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Recorded Pre-Hospital First Aid and Citizenship in Children Hospitalized for Burns: Retrospective Analysis of a Single-Center Hospital Cohort

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Abstract

Background/Objectives: We compared recorded pre-hospital first-aid categories by citizenship among children hospitalized for burns, accounting for a classification rule that may obscure the use of multiple first-aid actions. **Methods:** This exploratory descriptive analysis included 369 children aged 0–17 years, each contributing one index hospitalization at Meyer Children's Hospital, Florence, Italy (January 2020–April 2026). Free-text histories had been classified as running-water cooling, explicit no first aid, or a remedy labeled inappropriate. When cooling and a remedy were both documented, the record was assigned to the remedy category. We estimated absolute differences, fitted multinomial logistic models, and calculated bounds for receipt of any cooling. **Results:** Recorded citizenship was Italian for 253 children and non-Italian for 116. The cooling, no-first-aid, and remedy categories accounted for 79.1%, 12.3%, and 8.7% of Italian records and 61.2%, 19.0%, and 19.8% of non-Italian records, respectively (global $p = 0.0009$). The difference in the cooling category was −17.8 percentage points (95% CI −28.0 to −7.9). After adjustment for age, admission year, and residence, multinomial odds ratios for non-Italian versus Italian citizenship were 2.04 (95% CI 1.07–3.91) for no first aid and 3.15 (1.56–6.35) for remedies, each relative to cooling. Because cooling status within remedy records was unknown, the difference in receipt of any cooling could range from −26.5 to +2.0 percentage points. **Conclusions:** Recorded categories differed by citizenship in this hospital cohort, but did not establish the direction of a difference in receipt of any cooling or a difference in guideline adherence. Separate recording of first-aid actions is needed before interpreting this association as a gap in care.

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1. Introduction

First aid is an actionable component of pediatric burn care. The American Heart Association and American Red Cross recommend immediate cooling of thermal burns, preferably with clean running water, while monitoring younger children for hypothermia [1]. In a cohort of 2495 children, Griffin et al. found that cooling meeting the study's duration and timing criteria was associated with lower odds of skin grafting [2]. This observational association supports further investigation of first aid, but a record mentioning water does not necessarily indicate adequate treatment.

The distinction between actions and their documentation matters. Bennett et al. described differences in first-aid practices between pediatric emergency departments in the United Kingdom and United States, including differences in adherence to local recommendations [3]. Frear et al. assessed cooling by its duration, timing, and provider, rather than the presence of a cooling label alone [4]. In routine records, several actions may instead be condensed into one category. A child who received water and another remedy can then be classified differently from a child who received water alone, although both received cooling. Comparisons based on such fields need to preserve the meaning of the recorded categories.

The choice and interpretation of population groupings also require care. Studies in Switzerland and the United Kingdom examined burn characteristics using immigration-related or ethnic classifications [5,6]. Recorded citizenship is a different administrative attribute. It does not establish a child's or caregiver's migration history, ethnicity, language proficiency, socioeconomic circumstances, or access to first-aid information. Citizenship-stratified descriptions can identify a pattern requiring investigation, but cannot explain its cause or identify an individual family's educational needs. Selection and recording processes in routinely collected data can themselves contribute to observed differences [7].

For nurses obtaining an injury history, a clear account of the actions already taken informs subsequent assessment and caregiver education. This study aimed to compare the distribution of recorded pre-hospital first-aid categories between children with Italian and non-Italian recorded citizenship in a single-center hospital cohort. Injury and hospital-course characteristics were described to contextualize the comparison.

2. Materials and Methods

2.1. Study Design and Analytic Population

We conducted an exploratory descriptive analysis of routinely collected records from Meyer Children's Hospital, a tertiary pediatric referral hospital in Florence, Italy. Reporting was informed by STROBE and RECORD [8,9]. The analysis was developed after inspection of the assembled dataset and was not prospectively registered.

This analysis used the available dataset of acute burn admissions in children younger than 18 years at admission, admitted from 1 January 2020 and discharged by 20 April 2026. The dataset contained one hospitalization per child, termed the index hospitalization, with distinct child and admission identifiers. This was not necessarily the child's first lifetime burn. Historical administrative activity counts were not analyzed or used as statistical weights.

All 369 available records were retained. The original selection process could not be fully reconstructed from the documentation available for this analysis; its implications are discussed in Section Strengths and Limitations.

