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Research Article

Epidemiological Insights from Media Reports on Foreign Body Aspiration in the Trachea: A Retrospective Descriptive Study

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Abstract

Objectives: This study aimed to retrospectively evaluate foreign body aspiration (FBA) incidents reported in Turkish online media, focusing on demographic characteristics, incident settings, object types, first aid interventions, and mortality-related factors.

Methods: In this descriptive study, 3,210 news articles published between 2015 and 2024 were screened using keywords (e.g., "Heimlich," "foreign body," "aspiration") through Google and eight national news sites. After removing duplicates and irrelevant content, a total of 192 verified FBA cases were included in the analysis. Statistical analyses were conducted using SPSS 23.0 (descriptive, Chi-square, Fisher's exact, Mann–Whitney U).

Results: Most cases (52.6%) occurred in 2024. The most frequently reported provinces were Istanbul, Gaziantep, and Bursa. Schools were the most common incident setting (36.4%), and food particles were the most aspirated items (31.8%). While 85.4% of victims survived, 14.1% died. Mortality was significantly higher in home-based incidents (52.9%) compared to other settings ($p<0.001$).

Conclusion: FBA remains a preventable yet serious public health concern, especially among children under 5 and adults aged 65+. The high mortality in household cases highlights the need for domestic safety measures and first aid education. Media data may serve as a complementary tool in public health research and injury surveillance.

Keywords: Foreign body aspiration, Choking, Digital media

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Foreign body aspiration (FBA) into the trachea, also known as tracheobronchial foreign body aspiration, represents a critical medical emergency that poses significant life-threatening risks. This condition necessitates immediate intervention and is, at the same time, preventable—making it an important public health concern.[1, 2] FBA can obstruct the respiratory tract, resulting in severe complications such as cardiopulmonary arrest, permanent lung damage, or even death, particularly in children.[3] These incidents are especially common during childhood and, if not addressed promptly and appropriately, can lead to irreversible consequences, including mortality.[2, 4]

According to the Global Burden of Disease study estimates the overall mortality rate from foreign body aspiration as 1.5 per 100,000 and ranks FBA as the 63rd leading cause of death worldwide.[2] FBA occurs in 85% of children and 15% of adults.[3] Particularly in children, FBA can lead to cardiopulmonary arrest and sudden death. Delays in diagnosis and treatment significantly increase the risk of both mortality and permanent lung damage.[3]

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The age group most commonly affected by this condition comprises children under the age of three.[4-6] The reasons for its prevalence in younger age groups include insufficient chewing functions and the tendency to place small objects in their mouths during play. Among the most frequently aspirated foreign bodies in this age group are food-related items such as peanuts, watermelon seeds, and beans.[4] Additionally, items such as plastic pen caps, marbles, toys, metal objects, and baby teeth are also commonly encountered foreign bodies.[4] Furthermore, this type of accident is also relatively frequent among individuals aged 60 years and over.[7]

Preventing and managing this condition requires diagnostic and therapeutic approaches specific to the types of tracheobronchial foreign bodies. Being prepared for emergencies during the perioperative period and preventing complications are crucial for reducing mortality rates and avoiding long-term health issues.[4] In cases where the foreign body cannot be removed for an extended period, serious complications such as atelectasis, chronic lung infection, abscess, and bronchiectasis may develop.[2]

Studies conducted in Türkiye indicate that foreign body aspiration (FBA) cases are predominantly concentrated among children under the age of three. Özdemir et al. reported that 77.8% of children presenting to the hospital for FBA were under the age of 3 and diagnosed with aspiration.[5] Similarly, Doğan et al. (2019) found that 76.1% of emergency room patients with suspected airway FBA were under 3 years old, with sunflower seeds identified as the most common cause of aspiration (33.3%).[8]

In adults, FBA is less common but can cause severe symptoms when it occurs. Ulaş et al. (2022) reported that in adults, the most frequently aspirated objects were metallic items (including needles, 39.5%; other metal objects, 21.1%) and food particles (11.3%).[6] These findings underscore the seriousness of FBA for both children and adults and highlight the importance of preventive efforts.

