

Ortopedik Cerrahide Deliryum: Bibliyometrik Analiz

Delirium in Orthopedic Surgery: A Bibliographic Analysis

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ÖZ

Deliryum, bilinç ve bilişteki değişimler ve dalgalanmalarla karakterize nörokognitif bir bozukluktur. Deliryum yaşlılarda ortopedik cerrahi girişimlerin sık rastlanılan perioperatif komplikasyonudur. Bu çalışmanın amacı ortopedik girişimlerle ilişkili deliryum hakkında yapılan yayınlarla ilgili daha fazla bilgi elde etmektir. Çalışmada web tabanlı bir analiz yapıldı. Bu çalışma Thomson Reuters Web of Knowledge veritabanı üzerinde yapıldı. Tarama "kalça", "diz", "omurga", "artroplasti", "kırık", "ortopedik" kelimeleri "deliryum" anahtar kelimesine ayrı ayrı ekleyerek yapıldı. Toplam 317 yayın tüm yazarlar tarafından tek tek değerlendirildi. "Risk Faktörleri" başlığı 71 yayın ile en fazla çalışma başlığı olup, bunu 50 yayın ile "insidans" başlığı izlemektedir. Literatür, Thomson Reuters Web of Knowledge veritabanında tarandı, perioperatif ortopedik müdahalelerle deliryum hakkındaki yayınların sayısının ve çeşitliliğinin yıllar içinde arttığı tespit edildi.

Anahtar Kelimeler: Bibliyometrik, Deliryum, Kalça kırığı

Delirium is a neurocognitive disorder that is characterized by alterations and fluctuations in consciousness and cognition(1). Delirium is a common perioperative complication of orthopaedic surgical interventions in the elderly.

With the increase in the intelligibility of delirium and the risk factors, there has been an increase in the number of publications about the literature especially in the last two decades.

Bibliometric analysis is a method that quantitatively analyzes academic literature, mainly using citation reports and content analysis(2). The aim

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ABSTRACT

Delirium is a neurocognitive disorder that is characterized by alterations and fluctuations in consciousness and cognition. Delirium is a common perioperative complication of orthopaedic surgical interventions in the elderly. The aim of this study was to obtain more knowledge of the publications about delirium related to orthopaedic interventions. This study was a web-based analysis. This study was conducted on the Thomson Reuters Web of Knowledge database. Screening was performed by adding "hip", "fracture", "knee", "spine", "arthroplasty", "orthopaedic" words separately to the keyword "delirium". A total of 317 publications were evaluated one by one from all of the authors. "Risk factors" was the most study headings with 71 publications, followed by "incidence" with 50 publications. Literature scanned on the Thomson Reuters Web of Knowledge database and found that the number and variety of publications about delirium with perioperative orthopedic interventions increased over the years.

Keywords: Bibliometric, Delirium, Hip fracture

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MATERIALS AND METHODS

This study was conducted on the Thomson Reuters Web of Knowledge database. Screening was performed by adding "hip", "fracture", "knee", "spine", "arthroplasty", "orthopaedic" words separately to the keyword "delirium".

All of the publications scanned in the database without any time constraint. Multiple scanned publications with different keywords were evaluated only once. All abstracts were read by authors of the study and grouped under headings according to the main subject of the publication.

Studies that assessed delirium perioperatively categorized under the heading of “assessment”. Studies that reported outcomes and complications categorized under the heading of “outcome”. Studies that investigated the relationship between delirium with serum proteins and markers categorized under the heading of “biochemistry”. Studies that states the incidence of delirium categorized under the heading of “incidence”. Studies that focused on risk factors about delirium categorized under the heading of “risk factors”. Preoperative preventative studies categorized under the heading of “prevent”. Studies that investigated the relationship between delirium with the type of the anesthesia and anesthetic drugs categorized under the heading of “anesthesia”. Publications that focused on the management and treatment of delirium categorized under the heading of “management”. Studies about subtypes of the delirium categorized under the heading of “subtype”. Publications about pain and analgesia with delirium categorized under the heading of “analgesia”.

Windows Excel program was used to present graphically the data. Trends in publication numbers were evaluated ten-year intervals. The statistical evaluation did not use in this study.

RESULTS

A total of 317 publications were evaluated one by one from all of the authors. “Risk factors” was the most study headings with 71 publications, followed by “incidence” with 50 publications. Top 5 headings according to publication numbers were shown in figure 1. Publication numbers in the last decade are much more than the remaining. With 51 publications 2017 was the most broadcast year. The graphical distribution of publication numbers according to decades and last ten year was shown in figure 2 and figure 3. When we looked at the countries; most of the publications came from the USA. Publications were evaluated according to authors, Eikelenboom P was the most published author in the literature. The graphical distribution of authors according to publication numbers was shown in figure 4. The most cited publication was Marcantonio ER’s with 602 citations(3).

