Joshi G, Karna ST, Singh N, Singh PK. Prophylactic use of gabapentin for prevention of succinylcholine-induced fasciculation and myalgia: A randomized, double-blinded, placebo-controlled study. *Journal of postgraduate medicine* 2012; **58**(1): 19-22.

202. Pandey CK, Karna ST, Tandon M, Pandey VK, Singh A. Comparative evaluation of prophylactic use of pregabalin, gabapentin and diclofenac sodium for prevention of succinylcholine-induced myalgia: A randomized, double-blinded study. *Journal of postgraduate medicine* 2014; **60**(1): 16-20.

203. Parikh HG, Dash SK, Upasani CB. Study of the effect of oral gabapentin used as preemptive analgesia to attenuate post-operative pain in patients undergoing abdominal surgery under general anesthesia. *Saudi journal of anaesthesia* 2010; **4**(3): 137-41.

204. Park SS, Kim D-H, Nam I-C, Lee I-H, Hwang J-W. The effectiveness of pregabalin for post-tonsillectomy pain control: A randomized controlled trial. *PloS one* 2015; **10**(2): e0117161.

205. Park M, Jeon Y. Preoperative pregabalin prolongs duration of spinal anesthesia and reduces early postoperative pain: A double-blind, randomized clinical CONSORT study. *Medicine* 2016; **95**(36): e4828.

206. Parveen S, Negi DS, Kumar R, Bagwan MC. Oral clonidine vs oral pregabalin premedication to attenuate pressor response to direct laryngoscopy in patients undergoing laparoscopic cholecystectomy: A randomized double blind study. *Journal of Clinical and Diagnostic Research JCDR* 2016; **10**(9): UC21-UC5.

207. Paul JE, Nantha-Aree M, Buckley N, et al. Gabapentin does not improve multimodal analgesia outcomes for total knee arthroplasty: A randomized controlled trial. *Canadian Journal of Anaesthesia* 2013; **60**(5): 423-31.

208. Paul JE, Nantha-Aree M, Buckley N, et al. Randomized controlled trial of gabapentin as an adjunct to perioperative analgesia in total hip arthroplasty patients. *Canadian Journal of Anaesthesia* 2015; **62**(5): 476-84.

209. Pavoni V, Vellucci R, Zuppani B, Barboni E, Gianesello L. The influence of a single preoperative dose of pregabalin on patient-controlled analgesia following surgery for inflammatory bowel diseases: 14AP4–3. *European journal of anaesthesiology* 2010; **27**(47): 201.

210. Peng PWHL, C.; Farcas, E.; Haley, A.; Wong, W.; Bender, J.; Chung, F. Use of low-dose pregabalin in patients undergoing laparoscopic cholecystectomy. *British journal of anaesthesia* 2010; **105**(2): 155-61.

211. Pesonen A, Suojaranta-Ylinen R, Hammarn E, et al. Pregabalin has an opioid-sparing effect in elderly patients after cardiac surgery: A randomized placebo-controlled trial. *British journal of anaesthesia* 2011; **106**(6): 873-81.

212. Pourfakhr P, Raaefi V, Najafi A, et al. Evaluation of postoperative analgesic effects of gabapentin and ketorolac after orthognathic surgeries. *Tehran University Medical Journal* 2016; **73**(11): 812-8.

213. Prabhakar H, Arora R, Bithal PK, Rath GP, Dash HH. The analgesic effects of preemptive gabapentin in patients undergoing surgery for brachial plexus injury - a preliminary study. *Journal of neurosurgical anesthesiology* 2007; **19**(4): 235-8.

214. Prasad A, Bhattacharyya S, Biswas A, Saha M, Mondal S, Saha D. A comparative study of pre-operative oral clonidine and pregabalin on post-operative analgesia after spinal anesthesia. *Albang Maqalat Wa Abhat Fi Altahdir Waalinas* 2014; **8**(1): 41-7.

215. Przesmycki K, Wiater-Koziol E, Kotarski J, et al. Effect of pre-emptive pregabalin on pain intensity and morphine requirement after hysterectomy. *Anestezjologia intensywna terapia* 2011; **43**(1): 14-7.

216. Radhakrishnan M, Bithal PK, Chaturvedi A. Effect of preemptive gabapentin on postoperative pain relief and morphine consumption following lumbar laminectomy and discectomy: A randomized, double-blinded, placebo-controlled study. *Journal of neurosurgical anesthesiology* 2005; **17**(3): 125-8.

