Journal of Infection 92 (2026) 106680

Contents lists available at ScienceDirect

Journal of Infection

journal homepage: www.elsevier.com/locate/jinf

Letter to the Editor

Respiratory syncytial virus and healthcare workers, an unmet need? Insights from SIREN study and systematic review of available evidence

Sir,

In their recent report, Foulkes et al. assessed the burden of respiratory syncytial virus (RSV) infections among healthcare workers (HCWs) participating in the SIREN cohort study (September 2023 to March 2024). According to their report, around 7.3% of participants had at least one RSV infection, with a relatively high proportion of asymptomatic infections (30.7%).[1] These results are in line with a previous short report from Faico-Filho et al. [2] who identified a positivity rate of 2.6% among 4367 HCWs sampled from March 2022 to April 2024 and hinted at the unknown need for implementing RSV surveillance and primary prevention among healthcare workers. In fact, RSV is a common pathogen, with a very high burden both in infants/children and older adults, being otherwise acknowledged as an uncommon cause of hospitalizations and severe complications among healthy adults.[3,4] From this point of view, despite the increasingly aging healthcare workforce, the potential benefits from prompting RSV as an occupational vaccination strategy may be considered, at least, doubtful.[5]

However, the aims of HCWs' vaccination usually exceed the prevention of targeted conditions among vaccinated professionals.[5,6] HCWs may be considered a core group, capable of spreading a pathogen among the patients they care for. High vaccination rates among HCWs may therefore be useful in reducing the likelihood of hospital outbreaks among high-risk patients.[5,6]

We therefore performed a systematic review and meta-analysis with the aim of characterizing RSV burden in terms of episodes of acute respiratory infections (ARI) and/or influenza-like illness (ILI), and hospitalizations among HCWs and, where possible, the presenteeism rate (Supplementary Material). A limited amount of source papers (eight studies, published between 2018 and 2025) was retrieved, with a relatively small, pooled sample of 19,750 HCWs reporting a total of 11,609 ILI/ARI from five countries (Brazil, 45.77% of cases; Israel, 27.58%; UK, 24.93%; Italy, 1.13%; Greece, 0.70%), with 70.69% of them occurring after the onset of SARS-CoV-2 pandemic. The seasonal occurrence of RSV cases over the whole of ILI/ARIs ranged between 0.0%,[7] and 21.01%,[1] for a pooled proportion of 3.68% (95% Confidence Interval [95%CI] 2.40 to 5.61) (Table 1), that is nearly half of the estimates for seasonal influenza (Risk Ratio [RR] 0.62, 95%CI 0.28 to 1.65), particularly when focusing on the pre-pandemic time period (RR 0.45, 95%CI 0.24 to 0.85), and far lower than those for SARS-CoV-2 infections (RR 0.11, 95%CI 0.02 to 0.59) (Fig. 1). Interestingly, no hospitalizations due to RSV were reported in the retrieved studies.

The available data are affected by substantial heterogeneity (I^2 98.1%, 95%CI 97.6 to 98.6; I^2 92.4%, 95%CI 86.9 to 95.6; and I^2 97.8%, 95%CI 96.3 to 98.7 for proportion of RSV cases over the whole of ILI/ARIs, RR for RSV vs. Seasonal Influenza and SARS-CoV-2 infections, respectively), and by a probable occurrence of publication bias and small study bias (see Supplementary Material). Nonetheless, the entire body of data suggests that the burden of RSV infections among HCWs might not be negligible, although lower than for other vaccine-preventable conditions such as seasonal influenza and SARS-CoV-2.