It is critical for families to remain vigilant in preventing such accidents. Focusing solely on feeding during meals and monitoring children's habits of putting toys and small objects in their mouths are essential precautions.[3] Raising children's awareness of the risk of FBA during play and educating parents on this issue play a crucial role in preventing such accidents.

The media plays a significant role in health communication, and despite digitalization, newspapers remain an important source of health information for the public. Although newspapers have lost some of their former influence with the rise of digital journalism, they are still regarded as one of the most crucial external sources of information. News articles in newspapers have the power to influence public attitudes and behaviors regarding health issues and play a key role in reducing information asymmetry. Therefore, the content, preparation process, and ethical dimensions of health-related news in newspapers are of great importance.[9] There are studies analyzing health-related news coverage in the media.[10] FBA incidents are frequently highlighted in the media as a significant public health issue requiring awareness. These reports describe how such incidents occur and their outcomes, aiming to raise public awareness.

Considering cases where no medical intervention was sought, media reports serve as an important data source for evaluating these incidents. These reports not only raise public awareness about accidents but also provide valuable epidemiological data, including information on the age groups, locations, events leading to the accidents, types of FBA and outcomes of the incidents, which can contribute to scientific research.

With the increasing accessibility of information and internet tools today, collecting, processing, and interpreting data meaningfully to benefit healthcare is of great importance. Although there are studies in the literature that extensively examine cases presenting to hospitals for FBA, no study has evaluated incidents reported in the media. This gap in the literatute highlights the importance of this research, which aims to understand and evaluate the potential contributions of data from media reports to public health. The purpose of this study is to retrospectively analyze news articles about FBA into the trachea published in Turkish media.

Therefore, this study retrospectively examines media-reported FBA cases in Türkiye to identify the demographic and sociodemographic characteristics of the victims, the types of aspirated foreign bodies, the individuals who performed first aid, and the circumstances surrounding each incident. Additionally, it aims to explore whether there are statistically significant associations between fatal outcomes and variables such as age, gender, accident location, region, and type of first intervention. In this context, the primary research questions addressed in this study are as follows:

1. What are the demographic characteristics of FBA cases reported in the Turkish media?
2. What are the sociodemographic characteristics of the victims in FBA cases?
3. What are the most frequently encountered types of foreign bodies in FBA cases?

4. Who are the first responders in FBA cases?
5. Is there a significant relationship between fatal outcomes in FBA cases and factors such as age groups, gender, region, location of the accident, and intervention status?
6. Do media reports on FBA cases accurately reflect the actual incidence and risk factors identified in hospital records?

Methods

Study Design

This study employed a retrospective descriptive design, analyzing publicly available online news reports published in Türkiye between January 1, 2015, and December 31, 2024. The primary aim was to identify epidemiological patterns in FBA cases reported in the media.

Data Sources and Search Strategy

A comprehensive search was conducted between January 1 and January 9, 2025, using the Google search engine and digital archives of eight major Turkish news platforms: Milliyet, BirGün, Takvim, Anadolu Agency (AA), NTV, Demirören News Agency (DHA), Sabah, and Hürriyet. The keywords used were "Heimlich," "foreign body," and "aspiration."

A total of 3,210 records were retrieved. One data point from the Sabah newspaper (n=115,145 hits for "foreign body") was excluded at the identification stage due to an excessive number of semantically irrelevant results. After removing duplicates and off-topic content, 192 verified cases were retained for content analysis. The article selection process is illustrated in Figure 1.

Inclusion and Exclusion Criteria

The study included news articles that reported cases of FBA involving the trachea, were published between 2015 and 2024, and originated from Turkish online media sources, including both national and local platforms. Articles were excluded if they were duplicates, off-topic (not related to tracheal FBA), generic in content, or published outside the specified time frame (e.g., in 2025). From an initial screening of 3,210 news articles, 192 unique cases met the eligibility criteria and were retained for analysis. These steps are illustrated in a PRISMA-like flow diagram (Fig. 1).