217. Raghove P, Jaiswal R, Singh K. Evaluating the effect of preoperative oral gabapentin on postoperative pain in patients receiving spinal anaesthesia for lower limb surgery. *Southern African Journal of Anaesthesia and Analgesia* 2010; **16**(6): 9-12.

218. Rajappa GC, Vig S, Bevanaguddaiah Y, Anadaswamy TC. Efficacy of pregabalin as premedication for post-operative analgesia in vaginal hysterectomy. *Anesth* 2016; **6**(3): e34591.

219. Rajendran I, Basavareddy A, Meher BR, Srinivasan S. Prospective, randomised, double blinded controlled trial of gabapentin and pregabalin as pre emptive analgesia in patients undergoing lower abdominal and limb surgery under spinal anaesthesia. *Indian Journal of Pain* 2014; **28**(3): 155-9.

220. Rapchuk IL, O'Connell L, Liessmann CD, Cornelissen HR, Fraser JF. Effect of gabapentin on pain after cardiac surgery: A randomised, double-blind, placebo-controlled trial. *Anaesthesia & Intensive Care* 2010; **38**(3): 445-51.

221. Rastogi B, Gupta K, Gupta PK, Agarwal S, Jain M, Chauhan H. Oral pregabalin premedication for attenuation of haemodynamic pressor response of airway instrumentation during general anaesthesia: A dose response study. *Indian journal of anaesthesia* 2012; **56**(1): 49-54.

222. Ray D, Bhattacharjee S. Effect of pre-operative gabapentin on early post operative pain, nausea, vomiting and analgesic consumption following hysterectomy in a tertiary care teaching hospital: A randomized controlled trial. *Indian Journal of Pharmacy and Pharmacology* 2015; **2**(2): 113-8.

223. Rezaeian A. Administering of pregabalin and acetaminophen on management of postoperative pain in patients with nasal polyposis undergoing functional endoscopic sinus surgery. *Acta Oto-Laryngologica* 2017; **137**(12): 1249-52.

224. Rimaz S, Alavi CE, Sedighinejad A, Tolouie M, Kavoosi S, Koochakinejad L. Effect of gabapentin on morphine consumption and pain after surgical debridement of burn wounds: A double-blind randomized clinical trial study. *Archives of trauma research* 2012; **1**(1): 38-43.

225. Rodgers SB. Oral gabapentin versus placebo for treatment of postoperative pain following photorefractive keratectomy. 2012. <https://clinicaltrials.gov/ct2/show/NCT00793910>.

226. Rorarius MGF, Mennander S, Suominen P, et al. Gabapentin for the prevention of postoperative pain after vaginal hysterectomy. *Pain* 2004; **110**(1-2): 175-81.

227. Rupniewska-Ladyko A, Malec-Milewska M, Kraszewska E, Pirozynski M. Gabapentin given before laparoscopic sleeve gastrectomy reduces postoperative oxycodone consumption in obese patients. A randomized double-blind placebo-controlled trial. *Minerva anestesiologica* 2017; **84**(5): 565.

228. Sadatsune EJ, Leal PdC, Cossetti RJD, Sakata RK. Effect of preoperative gabapentin on pain intensity and development of chronic pain after carpal tunnel syndrome surgical treatment in women: Randomized, double-blind, placebo-controlled study. *Sao Paulo Medical Journal* 2016; **134**(4): 285-91.

229. Sagit M, Yalcin S, Polat H, Korkmaz F, Cetinkaya S, Somdas MA. Efficacy of a single preoperative dose of pregabalin for postoperative pain after septoplasty. *Journal of Craniofacial Surgery* 2013; **24**(2): 373-5.

230. Said-Ahmed HAF. Dose ranging study of gabapentin for postoperative pain after myomectomy. *Acta Anaesthesiologica Italica / Anaesthesia and Intensive Care in Italy* 2007; **58**(1): 23-34.

231. Samal S, Pattnaik S, Swain N, Jena S. Dexmedetomidine versus oral pregabalin to attenuate hemodynamic response to laryngoscopy and orotracheal intubation: A comparative study. *Asian journal of pharmaceutical and clinical research* 2017; **10**(5): 258-60.

232. Sanders JG, Cameron C, Dawes PJD. Gabapentin in the management of pain following tonsillectomy: A randomized double-blind placebo-controlled trial. *Otolaryngology-Head and Neck Surgery* 2017; **157**(5): 781-90.

