Systematic Review Protocol

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| Variable | Example of Filling |
| Title | **Safety and efficacy of Dexmedetomidine preoperatively and postoperatively in transsphenoidal Resection of Pituitary Adenoma: A Systematic Review and Meta-Analysis of Randomized Controlled Trials** |
| Authors |  |
| Objectives/ Aim of Study | This study aims to evaluate the effectiveness and safety of dexmedetomidine compared to placebo in patients undergoing transsphenoidal resection of pituitary adenomas. |
| PICO | P: Participants: patients undergoing resection of Pituitary Adenoma through transsphenoidal technique.  I. Interventions: Dexmedetomidine  C. Comparator: placebo  O. Outcomes: Studies must report on clinically relevant outcomes, such as Mean arterial pressure, heart rate, blood loss, Nasua and vomiting |
| Keywords | **Dexmedetomidine, Pituitary Adenoma and randomized controlled trials** |
| Inclusion Criteria | **Inclusion Criteria**:  1. Study Design: RCTs.  2. Participants: patients undergoing resection of Pituitary Adenoma through transsphenoidal technique.  3. Interventions: Dexmedetomidine  4.Comparator: placebo  5. Outcomes: Studies must report on clinically relevant outcomes, such as Mean arterial pressure, heart rate, blood loss, Nasua and vomiting |
| Exclusion Criteria | **Exclusion Criteria**  1. Non-RCT Studies: Observational studies, case reports, reviews, or meta-analyses.  2. Other Treatments: Studies comparing Dexmedetomidine to another drug rather than placebo.  3. Incomplete Data: Studies with incomplete outcome data or missing key information that cannot be obtained from the authors. |
| Data Extraction Variables | **Data extraction:**  We extracted all relevant data from the selected studies and organized it into a dedicated spreadsheet. This spreadsheet captured essential information such as the study design, country, sample size for each group, Age represented by Mean and SD for each group, weightfor each group, sex for each group represented as male to female numbers, and the main findings of included studies |
| Data Bases | PubMed, Scopus, Web of Science, and Cochrane library. |
| Number of Articles (for PRISMA Chart) | PubMed: 18  Scopus 24  Cochrane 5  WOS:20  Goggle scholar (n= 46)    Total 113  After Duplicates remove 103 |
| Quality Assessment Tool | bias using Cochrane’s risk of bias tool for randomized controlled trials. Studies found at serious risk of bias will be excluded. |