

## DELIBERATE INGESTION OF FOREIGN BODIES: A SYSTEMATIC REVIEW

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**ABSTRACT: Introduction and objective:** Accidents with foreign bodies of all types have been described in most parts of the body. The most common places are the natural head and neck cavities. The objective of this study is to know the situation of deliberate ingestion of foreign bodies. **Method:** We conducted a search in PubMed, Cochrane, Scopus, Wos and Scielo, selecting those articles in which the existence of intentional ingestion of foreign bodies was mentioned. Two ways of research were used using the terms “deliberate” and “intentional” AND “foreign body” in the maximum time suggested by the PubMed platform. **Results:** With the word “deliberate”, 14 articles were found from 1990 to 2021 and with the word “intentional”, 25 articles were found in the period from 1984 to 2021. All other research sources had zero articles. The sum of these articles was 39. A screening was performed and only clinical cases were selected and we obtained 12 articles using the word “deliberate” and 9 using the word “intentional”. Of these, 1 article was excluded because it is not in the selected language (English, Portuguese or Spanish), leaving a sample of 11 articles. Of these, 2 were excluded because they did not have an abstract, leaving 9 articles and all of them were excluded because they did not comply with the inclusion criteria (in non-prisoner individuals and without mental disorders). **Conclusions:** Accidents with foreign bodies are common in ENT clinical practice, however, deliberated ingestion is less frequent. The deliberate ingestion of foreign bodies appears in groups at risk, such as prisoners and the mentally ill with the aim of drawing attention or getting out of prisons in an attempt to escape. 3250

**Keywords:** Deliberate ingestion. Foreign body. Intentional ingestion and Systematic review.

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## 1. INTRODUCTION

From the point of view of the ENT, the term "foreign body" refers to any animated or inanimate element, introduced voluntarily or involuntarily within the CAE, nasal cavities and sinus cavities, buccal cavity, pharynx, larynx, trachea or bronchi (MARTINEZ VE, 2006)

The type of FB observed in patients varies in the literature, but it depends on several factors: dietary habits, culture, cities, countries, socio-economic strata, daily exposure to potentially "ingestible" or "ingestible" objects, levels of supervision of priests or people responsible for the care of children, among others (BENITO NAVARRO; CUVILLO BERNAL; PORRAS ALONSO, 2003; GARCÍA, 2005)

In adults, FBs have a causality and a typology that is relatively different from that of children. Incidents frequently occur during household chores through the placement of objects in the mouth (pins or sewing needles), the interlocking of a large food bolus or by the presence of a disease that prevents the normal progression of the bolus through the esophagus (tumor or stricture that conditions a spasm)(MENCHEN et al., 1991). We must also refer to other population groups that may present problems related to FB, such as the prison population, who may do so voluntarily and deliberately, or psychiatric patients (MENCHEN et al., 1991)

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## 2. MATERIAL AND METHODS

**Type of study:** This is an exploratory descriptive study, based on a systematic review of the topic.

**Research question:** Why do people intentionally ingest foreign bodies?

### Eligibility criteria

For the selection of studies, the following inclusion criteria were used:

- Language: Portuguese, English or Spanish;
- Publication date: 1984 to 2021;
- Availability: Case Reports
- Intentional events in human resulting in foreign bodies in the gastrointestinal tract.

### Exclusion criteria:

- Repeated studies;
- Publications out of context.

### Information sources

The studies were retrieved from PubMed (<https://www.ncbi.nlm.nih.gov/pubmed/>), Cochrane (<https://es.cochrane.org/es>), Scopus (<https://www.scopus.com/sources.uri>) Wos (<https://www.recursoscientificos.fecyt.es/>) and Scielo (Scientific Electronic Library Online), from 01 to 2 March 2021 (last date of search). The search included Portuguese, English and

Spanish studies, following the PRISMA guidelines for systematic reviews (<https://www.equatornetwork.org/reporting-guidelines/prisma/>).

**Period:** Information sources were consulted in 1 to 2 March 2021.

The search strategy and article selection are summarized in Figure 1.

### Search

"Deliberate ingestion" AND "foreign bodies"

"intentional ingestion" AND "foreign bodies"

### Study selection

1st Stage - the titles and abstracts of the references identified through the search strategy were evaluated and the potentially eligible studies were pre-selected.

2nd Stage - the full text evaluation of the pre-selected studies was carried out to confirm the eligibility.

### Data collection process

Data were extracted by reviewer and checked by the remaining reviewers for accuracy. We used Rayyan® for the selection and for the duplication extraction process.

### Data items

The variables for which data were sought age, sex, symptoms, reason for ingestion, etiology and type of FB

PEO Patient/population: Human Exposure: Intentional ingestion Outcome: Foreign body

### Risk of bias across studies

Since no study were found eligible for this review, we considered there is a publication bias in this review and any conclusion from this study will only reflect this one scenario.

**Ethical considerations:** Being a research based on the literature review, it did not need prior ethical permission.

**Weaknesses and limitations:** Zero number of studies founded

We used the PRISMA checklist when writing our report (Moher D et al. 2009).