Variables and Categorization

Key variables extracted from each article included:

- Demographic information (age, gender)
- Location of the incident (e.g., home, school)

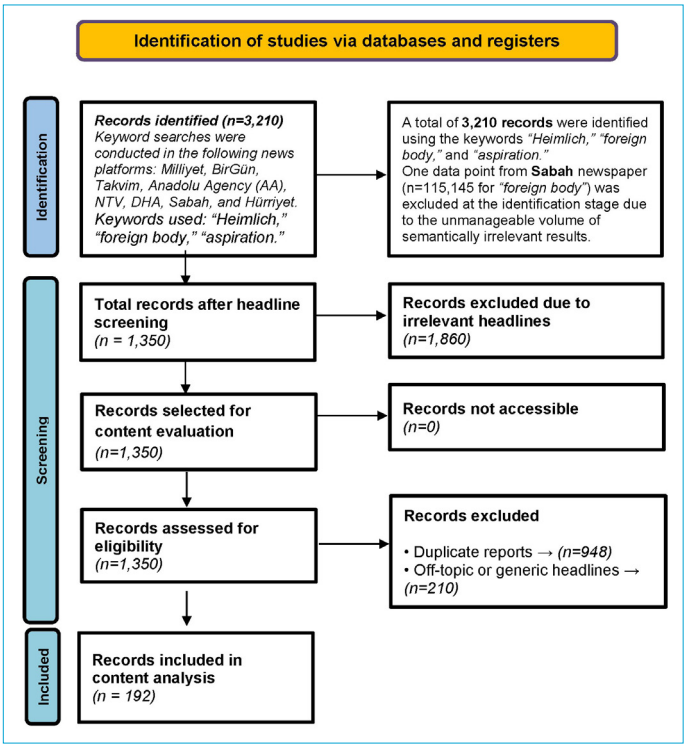

Figure 1. Flow diagram of the news article selection process.

- Geographic region/province
- Type of aspirated foreign body
- Identity of the first responder
- Outcome (survival or death)

For comparative analysis, age was dichotomized as <18 years and ≥18 years, reflecting the distinct epidemiological profiles of children and adults. Foreign objects were classified into food-related and non-food-related categories based on item descriptions provided in the reports.

Ethical Considerations

Only publicly accessible and anonymized data were used in this study. Therefore, no ethics committee approval was required. The study adhered to the ethical principles outlined in the Declaration of Helsinki and complied with relevant national data protection standards.

Statistical Analysis

Data were analyzed using SPSS 23.0. Descriptive statistics were presented as frequencies and percentages. Relationships between categorical variables were examined using Pearson's Chi-square or Fisher's Exact Test, depending on cell sizes. For comparisons involving continuous variables not normally distributed (e.g., age), the Mann-Whitney U test was applied. A p-value <0.05 was considered statistically significant.

Results

The earliest reported incident was dated January 26, 2015, while the most recent was from December 31, 2024. A majority of the cases, 52.6% (n=101), occurred in 2024. This was followed by 2022 with 18.2% (n=35) and 2023 with 14.6% (n=28).

When analyzed by provinces, it was found that incidents were most frequent in Istanbul (9.4%, n=18), Gaziantep (7.3%, n=14), and Bursa (5.2%, n=10). A map of Türkiye displaying the distribution of FBA cases by province is presented in Figure 2. An interactive link allowing detailed examination of all provinces is available:

Figure 3 presents the distribution of FBA cases by each month in the year of 2015-2024 and the corresponding mortality rates. The highest number of cases was recorded in December (n=34, 5.9% mortality rate), while the highest mortality rate was observed in May (30.8%) despite a moderate number of cases (n=21). Additionally, no fatalities were reported in June and July, even though cases were recorded in these months. An interactive version of the table can be accessed via the following link: https://public.flourish.studio/visualisation/21295804 When considering the accident locations, it was determined that incidents most frequently occurred at schools (n=70, 36.4%) , restaurants (n=41, 21.4%) and homes (n=35, 18.2%).

When examining the types of aspirated foreign objects, the most common causes were food items, including bread crumbs (n=11, 5.7%) and candy (n=18, 9.4%). Other notable objects were unknown materials (n=13, 6.8%) and chewing gum (n=4, 2.1%). Detailed features are presented in Table 1.