2.2. Recorded First Aid and Citizenship

Pre-hospital first aid was available as three mutually exclusive categories originally abstracted from free-text clinical histories: "Cool running water", "No first aid", and "Inappropriate remedy", referred to as cooling, no first aid, and remedy. Under the reported coding rule, no first aid required an explicit report that none had been performed, and a remedy took precedence when both cooling and a remedy were documented. We retained this classification to describe the recorded categories. The no-first-aid and remedy categories were not combined as an indicator of absent cooling.

The categories were not re-adjudicated against the original histories. "Inappropriate" was the existing label rather than a new assessment of individual remedies. For records in the remedy category, a separate indicator of cooling was unavailable. Information on cooling duration, delay, water temperature, and the sequence of actions was also unavailable.

Citizenship was grouped as Italy versus any other recorded country. It was used as an administrative grouping variable.

2.3. Contextual Variables and Data Checks

Descriptive variables were age at admission in completed years, sex, residence, burn mechanism, injury location, total body surface area affected (TBSA), maximum recorded depth, and length of stay. Residence was grouped as Area Vasta Centro, "Extra AVAC", or outside Tuscany/abroad. Recorded caregiver presence and interpreter requirement were also used in sensitivity analyses.

Data checks covered identifier uniqueness, permissible categories, missing analytical values, age, date order, and agreement between the recorded length of stay and the interval between admission and discharge. First-aid category availability was checked by admission year. No values were changed or imputed. Infection, rehabilitation, discharge education, and readmission were not analyzed. Variable definitions and checks are provided in the Supplementary Methods.

2.4. Statistical Analysis

We summarized counts, within-group percentages, and medians with the 25th and 75th percentiles. The primary comparison described the observed three-category first-aid distribution using Pearson's chi-square test and absolute differences between non-Italian and Italian citizenship groups. Pointwise 95% confidence intervals (CIs) for the differences used Newcombe's Wilson-based method [10], without multiplicity adjustment.

Multinomial logistic models examined whether the category differences persisted after adjustment for available characteristics. Cooling and Italian citizenship were the references. Multinomial odds ratios (mORs) compare each category relative to cooling between citizenship groups. We fitted an unadjusted model and a core model with linear age, linear admission year, and three-level residence, selected to describe age, calendar time, and geographic case mix without significance-based selection.

Seven sensitivity models examined exclusion of 17-year-olds: restriction to scald, flame, or contact burns; additional sex and mechanism adjustment; grouped age and calendar period; interpreter requirement; an extended set adding sex, mechanism, caregiver presence, and injury location; and the extended set plus interpreter requirement. All specifications are reported in Supplementary Table S2. CIs were Wald intervals, and joint citizenship tests used two-degree-of-freedom likelihood-ratio tests. We checked matrix rank, convergence, and agreement between Newton and BFGS optimizers.

We calculated deterministic bounds for any running-water cooling by assigning either no cooling or cooling to every remedy record, retaining the other categories as classified. Between-

group bounds combined opposite group-specific extremes (Supplementary Table S3). These are identification bounds rather than CIs.

The analyses were independently reproduced in Python 3.12 using pandas, SciPy, and statsmodels. Core-model coefficients, sensitivity results, and numerical checks are described in the Supplementary Materials.

2.5. Ethics

The study was approved by the Pediatric Ethics Committee of the Tuscany Region (protocol no. 126/2025; 10 June 2025).

Analyses used pseudonymized records derived from routine clinical care. The consent and data-access arrangements are reported in the end matter.

3. Results

3.1. Study Population

The cohort comprised 369 distinct child identifiers and 369 distinct admission identifiers. All available records were retained. Admission dates ranged from 1 January 2020 to 16 April 2026, with the latest discharge on 20 April 2026. Recorded age at admission ranged from 0 to 17 years, including three children aged 17. All analyzed fields contained recorded values, including first-aid category in every observed admission year, and every length of stay agreed with the date difference. These findings concern the assembled analytical file rather than the completeness of the original histories.

Recorded citizenship was Italian in 253 children and non-Italian in 116 (31.4%). Median age was 4 years in both groups. Scalds accounted for 251/369 injuries (68.0%), and 312/369 (84.6%) occurred at home. Residence in Area Vasta Centro was recorded for 82/253 Italian-citizenship children (32.4%) and 6/116 non-Italian-citizenship children (5.2%). The groups therefore differed substantially in their residential distribution. Table 1 summarizes the cohort characteristics; these comparisons were descriptive and were not tests of clinical equivalence.