DISCUSSION

After orthopaedic operations such as arthroplasty, hip fracture and spine in elderly populations, delirium is a common and serious complication that surgeons need neurology consultation. In this study, literature scanned on the Thomson Reuters Web of Knowledge database and found that the number and variety of publications about delirium with perioperative orthopedic interventions increased over the years.

The most publication heading was the “risk factor”, also this was the trending topic in the last decade. A better definition of delirium especially by other physicians and the authors’ research wishes probably a major cause of this result. In a recent study authors reported that delirium was significantly associated ($p < 0.05$) with the factors of age, hospitalization, diabetes, preoperative hematocrit (HCT), perioperative protein consumption, transfusion volume, preoperative leukocyte level, albumin level, American Society of Anesthesiologists (ASA) classification, blood loss, coronary heart disease, and cerebral infarction aged patients with hip fracture(4).

Trends of publications that report the incidence of delirium with perioperative orthopedic interventions seem do not change over the years. It was the oldest type of publication and nowadays authors still continue to studies that report incidences(5). Publications that report effects of delirium on postoperative periods such as mortality, longer hospitalization time, medical complications and functional scores increased by the last decade. 70% of the “outcome” studies published in the last decade. In a study of Aziz et al. patients with delirium were more likely to, had longer hospital stays, and had more comorbidities patients without delirium(6). Also, they reported that patients with delirium were more likely to have major and minor perioperative complications versus patients without delirium.

Assessment of delirium is another topic. Studies that assess patients preoperatively and postoperatively with scoring based tests trends of last decade(7,8). Half of the studies that published last year

was about “assessment”. Studies that investigate the association with serum metabolites, cerebrospinal fluid proteins and biochemical markers with delirium is another trend of the last decade. 87% of the “biochemistry” studies published in the last decade(9–11).

CONCLUSION

Publications about delirium associated with orthopedic interventions evaluated on the Thomson Reuters Web of Knowledge database without any time limitation. Most of the studies were published in the last decade. Studies under the heading of “risk factor” and “incidence” were the most published ones. Parallel to the developments in biotechnology and medicine, publication numbers and varieties will continue to increase.

FIGURE LEGENDS

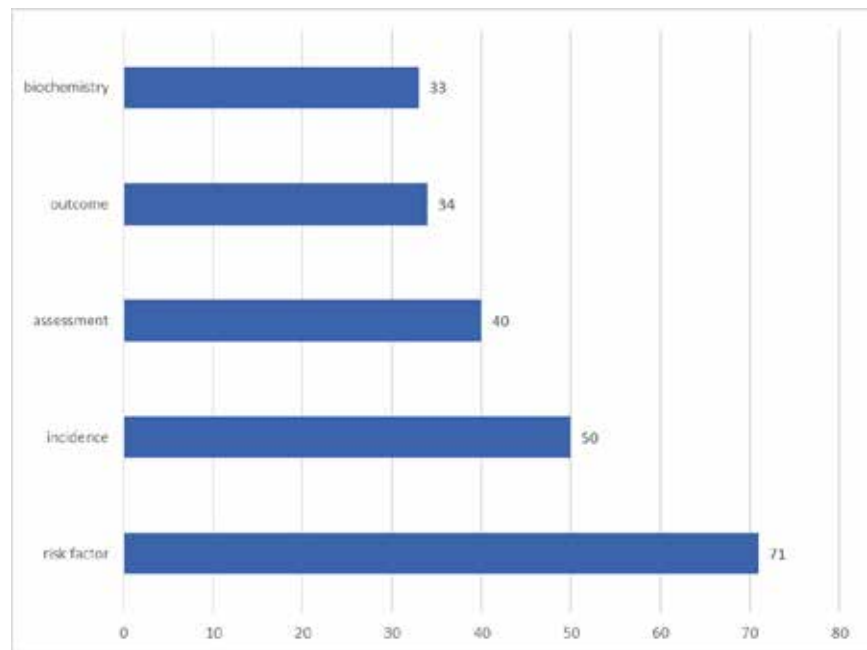
Fig 1. Graphical distribution of top 5 publication headings and numbers.

Fig 2. Graphical distribution of publications according to decades

Fig 3. Graphical distribution of publication numbers last ten year.

Fig 4. Graphical distribution of top 5 authors and publication numbers.

Figure 1- Graphical distribution of top 5 publication headings and numbers.