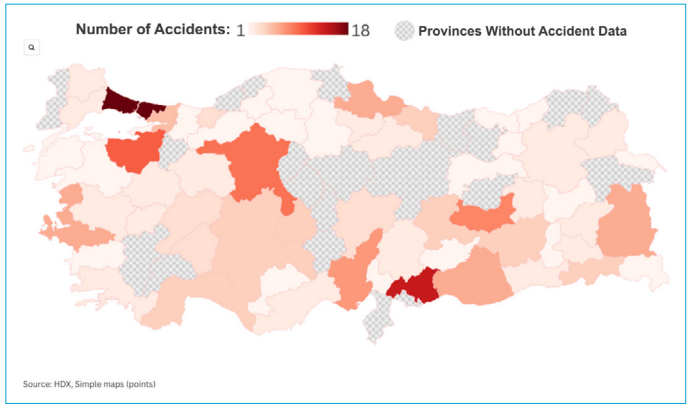

Figure 2. Distribution of Foreign Body Aspiration Cases by Provinces (n=190). https://public.flourish.studio/visualisation/20936260/.

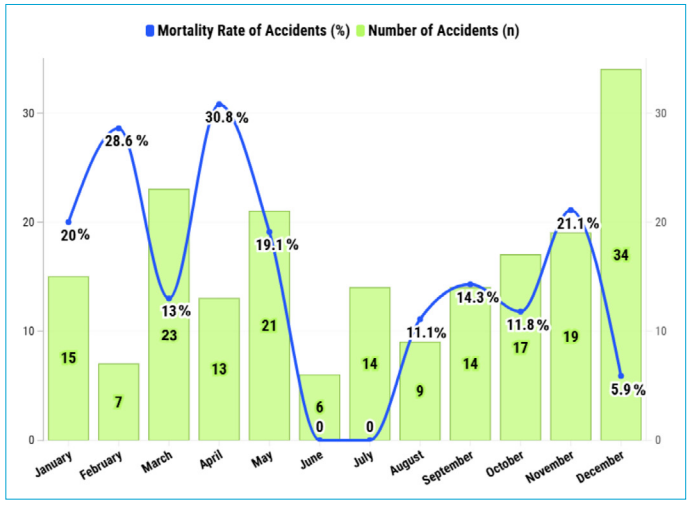

Figure 3. Distribution of Foreign Body Aspiration Cases by Months and Mortality Rate Due to the Accident (n=192).

Table 1. Characteristics of Foreign Body Aspiration Accidents in the Trachea

Variable	n	Percentage
Years		
2024	101	52.6
2022	35	18.2
2023	28	14.6
2021	16	8.3
Other (2015-2020)	12	6.3
Cities		
İstanbul	18	9.4
Gaziantep	14	7.3
Bursa	10	5.2
Ankara	9	4.7
Elazığ	8	4.2
Other (56 City)	133	69.3
Accident Location		
School	70	36.4
Restaurant	41	21.4
Home	35	18.2
Street	13	6.8
Car	6	3.1
Market	5	2.6
Pharmacy	3	1.6
Other	19	9.9
Foreign Object		
Food piece	61	31.8
Candy	18	9.4
Unknown	13	6.8
Piece of bread	11	5.7
Chewing gum	4	2.1
Coin	4	2.1
Peanut	3	1.6
Piece of pita	3	1.6
Baby food	3	1.6
Milk	3	1.6
Other	69	35.9
Total	192	100.0

The average age of the victims was 16.3 years (SD:18), and the median age was 10 years. The youngest victim was a 2-day-old newborn, while the oldest was an 82-year-old individual. However, the age information of 37 adult victims could not be obtained. When evaluated by age groups, it was found that the most frequent group was those aged between 6-17 years (40.6%), followed by 18-65 years (30.7%), and children aged under 5 years (25%). Individuals aged 65 years and over accounted for a low frequency of 3.6%.

Among individuals aged under 18, 14.3% (n=17) of FBA cases were caused by non-food foreign objects, while this frequency was 3.1% (n=2) in individuals aged over 18 years. As a result of the Pearson Chi-Square test, a statistically significant relationship was found between age groups and types of foreign objects (χ^2=5.704, p=0.017).