Table 1. Characteristics of the hospital cohort by recorded citizenship.

Characteristic	All Children (n = 369)	Italian (n = 253)	Non-Italian (n = 116)
Age at admission, years	4 (2–8)	4 (2–8)	4 (2–8.25)
Male sex	200 (54.2)	137 (54.2)	63 (54.3)
Residence: Area Vasta Centro	88 (23.8)	82 (32.4)	6 (5.2)
Residence: Extra AVAC	186 (50.4)	108 (42.7)	78 (67.2)
Residence: outside Tuscany or abroad	95 (25.7)	63 (24.9)	32 (27.6)
Mechanism: scald	251 (68.0)	165 (65.2)	86 (74.1)
Mechanism: contact	37 (10.0)	24 (9.5)	13 (11.2)
Mechanism: flame	35 (9.5)	28 (11.1)	7 (6.0)
Mechanism: electrical	31 (8.4)	24 (9.5)	7 (6.0)
Mechanism: chemical	11 (3.0)	8 (3.2)	3 (2.6)
Mechanism: friction	4 (1.1)	4 (1.6)	0 (0.0)
Injury at home	312 (84.6)	218 (86.2)	94 (81.0)
TBSA affected, %	13 (8–18)	13 (8–18)	12.5 (7–19)
Maximum depth: superficial	32 (8.7)	18 (7.1)	14 (12.1)
Maximum depth: partial thickness	255 (69.1)	180 (71.1)	75 (64.7)
Maximum depth: full thickness	82 (22.2)	55 (21.7)	27 (23.3)
Length of stay, days	5 (3–8)	5 (3–8)	5 (3–8)

Note: Values are n (%) or median (25th–75th percentile). Percentages use column denominators. Quartiles use linear interpolation, explaining the fractional age percentile. AVAC, Area Vasta Centro; TBSA, total body surface area. "Extra AVAC" preserves the source label. The final residence row includes four children living abroad, all in the non-Italian group. No significance tests of these contextual characteristics were performed.

3.2. Distribution of Recorded First Aid

Overall, 271 records (73.4%) were assigned to the cooling category, 53 (14.4%) to explicit no first aid, and 45 (12.2%) to the remedy category. The three-category distribution differed between citizenship groups (Pearson chi-square 14.03, 2 degrees of freedom; $p = 0.0009$). All expected cell counts exceeded 14.

The proportion in the cooling category was 79.1% in the Italian group and 61.2% in the non-Italian group, a difference of −17.8 percentage points (95% CI, −28.0 to −7.9). Corresponding differences were +6.7 points (−0.9 to +15.5) for explicit no first aid and +11.1 points (+3.7 to +19.8) for the remedy category (Table 2). The CI for the absolute no-first-aid difference included zero.

Table 2. Recorded first-aid categories and absolute between-group differences.

Recorded Category	Italian ($n = 253$)	Non-Italian ($n = 116$)	Difference in Percentage Points (95% CI)
Running-water cooling	200 (79.1)	71 (61.2)	−17.8 (−28.0 to −7.9)
Explicit no first aid	31 (12.3)	22 (19.0)	+6.7 (−0.9 to +15.5)
Remedy	22 (8.7)	23 (19.8)	+11.1 (+3.7 to +19.8)

Note: Differences are non-Italian minus Italian. The overall Pearson chi-square test compares the complete distribution ($\chi^2 = 14.03$, df = 2, $p = 0.0009$). CIs are pointwise Newcombe intervals without multiplicity adjustment. The remedy category, labeled "Inappropriate remedy" in the source file, takes precedence when a remedy and cooling coexist. It does not establish absence of cooling. Percentages may not total exactly 100 because of rounding.