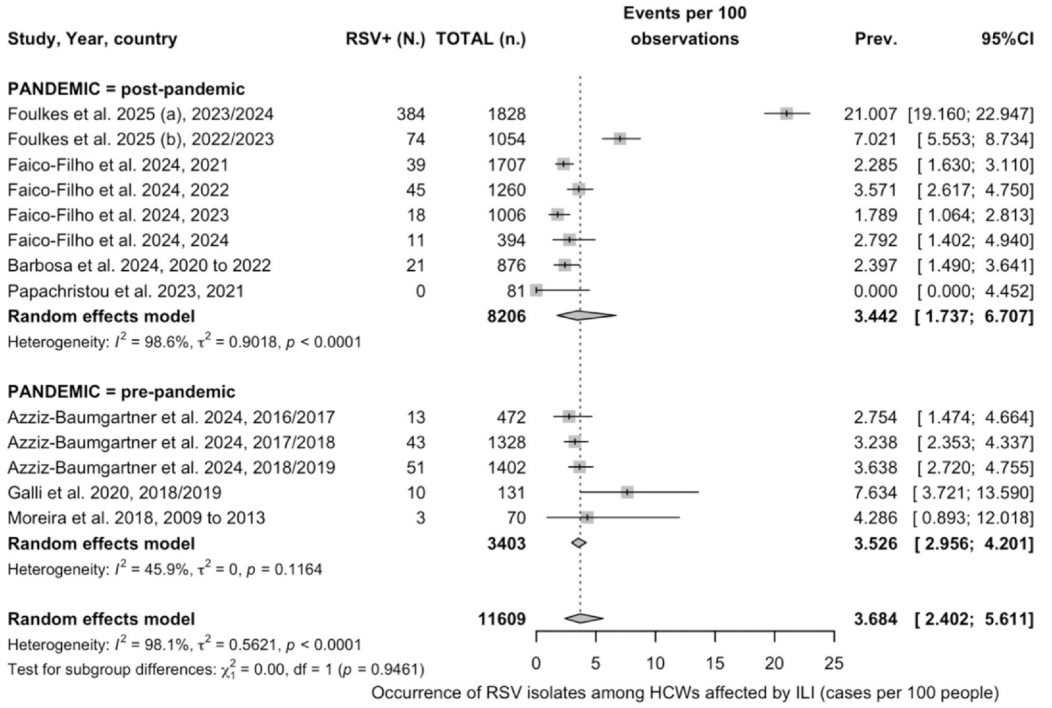
This view might flip if we consider that RSV vaccination among HCWs might impact the presenteeism rate and the likelihood of becoming active spreaders of the virus in healthcare settings, notoriously characterized by a large, vulnerable population.[3,4]

Although only three studies reported on this variable,[1,8,9] the pooled risk for sick leave due to RSV (24.25%) appears indeed lower than that for seasonal influenza (41.22%; RR 0.59, 95%CI 0.49 to 0.70)

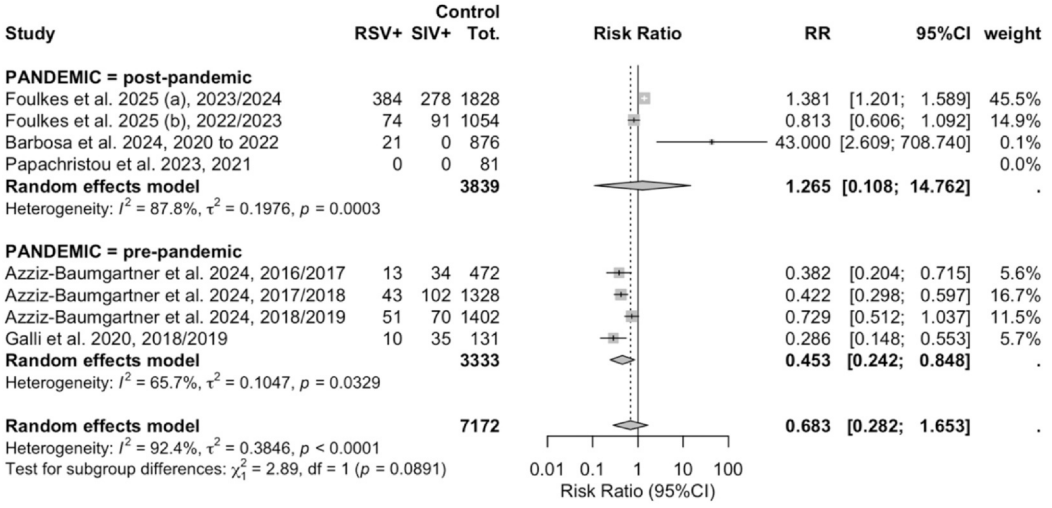
Table 1
Summary of studies included in the present systematic review with meta-analysis (see Supplementary Material for details).