## 3. RESULTS

Two ways of research were used using the terms “deliberate” and “intentional” AND “foreign body” in the maximum time suggested by the PubMed platform. With the word deliberate, 14 articles were found from 1990 to 2021 and with the word intentional, 25 articles were found in the period from 1984 to 2021. All other research sources had zero articles. The sum of

these articles was 39. A screening was performed and only clinical cases were selected and we obtained 12 articles using the word “deliberate” and 9 using the word “intentional”. Of these, 1 article was excluded because it is not in the selected language (English, Portuguese or Spanish), leaving a sample of 11 articles. Of these, 2 were excluded because they did not have an abstract, leaving 9 articles and all of them were excluded because they did not comply with the inclusion criteria (in non-prisoner individuals and without mental disorders).

#### 4. DISCUSSION

Of the articles found, there was not a single article that met the inclusion criteria of the study. All articles are of intentional or deliberate ingestion carried out by prisoners to escape from jail or by people with mental problems. In the world literature it was not possible to find a single case of forced intentional ingestion to hide evidence of theft in a mentally healthy individual. The major limitation of this research is the zero number of articles found in a vast period of years in three languages.

#### CONCLUSIONS

Accidents with foreign bodies are common in ENT clinical practice, however, 3253 deliberated ingestion is less frequent. The deliberate ingestion of foreign bodies appears in groups at risk, such as prisoners and the mentally ill with the aim of drawing attention or getting out of prisons in an attempt to escape.

#### Competing Interests

The authors declare no competing interest.

#### Acknowledgment

Not Applicable

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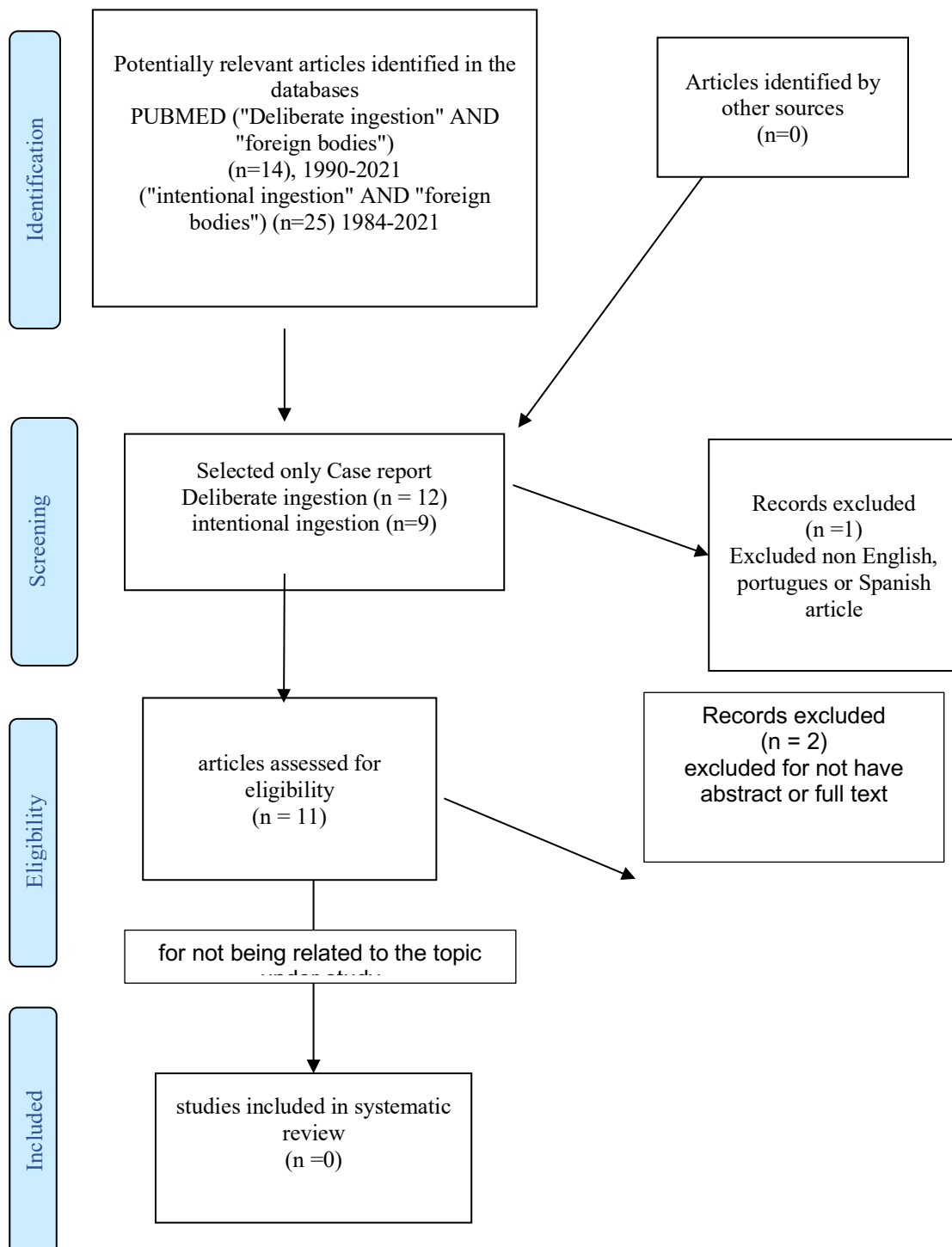


Figure 1: General description of the systematic literature review process