2- Graphical distribution of publications according to decades

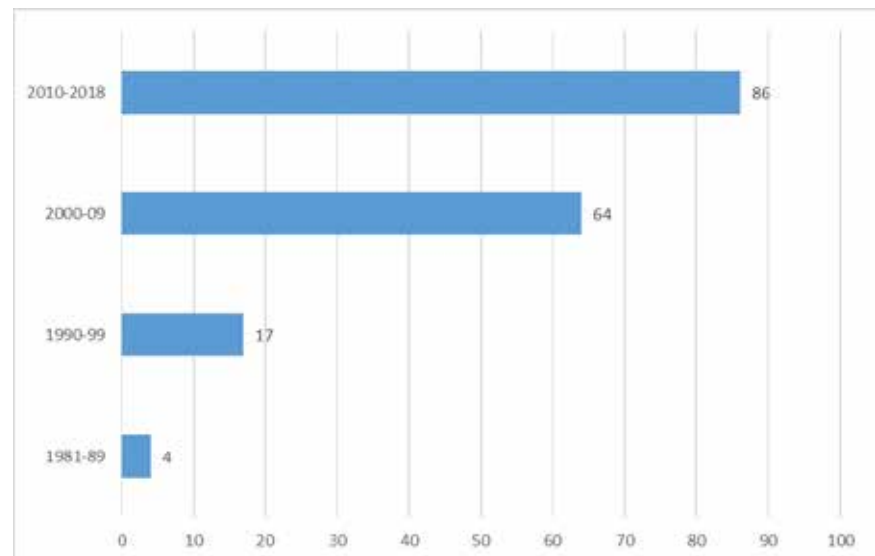


Figure 3- Graphical distribution of publication numbers last ten year.

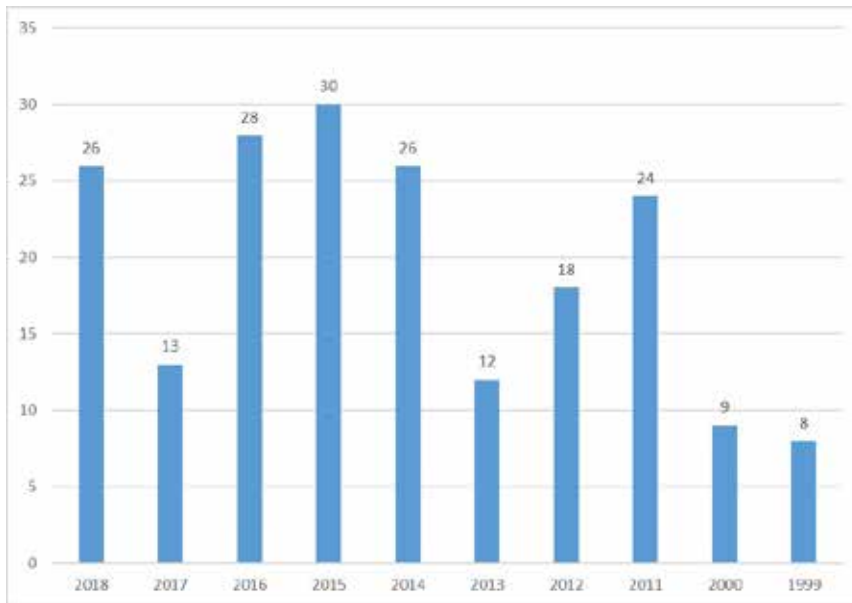
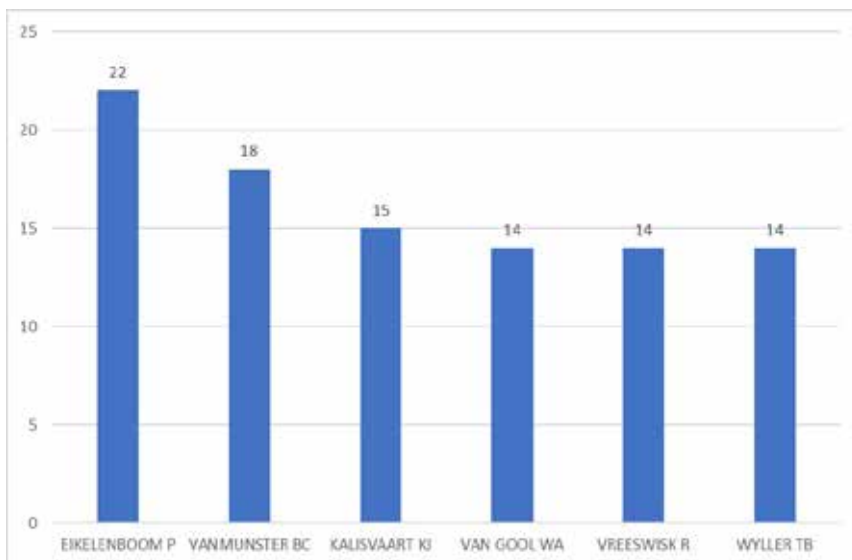


Figure 4- Graphical distribution of top 5 authors and publication numbers.



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