233. Sanie MS, Damshenas MH, Hosseini Y, Radmehr M, Mortezaie M, Behzadnia A. Comparison of analgesic effect of pregabalin and melatonin in patients undergoing shock wave lithotripsy: A randomized, double-blind, placebo-controlled study. *Journal of Fundamental and Applied Sciences* 2017; **9**(2): 1207-13.

234. Sanin L, Chelly J, Yang R, Cheung R, Lionberger D. Efficacy and safety of pregabalin in the treatment of postoperative pain following total knee arthroplasty: 14AP5–9. *European journal of anaesthesiology* 2010; **27**(47): 205-6.

235. Sarakatsianou C, Theodorou E, Georgopoulou S, Stamatiou G, Tzovaras G. Effect of pre-emptive pregabalin on pain intensity and postoperative morphine consumption after laparoscopic cholecystectomy. *Surgical endoscopy* 2013; **27**(7): 2504-11.

236. Sava M, Rusu N. Effects of gabapentin on preoperative anxiety and postoperative analgesia with morphine in rectocolic surgery. *Jurnalul Roman de Anestezie Terapie Intensiva/Romanian Journal of Anaesthesia and Intensive Care* 2009; **16**(1): 10-6.

237. Saxena A, Gupta P, Chaudhary L. Effect of pregabalin premedication on the laryngoscopic response and intra-operative hemodynamic variables in laparoscopic cholecystectomy: A randomized comparison of two doses. *International Journal of Scientific Study* 2016; **4**(5): 75-80.

238. Schulmeyer MCC, de la Maza J, Ovalle C, Farias C, Vives I. Analgesic effects of a single preoperative dose of pregabalin after laparoscopic sleeve gastrectomy. *Obesity surgery* 2010; **20**(12): 1678-81.

239. Sebastian B, Talikoti AT, Nelamangala K, Krishnamurthy D. Effect of oral pregabalin as preemptive analgesic in patients undergoing lower limb orthopedic surgeries under spinal anaesthesia. *Journal of Clinical and Diagnostic Research* 2016; **10**(7): UC01

240. Sekhavat L, Zare F, Mojibian M. The postoperative analgesic effects of low-dose gabapentin in patients undergoing abdominal hysterectomy. *South African Journal of Obstetrics and Gynaecology* 2009; **15**(1): 37-40.

241. Şen H, Sizlan A, Yanarateş O, et al. The effects of gabapentin on acute and chronic pain after inguinal herniorrhaphy. *European journal of anaesthesiology* 2009; **26**(9): 772-6.

242. Şen H, Sizlan A, Yanarates O, et al. A comparison of gabapentin and ketamine in acute and chronic pain after hysterectomy. *Anesthesia & Analgesia* 2009; **109**(5): 1645-50.

243. Shimony N, Amit U, Minz B, et al. Perioperative pregabalin for reducing pain, analgesic consumption, and anxiety and enhancing sleep quality in elective neurosurgical patients: A prospective, randomized, double-blind, and controlled clinical study. *Journal of neurosurgery* 2016; **125**(6): 1513.

244. Short J, Downey K, Bernstein P, Shah V, Carvalho J. A single preoperative dose of gabapentin does not improve postcesarean delivery pain management: A randomized, double-blind, placebo-controlled dose-finding trial. *Anesthesia and analgesia* 2012; **115**(6): 1336-42.

245. Siddiqui NT, Fischer H, Guerina L, Friedman Z. Effect of a preoperative gabapentin on postoperative analgesia in patients with inflammatory bowel disease following major bowel surgery: A randomized, placebo-controlled trial. *Pain Practice* 2013; **14**(2): 132-9.

246. Singla NK, Echelly J, Lionberger DR, et al. Pregabalin for the treatment of postoperative pain: Results from three controlled trials using different surgical models. *Journal of pain research* 2014; **8**: 9-20.

247. Soltanzadeh M, Ebad A, Pipelzadeh MR, et al. Gabapentin may relieve post-coronary artery bypass graft pain: A double blind randomized clinical trial. *International Cardiovascular Research Journal* 2011; **5**(3): 79-82.

248. Spence D, Goff J, Mohan E, Bowen K, Osborne L, Maye J. Perioperative administration of gabapentin for shoulder arthroscopy: A prospective, randomized, double-blind, placebo-controlled study. *AANA journal* 2011; **79**(4): S43-50.