Study	Timeframe	Country	Cases of ILI (N/11,609, %)	Respiratory Syncytial Virus		Seasonal Influenza Virus		SARS-CoV-2	
				Positive cases (n/N, %)	Sick leave (n/n, %)	Positive cases (n/N, %)	Sick leave (n/n, %)	Positive cases (n/N, %)	Sick leave (n/n, %)
Azziz-Baumgartner et al., 2024	2016–2019	Israel	3202 (27.58%)	107 (3.34%)	34 (31.78%)	206 (6.43%)	123 (59.71%)	-	
Foulkes et al., 2025 (a)	2023–2024	UK	1828 (15.75%)	384 (21.01%)	83 (21.61%)	278 (15.21%)	100 (35.97%)	1150 (62.91%)	414 (36.00%)
Foulkes et al., 2025 (b)	2022–2023	UK	1054 (9.08%)	74 (7.02%)	20 (27.03%)	91 (8.63%)	14 (15.38%)	643 (61.01%)	180 (27.99%)
Faico-Filho et al., 2024	2021–2024	Brazil	4367 (37.62%)	113 (2.59%)	-	-	-	-	-
Barbosa et al., 2024	2020–2022	Brazil	876 (7.55%)	21 (2.40%)	-	0 (-)	-	330 (37.67%)	-
Papachristou et al., 2023	2021	Greece	81 (0.70%)	0 (-)	-	0 (-)	-	32 (39.51%)	-
Galli et al., 2020	2018–2019	Italy	131 (1.13%)	10 (7.63%)	-	35 (26.72%)	-	-	-
Moreira et al., 2018	2009–2013	Brazil	70 (0.60%)	3 (4.29%)	-	-	-	-	-

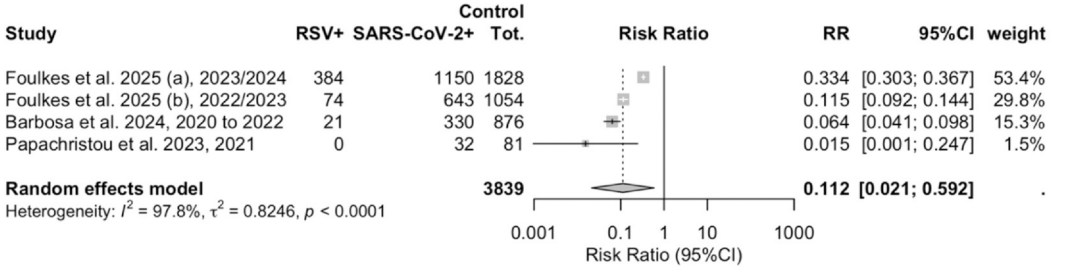
https://doi.org/10.1016/j.jinf.2026.106680



(a)



(b)



(c)

Fig. 1. Forest plots for the occurrence of Respiratory Syncytial Virus (RSV) isolates among healthcare workers affected by influenza-like illnesses (ILI) and/or acute respiratory infections (ARI) (a); risk ratio (RR) with their respective 95% confidence intervals for RSV vs. seasonal influenza (SIV) (b) and SARS-CoV-2 (c). See Supplementary Material for details.

and for SARS-CoV-2 (33.12% RR 0.73, 95%CI 0.62 to 0.86). In other words, available studies suggest that the large majority of HCWs affected by RSV-related ARI/ILI would avoid sick leaves if affected by RSV. Without the adoption of non-pharmaceutical interventions, including appropriate personal protective equipment (i.e. face mask, accurate hand and surface hygiene, etc.), HCWs may therefore spread RSV infections while caring for their patients.

An appropriate health technology assessment of RSV vaccination strategies among HCWs would require a reliable assessment of the effectiveness of RSV vaccines in preventing respiratory transmission of this pathogen, which is currently lacking. While the real-world effectiveness of RSV vaccines in avoiding hospitalizations and deaths among vaccinated subjects, and in the offspring of vaccinated mothers, has been documented by several studies,[4,10] there is currently no evidence that any of the available and internationally authorized vaccines (i.e. RSVpreF, RSVpreF3, mRNA-1345) may counter the transmission of the pathogen from affected individuals to susceptible subjects.[4] The lack of evidence regarding transmission reduction primarily reflects the absence of studies specifically designed to assess this outcome rather than an established lack of effect, underscoring the need to evaluate the potential indirect benefits of HCW vaccination in real-world settings.

Therefore, until the effectiveness of RSV vaccines in preventing human-to-human transmission of this virus is clearly demonstrated, the management of RSV infection among HCWs cannot avoid the rigorous application of non-pharmacological interventions, whereas the putative role of active vaccination strategies of HCWs against RSV -although intriguing - remains pending.

In light of these considerations, an efficient and cost-effective approach might include implementing self-testing strategies in the presence of symptomatic illness,[1,8] as already demonstrated during the SARS-CoV-2 pandemic,[5] emphasizing the importance of taking sick leave in the event of a confirmed positive diagnosis for RSV.[1,8,9] In parallel, it will be essential to strengthen risk perception for RSV, whose actual burden still remains widely underestimated, even among HCWs.[2–4]

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Declaration of Competing Interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Matteo Ricco' reports a relationship with Pfizer Inc that includes: board membership and consulting or advisory. Paolo Manzoni reports a relationship with Pfizer Inc that includes: board membership. If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.jinf.2026.106680.

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