



6th International Congress of Arthroplasty Registries

San Francisco, USA, May 20 – 22, 2017

Approaching data quality: Criteria applied by the Italian National Arthroplasty Registry on data collected in 2015

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Introduction

The number of implanted joint arthroplasties steadily increases representing an emerging challenge for national health systems. Policy makers and surgeons need reliable data to set out health strategies and select the most effective and safer devices. Registries collecting high quality data may represent the core of the implementation of a national medical devices (MD) vigilance and surveillance system. The purpose of this study is to describe the first set of minimum quality requirements adopted by the Italian National Arthroplasty Registry (RIAP) for the data analysis.

Methods

Rate of participation and completeness for Regions and hospitals were computed. Data quality was checked syntactically and semantically (records missing predefined information, or reporting values not included in the protocol or internally inconsistent were rejected). Data of implanted MD in primary procedures were analyzed if preset criteria were fulfilled (reference codes available in RIAP-MD Library, no double components, at least four (hip) and three (knee) components registered).

Results

- 52,009 procedures collected (hip: 30,500, knee: 21,509), ~30% of national volume
- Regional participation and completeness rates: hip 57.7% and 61.9%, knee 56.7% and 59.0% respectively
- 48,135 procedures included in the analyses (hip 93.2% and knee 93.7%)
- Hospital completeness among Regions: hip 4.0%-100.0%, knee 1.5%-100.0%
- 27,880 primary procedures included in MD analysis (hip 63.3% and knee 81.2%).

Discussion/Conclusion

As soon as the law establishing the Implanted MD National Registry is approved, the participation will be mandatory thus leading data completeness close to 100%. Individual feedback to participating Regions is necessary to highlight limits and improve data quality.