249. Spreng UJ, Dahl V, Rãder J. Effect of a single dose of pregabalin on post-operative pain and pre-operative anxiety in patients undergoing discectomy. *Acta anaesthesiologica Scandinavica* 2011; **55**(5): 571-6.

250. Srivastava U, Kumar A, Saxena S, Mishra AR, Saraswat N, Mishra S. Effect of preoperative gabapentin on postoperative pain and tramadol consumption after minilap open cholecystectomy: A randomized double-blind, placebo-controlled trial. *European journal of anaesthesiology* 2010; **27**(4): 331-5.

251. Srivastava VK, Agrawal S, Nimbhorkar VK, Mishra A, Sharma S, Panda PK. Prophylactic use of pregabalin for prevention of succinylcholine-induced fasciculation and myalgia: A randomized, double-blinded, placebo-controlled study. *Brazilian Journal of Anesthesiology* 2014; **66**(2): 165-70.

252. Sundar AS, Kodali R, Sulaiman S, Ravullapalli H, Karthekeyan R, Vakamudi M. The effects of preemptive pregabalin on attenuation of stress response to endotracheal intubation and opioid-sparing effect in patients undergoing off-pump coronary artery bypass grafting. *Annals of cardiac anaesthesia* 2012; **15**(1): 18-25.

253. Takmaz SA, Kaymak Ç, Pehlivan BŞ, Dikmen B. Effect of preoperative 900 and 1200 mg single oral dose of gabapentin on postoperative pain relief and tramadol consumption in open cholecystectomy surgery. *Agri : Agri (Algoloji) Dernegi'nin Yayin organidir = The journal of the Turkish Society of Algology* 2007; **19**(3): 32-8.

254. Talikoti AT, Dinesh K, Deepak VD, Nanda A, Somasekharam P. Comparison of injection lignocaine (preservative free) 1.5 mg/kg i.v with oral pregabalin 150 mg for attenuation haemodynamic response to laryngoscopy and tracheal intubation. *Journal of the Indian Medical Association* 2013; **111**(10): 692-6.

255. Thananun M, Sathitkarnmanee T, Intarak P. Gabapentin premedication to reduce postoperative nausea and vomiting in surgical patient receiving spinal morphine. *Anesthesia and analgesia* 2016; **123**(3): 521-2.

256. Tirault M, Foucan L, Debaene B, et al. Gabapentin premedication: Assessment of preoperative anxiolysis and postoperative patient satisfaction. *Acta anaesthesiologica Belgica* 2010; **61**(4): 203-9.

257. Tiwari AK, Tayal S, Chadha M, Ganguly S, Mandhyan R. Effect of oral clonidine, etoricoxib, and gabapentin as premedication on sensory and motor blocks and post operative analgesia in surgeries under subarachnoid block using bupivacaine. *American journal of therapeutics* 2014; **21**(3): 143-7.

258. Tsitsopoulos PP, Kiskira O, Kolotoura A, Bibis A, Anastassiou E. Effects of gabapentin on postoperative pain and morphine consumption after lumbar fusion surgery. Proceedings of the 13th European Congress of Neurosurgery. 40128 Bologna: Medimond S R L; 2007: 637-40.

259. Tunç M, Cinar D, Sahin S, Sazak H, Kose SK. The effects of pre-emptive pregabalin on post-thoracotomy pain and epidural analgesia. *Turk Gogus Kalp Damar Cerrahisi Dergisi-Turkish Journal of Thoracic and Cardiovascular Surgery* 2014; **22**(1): 129-37.

260. Tuncer S, Bariskaner H, Reisli R, Sarkilar G, C̀icekci F, Otelcioglu S. Effect of gabapentin on postoperative pain: A randomized, placebo-controlled clinical study. *Pain Clinic* 2005; **17**(1): 95-9.

261. Turan A, Memis D, Karamanlioglu B, Yagiz R, Pamukcu Z, Yavuz E. The analgesic effects of gabapentin in monitored anesthesia care for ear-nose-throat surgery. *Anesthesia & Analgesia* 2004; **99**(2): 375-8.

262. Turan A, Karamanlioglu B, Memis D, et al. Analgesic effects of gabapentin after spinal surgery. *Anesthesiology* 2004; **100**(4): 935-8.