When looking at the gender distribution, it was found that 67.7% (n=130) of the victims were male, 30.7% (n=59) were female, and 1.6% (n=3) had no recorded gender information.

When examining the types of foreign objects, general food particles such as rice, fruit pieces, and vegetable fragments were the most frequently encountered items at 31.8% (n=61). Food-related foreign objects—including candy, bread crumbs, and chewing gum—accounted for 85.9% (n=165) of all cases, while non-food-related foreign objects were observed in 9.9% (n=19). These findings highlight the predominance of ingested materials in aspiration cases.

When examining the individuals who performed first aid, it was seen that in 34.4% (n=66) of cases, the intervention was carried out by teachers. Other groups performing interventions, such as business owners, family members, and restaurant employees were less frequent. Additionally, it was observed that no intervention was performed in 6.3% (n=12) of cases.

Regarding mortality, it was determined that 85.4% (n=165) of the cases did not result in death, while 14.1% did. Information on the mortality status was unavailable for one case. Detailed features are presented in Table 2.

Table 2. Sociodemographic Characteristics of Victims and Other Information Related to the Accident

Variable	n	Percentage
Accident victim		
Student	58	30.2
Child	42	21.9
Customer	29	15.1
Baby	26	13.5
Adult, Male	13	6.8
Adult, Female	4	2.1
Other	15	7,8
Gender		
Male	130	67.7
Female	59	30.7
Unknown	3	1.6
Age Groups		
5 years and under	48	25.0
6-17 years old	78	40.6
18-65 years old	59	30.7
65 years and older	7	3.6
Type of Foreign Object		
Food	165	85.9
Non-Food Object	19	9.9
Unknown	8	4.2
Person Providing First Aid		
Teacher	66	34.4
Business Owner	15	7.8
Family	13	6.8
None	12	6.3
Restaurant Worker	10	5.2
Healthcare Worker	10	5.2
Police Officer	9	4.7
Customer	9	4.7
Mother	9	4.7
Waitstaff	5	2.6
Other	34	17.7
Mortality Status		
No	164	85.4
Yes	27	14.1
Unknown	1	0.5
Total	192	100.0

Mortality and Related Factors

Known ages of the victims (n=154) were compared based on their post-accident mortality status. The median age of deceased victims (n=26) was 7 years, while the median age of survivors (n=128) was 9 years. However, this difference was not found to be statistically significant (Mann-Whitney U=1511.5; p=0.461).

By Accident Location

The frequency of mortality due to FBA was examined by accident location. Mortality frequency was found to be highest in accidents occurring at home (n=18, 52.9%), in other locations (n=4, 8.7%), schools (n=4, 5.7%) and restaurants (n=, 2.4%). A statistically significant difference was found in mortality frequencies by accident location (Pearson χ^2=52.015; p<0.001).

By Age Groups

The frequency of mortality due to FBA was examined by age groups. Mortality frequency was found to be highest amongst adults aged 65 year and over (n=2, 28.6%, followed by children under the age of 5 (n=11, 23.4%), those aged between 18-64 years (n=9, 15.3%) and individuals aged between the ages of 6-17 years (n=5, 6.4%). A statistically significant difference was found in the distribution of mortality frequencies by age groups (Pearson χ^2=8.424, p=0.038).

By First Responder

The frequency of mortality due to FBA was examined by the first responder. Mortality frequency was 3.0% (n=2) in cases where teachers intervened, 21.4% (n=3) in cases involving healthcare professionals, 63.6% (n=14) for family members, 2.7% (n=1) for restaurant owners/employees, and 8.7% (n=2) for bystanders. In cases where no intervention was made, the mortality frequency was calculated as 41.7% (n=5). A statistically significant difference was found in the distribution of mortality frequencies by the first responder (Pearson χ^2=66.569; Fisher's Exact Test=51.419; p<0.001).

By Type of Foreign Object

The frequency of mortality due to FBA was examined by the type of foreign object. Mortality frequency was 15.8% (n=26) for food-related accidents, while it was 5.3% (n=1) for non-food foreign object-related accidents. No statistically significant difference was found in mortality frequencies by the type of foreign object (Fisher's Exact Test, p=0.317).

