Evidence based medicine (EBM) was introduced as a new paradigm for improving patient care. EBM is defined as “the conscientious and judicious use of current best evidence in conjunction with clinical expertise and patient values to guide health care decisions[1]. Various threats for EBM’s potential for improving health care are biased hypothesis selection, manipulation of study design, and selective publication. Publication bias in anesthesia is not studied as much as in other medical specialties [2, 3]. The purpose of this study is to evaluate the extent of publication bias in anesthesia and to evaluate the characteristics of studies that are registered and unpublished.

We used the advanced search option and the key word “anesthesia” to identify anesthesia related studies in the clinical trials registry. For the purpose of this analysis we have randomly collected 10% of the anesthesia related studies from the year 2008-2013. We have collected information pertaining to drug/device study, origin, type, design, subspecialty, enrollment target, anesthesia type, and adult/ pediatric, sponsored/ investigator initiated, population studied and start and end date. Studies with an ongoing, terminated, or unknown status were excluded from the analysis. For results, we initially searched the results section associated with each study; also we searched for any publication link at the study result area of the registry. For studies with no results and publication links we searched on Pubmed, Google Scholar and Embase by trial registration number, study title, and investigators name for matching manuscripts. We used descriptive statistics to report the results of the study.

Overall, 5513 studies were identified within the queried timeframe. The number of studies registered in each year is depicted in fig.1. We have included 373 studies in our interim analysis. Medium enrollment was 66 subjects per trial (interquartile range 36-120). 30% of the registered studies were originated in the United States. 52% of studies were associated with studying drugs, 11% and 36.5% were associated with devices and other areas such as survey studies, comparisons of two types of anesthesia, blood transfusions, ect. respectively. 85% of the studies examined people who were 18 years and above and 80% of the studies were investigator initiated studies. 72% of the studies were randomized controlled studies and 21% of the studies were observational in nature. In the studies with the status “complete” 48% of them were published and additionally, 87% of investigators did not comply to report the results in the registry. The number of studies published in each year is depicted in fig 2. Additionally, of the studies published, 76% of those had a positive result. Further results will be presented at the conference.
Only 48% of anesthesia related studies with a “complete” status in clinical trials .gov were published. Furthermore, investigators fail to fulfill the requirement of making the results available in the results section of the registry with only 23% of those published, posted results. Even of those published, over 76% found a positive result. Lack of availability of published literature and the non-availability of the results from these studies contributes to publication bias and also failure to honor the ethical responsibility of the investigator to share the results of the study with subjects and with the medical community around the world.