3.3. Multinomial and Sensitivity Analyses

In the core adjusted model, the mOR for non-Italian versus Italian citizenship was 2.04 (95% CI 1.07–3.91) for no first aid relative to cooling and 3.15 (1.56–6.35) for remedies relative to cooling (Table 3). The joint citizenship likelihood-ratio statistic was 12.97 (2 degrees of freedom; $p = 0.0015$). Full coefficients are in Supplementary Table S1. Across seven sensitivity models, the citizenship estimates retained the same direction (Supplementary Table S2). In the thermal subset ($n = 323$), the mOR for no first aid was 1.72 (95% CI 0.87–3.43), with the confidence interval including the null value of 1, and the remedy estimate was 3.11 (1.52–6.39). With additional adjustment for sex, mechanism, caregiver presence, and injury location, the estimates were 2.06 (1.06–3.99) and 2.99 (1.46–6.10), respectively. Adding interpreter requirement to this extended model gave 2.26 (1.07–4.80) and 3.07 (1.38–6.81). All models had full-rank design matrices, converged, and produced concordant coefficients with the two optimizers.

Table 3. Citizenship associations from multinomial logistic regression.

Outcome Contrast	Unadjusted mOR (95% CI)	Core Adjusted mOR (95% CI)
No first aid versus cooling	2.00 (1.09–3.68)	2.04 (1.07–3.91)
Remedy versus cooling	2.94 (1.55–5.61)	3.15 (1.56–6.35)

Note: Both models shown include 369 children. The citizenship comparison is non-Italian versus Italian; the outcome reference is the running-water cooling category. Core adjustment includes age, admission year, and three residence categories. mOR, multinomial odds ratio: the ratio between citizenship groups of the odds of the named category relative to cooling. These are not category-versus-all-other-categories odds ratios. The joint citizenship likelihood-ratio test for the adjusted model gives $\chi^2 = 12.97$, df = 2, $p = 0.0015$. Full coefficients and all sensitivity models are in Supplementary Tables S1 and S2.

3.4. Bounds for Receipt of Any Cooling

If none or all of the children in the remedy category had also received running-water cooling, the proportion receiving any cooling would range from 79.1% to 87.7% in the Italian group and from 61.2% to 81.0% in the non-Italian group. Combining the opposite group-specific extremes gives a between-group difference from −26.5 to +2.0 percentage points (Supplementary Table S3). These bounds include zero and positive values, so the recorded categories do not establish the direction of the difference in receipt of any cooling. The bounds reflect the loss of information when separate actions are combined into one category; they do not include sampling uncertainty or other measurement errors.

4. Discussion

Recorded citizenship was associated with the distribution of pre-hospital first-aid categories in this hospital cohort, including after adjustment for age, admission year, and residence. This finding does not establish a difference in the receipt or adequacy of cooling. Because remedies took precedence in classification, fewer records in the cooling category could reflect more use of remedies, less cooling, or both. The bounds for any cooling show that the available field cannot distinguish these possibilities.

The multinomial results also require attention to their reference category. A higher mOR for explicit no first aid relative to cooling is compatible with a pointwise CI for the absolute no-first-aid difference that includes zero: these estimates answer different questions. Neither is an estimate of the causal effect of citizenship. In the thermal-only sensitivity analysis, the mOR for no first aid was imprecisely estimated, and its confidence interval included 1, whereas the remedy-versus-cooling contrast remained elevated. The evidence supports a difference in the overall recorded distribution, but not equally precise conclusions about each category separately.

Bennett et al. assessed practices against local recommendations in two emergency-department settings [3]. Griffin et al. distinguished running-water exposure from cooling of sufficient duration within a defined time window [2]. Frear et al. additionally considered the provider and cumulative cooling delivered through the care pathway [4]. Our categories lack those dimensions, so direct comparisons of "adequate first aid" percentages with these studies would be misleading. The present findings concern how histories were classified, while leaving the underlying combination and timing of actions partly unresolved.

Likewise, the remedy label should not be treated as a validated injury-severity or harm measure. First-aid recommendations distinguish immediate cooling from subsequent wound protection; some topical products can be appropriate for selected small burns after cooling [1]. Without the substance, indication, and action sequence, the current dataset cannot establish that every record in the remedy category represents harmful treatment. The term is retained to disclose the original coding, not to assign blame to caregivers.

The substantial difference in residential distribution suggests that the groups reached this referral service from different geographic catchments. Adjustment for residence and the additional recorded characteristics did not account for referral thresholds, access to care, or selection into the dataset. Interpreter requirement describes a recorded care need, not caregiver language proficiency. Italian preferred language coincided with Italian citizenship in this file, so a separate Italian/non-Italian language indicator could not be included alongside citizenship. Immigration-related and ethnic classifications used elsewhere are not equivalent to recorded citizenship [5,6]. Health literacy, caregiver education, and household circumstances were not independently assessed.