By Victim's Gender, Regions, and Months

When examining the distribution of mortality status by gender, it was observed that 14.7% (n=19) of male participants and 11.9% (n=7) of female participants had mortality outcomes. According to the Chi-Square test results, no statistically significant difference was found between gender and mortality status (Pearson χ^2=0.279, p=0.598).

A Chi-Square test was applied to assess whether mortality status varied by months. The analysis revealed no statistically significant difference in the distribution of mortality status by months (Pearson χ^2=11.449, p=0.406).

When comparing accident-related mortality rates by regions, no statistically significant difference was found in mortality frequencies (Pearson χ^2=5.813, p=0.121). Detailed features are presented in Table 3.

Table 3. Evaluation of Mortality in Foreign Body Aspiration Accidents Based on Various Variables

	No Death Count (Percentage)	Death Count (Percentage)	Total Count (Percentage)	χ^2	P
Accident Location					
Home	16 (47.1)	18 (52.9)	34 (100)	52.015	p<0.001
School	66 (94.3)	4 (5.7)	70 (100)		
Restaurant	40 (97.6)	1 (2.4)	41 (100)		
Other	42 (91.3)	4 (8.7)	46 (100)		
Age Groups					
5 years and under	36 (76.6)	11 (23.4)	47 (100)	8.424	p=0.038
6-17 years old	73 (93.6)	5 (6.4)	78 (100)		
18-64 years old	50 (84.7)	9 (15.3)	59 (100)		
65 years and older	5 (71.4)	2 (28.6)	7 (100)		
Person Providing First Aid					
Teacher	64 (97.0)	2 (3.0)	66 (100)	66.569	p<0.001*
Healthcare Worker	11 (78.6)	3 (21.4)	14 (100)		
Family	8 (36.4)	14 (63.6)	22 (100)		
Public Personnel (Police, Soldier, Prosecutor, Imam, Municipal Officer)	17 (100.0)	0 (0.0)	17 (100)		
Restaurant Owner/Worker	36 (97.3)	1 (2.7)	37 (100)		
Bystanders/Customer	21 (91.3)	2 (8.7)	23 (100)		
No Intervention Performed	7 (58.3)	5 (41.7)	12 (100)		

*Fisher exact test.

Discussion

This study provided significant findings regarding the characteristics of FBA incidents featured in the media. It was observed that children under the age of 5 and individuals over the age of 65 are at higher risk for FBA, with homes being the most frequent location for fatal incidents, and cases where family members intervened showing a high mortality rate. Notably, the highest mortality rate was observed in cases where no intervention was made.

In this study, the victims in the reported incidents ranged from a 2-day-old newborn to an 82-year-old individual, with the majority being male. This finding aligns with the existing literature on victim demographics. It is generally observed that hospital admissions for FBA are predominantly by children, with a low mean age[6] and a higher proportion of males.[6,11,12] Similarly, Warshawsky et al. (2024), reported that males are twice as likely as females to be hospitalized for FBA.[13] Furthermore, Kafadar and Kafadar (2019) found that, FBA cases are most frequently observed in the 0-5 age group.[11] This suggests that younger children are at higher risk due to their tendency to place objects in their mouths. The higher frequency of hospital visits among children[6] can be associated with their vulnerability to accidents during their physical and cognitive developmental stages. Furthermore, the higher incidence of male cases[6,12] may be explained by the general tendency of males to engage in riskier behaviors. This finding highlights the need for preventive measures targeting this group, particularly male children.

In the news reports included in this study, the most frequently aspirated foreign objects were food particles. Although food-related incidents were associated with a higher mortality rate, no significant relationship was found between the type of foreign object and mortality rates. In the literature, it is noted that while adults are more likely to aspirate food-related items, infants and children also frequently aspirate non-food objects.[14] Kivist and Garcia (2024) reported that the most commonly aspirated materials are coins, magnets (especially those found in children's toys), and sharp objects.[14] Ünal et al. (2022) reported that the extracted foreign objects included hard organic foods such as hazelnuts, peanuts, seeds, almonds, and raw corn kernels, with one case involving a fishbone fragment and another involving gelatin.[12] Ulaş et al. identified sunflower seeds (14.2%), food particles (11.4%), and needles (10.4%) as the most frequently aspirated objects in children, whereas in adults, needles (39.5%) and other metallic objects (excluding needles) (21.1%) were most common.[6] In Kafadar and Kafadar's study (2019), which reviewed 108 FBA cases in individuals aged 0-18 years, food items were identified as the most common cause of aspiration at 69.4%. The prevalence of food particles as the most frequent foreign object type underscores the dangers associated with commonly consumed foods and highlights the need for greater awareness of their risks.