263. Turan A, Karamanlioglu B, Memis D, Usar P, Pamukcu Z, Ture M. The analgesic effects of gabapentin after total abdominal hysterectomy. *Anesthesia & Analgesia* 2004; **98**(5): 1370-3.

264. Turan A, Kaya G, Karamanlioglu B, Pamukcu Z, Apfel CC. Effect of oral gabapentin on postoperative epidural analgesia. *British journal of anaesthesia* 2006; **96**(2): 242-6.

265. Turan A, White PF, Karamanlioǧlu B, Pamukçu Z. Premedication with gabapentin: The effect on tourniquet pain and quality of intravenous regional anesthesia. *Anesthesia and analgesia* 2007; **104**(1): 97-101.

266. Ucak A, Onan B, Sen H, Selcuk I, Turan A, Yilmaz AT. The effects of gabapentin on acute and chronic postoperative pain after coronary artery bypass graft surgery. *Journal of Cardiothoracic & Vascular Anesthesia* 2011; **25**(5): 824-9.

267. Vahabi S, Nadri S, Izadi F. The effects of gabapentin on severity of post spinal anesthesia headache. *Pakistan journal of pharmaceutical sciences* 2014; **27**(5): 1203-7.

268. Vahedi P, Shimia M, Aghamohammadi D, et al. Does preemptive gabapentin reduce morphine consumption and remaining leg pain after lumbar discectomy? A randomized double-blind, placebo-controlled clinical trial. *Neurosurgery Quarterly* 2011; **21**(2): 114-20.

269. Valadan M, Banifatemi S, Yousefshahi F. Preoperative gabapentin to prevent postoperative shoulder pain after laparoscopic ovarian cystectomy: A randomized clinical trial. *Anesthesiology and pain medicine* 2015; **5**(6): e31524.

270. Vasigh A, Najafi F, Khajavikhan J, Jaafarpour M, Khani A. Comparing gabapentin and celecoxib in pain management and complications after laminectomy: A randomized double-blind clinical trial. *Iranian Red Crescent medical journal* 2016; **18**(2): e34559.

271. Wang H, Gargano C, Lukac S, et al. An enhanced bunionectomy model as a potential tool for early decision-making in the development of new analgesics. *Advances in therapy* 2010; **27**(12): 963-80.

272. Wei LA, Davies BW, Hink EM, Durairaj VD. Perioperative pregabalin for attenuation of postoperative pain after eyelid surgery. *Ophthalmic Plastic & Reconstructive Surgery* 2015; **31**(2): 132-5.

273. White PF, Tufanogullari B, Taylor J, Klein K. The effect of pregabalin on preoperative anxiety and sedation levels: A dose-ranging study. *Anesthesia & Analgesia* 2009; **108**(4): 1140-5.

274. YaDeau JT, Paroli L, Kahn RL, et al. Addition of pregabalin to multimodal analgesic therapy following ankle surgery: A randomized double-blind, placebo-controlled trial. *Regional Anesthesia & Pain Medicine* 2012; **37**(3): 302-7.

275. YaDeau JT, Lin Y, Mayman DJ, et al. Pregabalin and pain after total knee arthroplasty: A double-blind, randomized, placebo-controlled, multidose trial. *British journal of anaesthesia* 2015; **115**(2): 285-93.

276. Yoon KJ, Kim CS, Ryu k H, Kim ES, Choi JH, Lee YK. Analgesic effects of gabapentin on post-hysterectomy pain - a double blind study. *Korean journal of anesthesiology* 2001; **41**(6): S13-8.

277. Yücel A, Özturk E, Aydoan MS, Durmuş M, Çolak C, Ersoy MÖ. Effects of 2 different doses of pregabalin on morphine consumption and pain after abdominal hysterectomy: A randomized, double-blind clinical trial. *Current Therapeutic Research - Clinical and Experimental* 2011; **72**(4): 174-5.

278. Zarei M, Najafi A, Mansouri P, et al. Management of postoperative pain after lumbar surgery—pregabalin for one day and 14 days—a randomized, triple-blinded, placebo-controlled study. *Clinical neurology and neurosurgery* 2016; **151**: 37-42.

279. Ziyaeifard M, Mehrabanian MJ, Faritus SZ, et al. Premedication with oral pregabalin for the prevention of acute postsurgical pain in coronary artery bypass surgery. *Anesth* 2015; **5**(1): e24837.