The practical implication is to improve the information used in nursing assessment before selecting a targeted intervention. A first-aid history should allow separate recording of cooling and other actions, with explicit "not documented" options and details of timing,

duration, sequence, and the person providing care. Preferred language and understanding should be assessed individually rather than inferred from citizenship. These are proposals for a prospective documentation and needs-assessment study, not interventions whose benefit was demonstrated by the present analysis.

Evidence on prevention also supports separating educational processes from clinical outcomes. A systematic review of burn-prevention programs found variable effects on injury rates and important methodological limitations [11]. An earlier meta-analysis showed improvements in selected household safety practices without sufficient evidence of reduced medically attended thermal injuries [12]. These studies do not establish that citizenship-targeted education would improve first aid in this cohort. A subsequent evaluation should measure the actions caregivers actually take and define its clinical outcomes in advance.

Strengths and Limitations

The study describes a clinically relevant aspect of pre-hospital care using one record per child. Absolute differences, multinomial models, and sensitivity analyses provide complementary descriptions of the recorded categories; the cooling bounds make the uncertainty about combined actions explicit.

The original cohort selection could not be fully reconstructed from the available documentation, so complete or consecutive inclusion of eligible admissions could not be confirmed. Identifier checks establish uniqueness within the analytical file, not the completeness of case capture. Findings therefore apply to this available hospital cohort rather than the wider population of children with burns.

Caregiver reports and clinical histories may be affected by recall, translation, and recording practices. The analytical file did not document the original recording professional, abstraction procedure, changes over time, or classification reliability. Populated categories do not establish complete source histories or a uniform documentation process. The remedy label was not re-adjudicated, and the cooling bounds assume correct classification without accounting for unrecorded subsequent care or recording error [7,9].

The exploratory models included a limited set of covariates and only 45 remedy and 53 no-first-aid records. Additional adjustment does not remove residual confounding or selection bias, and the estimates are not causal effects. Pointwise CIs were not corrected for multiple comparisons. Infection, rehabilitation, and discharge-education fields lacked sufficiently documented ascertainment criteria; readmission lacked dates and a verifiable 30-day follow-up period. These fields were omitted. Clinical characteristics were descriptive: no inference of equivalent hospital outcomes, including rare outcomes, is supported.

5. Conclusions

Recorded pre-hospital first-aid categories differed by citizenship in this available hospital cohort, including after adjustment for recorded characteristics. The classification rule prevented us from establishing the direction of a difference in receipt of any running-water cooling. Separate recording of first-aid actions and direct assessment of family communication needs would support clearer clinical interpretation. These exploratory findings do not establish differences in guideline adherence, causal mechanisms, or intervention effectiveness.

Supplementary Materials: The following supporting information can be downloaded at https://www.mdpi.com/article/10.3390/nursrep16110393/s1, Supplementary Methods: variable definitions and analytical checks; Table S1: full coefficients for the core multinomial model; Table S2: all sensitivity-model citizenship estimates; Table S3: bounds for receipt of any running-water cooling.

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Institutional Review Board Statement: The study was conducted in accordance with applicable ethical and data-protection requirements and was approved by the Pediatric Ethics Committee of the Tuscany Region (protocol no. 126/2025; 10 June 2025).

Informed Consent Statement: The requirement to obtain specific consent for the processing of personal data was waived because this retrospective study used data collected during routine clinical care and subsequently processed for scientific research by an IRCCS. The processing was conducted in accordance with Article 110-bis, paragraph 4, of the Italian Personal Data Protection Code (Legislative Decree No. 196/2003, as amended), read in conjunction with Article 110 of the same Code and Article 9(2)(j) of Regulation (EU) 2016/679, and with the safeguards applicable to scientific research.

Data Availability Statement: The data supporting the findings of this study are available from the corresponding author upon reasonable request. The data are not publicly available because they contain health-related information derived from pediatric clinical records and their disclosure is subject to ethical and privacy restrictions.

Public Involvement Statement: No public involvement in any aspect of this research.

Guidelines and Standards Statement: This manuscript was prepared with reference to the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) and RECORD (REporting of studies Conducted using Observational Routinely-collected health Data) statements for observational studies using routinely collected data.

Use of Artificial Intelligence: ChatGPT-6.1 (OpenAI) was used to assist with English-language editing and to prepare code for independent statistical checks during revision. The software used for those checks is reported in the Methods. The authors remain responsible for reviewing the revised text, verifying the analyses against the source data, and the final interpretation of the findings.