The higher frequency of food-related foreign body incidents among adults may reflect the impact of dietary habits, whereas the high frequency of non-food objects in children may result from their greater exposure to environmental objects. The findings from Kivist and Garcia (2024), regarding the frequent aspiration of coins and magnets emphasize the risk of children placing such objects in their mouths during play.[14] Ünal et al.'s 2022 study on the removal of hard organic foods and other foreign objects, indicates the need for greater caution in children's dietary habits.[12]

According to the findings of this study, mortality rates were higher in cases of FBA occurring at home compared to incidents outside the home. FBA stands out as one of the leading causes of fatal home accidents, especially among young children.[13,15,16] In the United States, statistics indicate that 5% of accidental deaths among children under 4 years old are caused by FBA.[15,17] This is also identified as a leading cause of fatal home accidents among children under 6 years old.[17] These findings emphasize the high-risk status of children under 5 and the frequent fatal outcomes of such incidents at home.

Young children are more vulnerable to FBA because they are inclined to place objects in their mouths and have smaller airways that are more prone to obstruction. At home, small objects like beads, toy parts, and food items within children's reach increase the risk of FBA. In addition, advanced age is recognized as a risk factor for airway problems.[18] Katabami et al. (2022) found in a 30-year cohort study that advanced age is a potential risk factor for mortality due to FBA in the airways.[7] The weakening of muscular control in the airways of older individuals and the increased risk of aspiration make intervention more challenging. Moreover, undetected aspiration in elderly individuals living alone can heighten the risk of death. The presence of social connections facilitates faster medical intervention and quicker awareness of the incident. In cases of aspiration occurring at home, the lack of first aid knowledge among family members or the inability to intervene promptly, combined with the presence of vulnerable groups such as children and the elderly, increases mortality rates. Insufficient safety precautions at home and panic-induced errors during intervention also raise the risk of death in FBA cases.

Outside the home, faster intervention opportunities in public spaces often result in lower mortality rates. This study

found no statistically significant difference in FBA -related mortality rates across different regions in Türkiye. However, cultural aspects of accidents, such as the possession of first aid knowledge and the preventability of accidents, as well as the variety of aspirated objects, vary across countries, regions, dietary habits, and socioeconomic and cultural characteristics.[11] Gürses et al. (2022) identified FBA as the second leading cause of infant mortality in a study conducted in the Southern Marmara region.[19] Similarly, Esen and Doğan (2022) found that FBA ranked second among cases presenting to pediatric emergency clinics.[20] Global disease burden studies highlight the role of socioeconomic factors in regional differences in FBA -related mortality.[21]

This study identified the highest mortality rates in cases where family members intervened or no intervention was made. Prolonged periods without intervention increased mortality rates due to complete airway obstruction and severe hypoxia. Literature emphasizes that delays in intervention significantly impact mortality rates in FBA cases, and rapid, accurate intervention greatly improves survival chances.[25-27] These findings demonstrate that not only incorrect interventions but also the absence of intervention can lead to fatal outcomes.

FBA is a preventable condition requiring prompt diagnosis and treatment. Literature suggests that the use of appropriate imaging methods and careful evaluation of suspected cases play an essential role in improving diagnostic and treatment success.[11] Children aged between1 to 3 are at high risk due to their tendency to place objects in their mouths.[24] Improper preparation of food and behaviors such as running or talking while eating further increase the risk of aspiration in this age group.

Sudden onset of symptoms such as coughing, gagging, choking, and inability to breathe are typical in FBA cases. However, family members' uninformed interventions, such as blindly attempting to remove the foreign object with their fingers, can lead to complete airway obstruction and fatal outcomes.[24] A case report by Kurtuluş et al., highlighted the tragic death of a 6-month-old infant due to the aspiration of a plastic glove piece, demonstrating the rapid fatal consequences of FBA.[25]

Strengths and Future Directions

Despite the absence of clinical or emergency medical records in this study, the use of media-based data offers distinctive advantages. News reports often include contextual details such as the setting of the incident (e.g., home, school), the presence or absence of first aid interventions, and eyewitness accounts—elements typically absent from hospital or emergency records. Moreover, individuals who die before reaching medical facilities are not captured in clinical datasets, whereas media sources may document such out-of-hospital fatalities. Thus, media reports can serve as a valuable complementary data source alongside hospital records.

Similarly, although forensic autopsy studies can detect post-mortem FBA cases, they often lack environmental or situational context due to the inability to obtain patient histories. In contrast, media narratives frequently capture these contextual nuances, including the type of foreign object and the immediate circumstances of the incident. Therefore, integrating media data with clinical and forensic sources could enhance the comprehensiveness of future epidemiological analyses. While such integration remains an opportunity for future research, the present study demonstrates that media-based surveillance can yield timely and practical insights into urgent public health issues.

Limitations

This study has several limitations. Firstly, the outcomes were not clinically verified, which may limit the practical applicability of the findings in the healthcare field. The study relied solely on publicly available online news sources, excluding printed newspapers and content behind paywalls. This exclusion could contribute to potential media bias or underreporting of certain events. Additionally, due to the influence of Google's search engine algorithms and limited digital archiving by some platforms, older news articles may have been underrepresented. This limitation could affect the completeness of the dataset and the generalizability of the findings. The absence of data validation further raises concerns about the reliability of the news sources used in the analysis. Moreover, age information was missing for 37 adult victims, which may have affected the accuracy of age group-based analyses. However, no specific strategy for handling missing data was outlined in the study. Given these limitations, the findings should be interpreted with caution, and future research should aim to address these issues.

Conclusion

This study highlights that FBA incidents are a significant public health issue, with higher mortality rates observed particularly among children under the age of 5 and individuals over the age of 65. The findings reveal that these incidents most frequently occur in the home environment, and first aid interventions performed at home can increase mortality rates due to a lack of knowledge. This underscores the importance of educating the public on first aid and enhancing safety measures in homes. Raising awareness, especially in households with young children and

elderly individuals, plays a critical role in preventing such incidents.

The literature emphasizes that prevention is the most effective method in reducing deaths caused by FBA. In this context, educating parents and caregivers, avoiding the presence of small and hazardous objects within children's reach, properly preparing food, and ensuring children remain focused while eating are necessary precautions. Additionally, learning correct first aid techniques for FBA and avoiding improper interventions are of vital importance. The study shows that uninformed interventions by family members can increase mortality rates. Therefore, equipping society with accurate first aid knowledge and implementing prevention strategies can improve outcomes in such cases.

The findings of this study indicate that data obtained from internet and media sources can be utilized more effectively in the field of public health. Particularly, media-based analyses provide valuable insights into the spatial and demographic distribution of preventable health issues such as FBA. In the future, it is recommended to use digital tools for the systematic collection, processing, and integration of media and online data into health policies. Such approaches can contribute to the development of community-based prevention strategies and more effectively planned awareness-raising educational programs.

In this regard, it is evident that community-based education programs need to be developed and the quality of healthcare services improved. Awareness seminars, emergency training, and public awareness campaigns targeting parents and children are fundamental steps in preventing potential accidents.

In conclusion, this study reaffirms that FBA incidents are preventable health issues, but effective measures and education are critically needed. Promoting first aid awareness, implementing targeted strategies for high-risk age groups, and enhancing home safety measures are essential solutions to reduce the fatal outcomes of such incidents. Furthermore, the role of healthcare professionals in raising community awareness and contributing to educational programs can enable faster and more effective handling of such cases. In light of the findings of our study, the promotion and implementation of community-based prevention programs have the potential to significantly reduce deaths associated with FBA.

Disclosures

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