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Conflicts of Interest: The authors declare that they have no conflicts of interest.

Abbreviations

The following abbreviations are used in this manuscript:

AVAC	Area Vasta Centro
CI	Confidence interval
mOR	Multinomial odds ratio
TBSA	Total body surface area

References

1. Hewett Brumberg, E.K.; Douma, M.J.; Alibertis, K.; Charlton, N.P.; Goldman, M.P.; Harper-Kirksey, K.; Hawkins, S.C.; Hoover, A.V.; Kule, A.; Leichtle, S.; et al. 2024 American Heart Association and American Red Cross Guidelines for First Aid. *Circulation* **2024**, *150*, e519–e579. [CrossRef] [PubMed]
2. Griffin, B.R.; Frear, C.C.; Babl, F.; Oakley, E.; Kimble, R.M. Cool running water first aid decreases skin grafting requirements in pediatric burns: A cohort study of two thousand four hundred ninety-five children. *Ann. Emerg. Med.* **2020**, *75*, 75–85. [CrossRef] [PubMed]
3. Bennett, C.V.; Maguire, S.; Nuttall, D.; Lindberg, D.M.; Moulton, S.; Bajaj, L.; Kemp, A.M.; Mullen, S. First aid for children's burns in the US and UK: An urgent call to establish and promote international standards. *Burns* **2019**, *45*, 440–449. [CrossRef] [PubMed]

4. Frear, C.C.; Griffin, B.; Kimble, R. Adequacy of cool running water first aid by healthcare professionals in the treatment of paediatric burns: A cross-sectional study of 4537 children. *Emerg. Med. Australas.* **2021**, *33*, 615–622. [CrossRef] [PubMed]
5. Elrod, J.; Schiestl, C.M.; Mohr, C.; Landolt, M.A. Incidence, severity and pattern of burns in children and adolescents: An epidemiological study among immigrant and Swiss patients in Switzerland. *Burns* **2019**, *45*, 1231–1241. [CrossRef] [PubMed]
6. Tan, K.T.; Prowse, P.M.; Falder, S. Ethnic differences in burn mechanism and severity in a UK paediatric population. *Burns* **2012**, *38*, 551–555. [CrossRef] [PubMed]
7. Shaw, R.J.; Harron, K.L.; Pescarini, J.M.; Pinto Junior, E.P.; Allik, M.; Siroky, A.N.; Campbell, D.; Dundas, R.; Ichihara, M.Y.; Leyland, A.H.; et al. Biases arising from linked administrative data for epidemiological research: A conceptual framework from registration to analyses. *Eur. J. Epidemiol.* **2022**, *37*, 1215–1224. [CrossRef] [PubMed]
8. von Elm, E.; Altman, D.G.; Egger, M.; Pocock, S.J.; Gøtzsche, P.C.; Vandenbroucke, J.P.; STROBE Initiative. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: Guidelines for reporting observational studies. *J. Clin. Epidemiol.* **2008**, *61*, 344–349. [CrossRef] [PubMed]
9. Benchimol, E.I.; Smeeth, L.; Guttmann, A.; Harron, K.; Moher, D.; Petersen, I.; Sørensen, H.T.; von Elm, E.; Langan, S.M.; RECORD Working Committee. The REporting of studies Conducted using Observational Routinely-collected health Data (RECORD) statement. *PLoS Med.* **2015**, *12*, e1001885. [CrossRef] [PubMed]
10. Newcombe, R.G. Interval estimation for the difference between independent proportions: Comparison of eleven methods. *Stat. Med.* **1998**, *17*, 873–890. [CrossRef]
11. van Balen, N.I.M.; Simon, M.H.; Botman, M.; Bloemers, F.W.; Schoonmade, L.J.; Meij-de Vries, A. Effectiveness of prevention programmes on the rate of burn injuries in children: A systematic review. *Inj. Prev.* **2024**, *30*, 68–74. [CrossRef] [PubMed]
12. Kendrick, D.; Smith, S.; Sutton, A.J.; Mulvaney, C.; Watson, M.; Coupland, C.; Mason-Jones, A. The effect of education and home safety equipment on childhood thermal injury prevention: Meta-analysis and meta-regression. *Inj. Prev.* **2009**, *15*, 197–204. [CrossRef] [PubMed]

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