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CORRIGENDUM

Evaluating interventions against Salmonella in broiler chickens: applying synthesis research in support of quantitative exposure assessment – CORRIGENDUM

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In the article by O. Bucher, A. Fazil, A. Rajic, A. Farrar, R. Willis and S. A. McEwen [1] presented in *Epidemiology and Infection*, several values given in tables 1 and 2 were incorrect. Tables 1 and 2 are republished here with the correct values.

Table 1. *Selected interventions* (*based on systematic review-meta-analysis*) *and their respective inputs for the quantitative exposure assessment model*

Setting[a]	Intervention type/Selected Product[b]	# relevant studies[c]	# studies/ trials included in MA[d]	Study design/ (#studies/ trials)[e]	# random allocation/ blinding[f]	Outcome	MA estimate (95% CI)[g]	Heterogeneity/ publication bias[h]
Farm	**Competitive exclusion**							
	Continuous-flow culture 3(CF3)	4	3/27	ChT(3/27)	0/4	Prevalence	RD = 46 (44 to 47)[i,j]	0%/0·139
	Continuous-flow culture 3(CF3)	4	3/23	ChT(3/23)	0/4	Concentration	MD = 1·23 (1·11 to 1·34)[i]	98·9%/0·05
	Commercial product FM-B11	5	5/66	ChT(5/66)	0/0	Prevalence	RD = 39 (35 to 42)[i]	63·5%/<0·0001
	Commercial product Broilact	4	4/16	ChT(4/16)	0/0	Prevalence	RD = 45 (36 to 49)[i]	54·6%/0·003
Farm	**Feed/water additives**							
	2–2·5% lactose applied in the drinking water 10 days after placement	17	3/4	ChT(3/4)	0/0	Prevalence	RD = 45 (23 to 50)[i,j]	20·9%/0·089
	15 mM experimental chlorate product added to water for 48 hours after placement	3	3/4	ChT(3/4)	0/0	Prevalence	RD = 23 (8 to 34)[i]	0·0%/0·894
	15 mM experimental chlorate product added to water for 48 hours after placement	3	3/3	ChT(3/4)	0/0	Concentration	MD = 0·54 (−0·05 to 1·12)[i]	90·4%/0·866
Farm	**Vaccination**							
	live *S.* Typhimurium	4	4/5	ChT(4/5)	0/0	Prevalence	RD = 33 (7 to 45)[i]	36·0%/0·756
Farm	**Biosecurity**							
	Hydrogen peroxide on eggs	2	2/5	ChT(2/5)	0/0	Prevalence	RD = 14 (11 to 16)[i]	82·4%/NA[k]
	PMBH[l] on eggs	2	2/5	ChT(2/5)	0/0	Prevalence	RD = 16 (11 to 17)[i]	92·7%/NA[k]
Abattoir	**Scalding**							
	1% Sodium hydroxide based sanitizer (RP scald)	2	NA[k]	ChT(1/8)	0/0	Concentration	NA[j,k,m]	NA[k]
	0·5–1·0% acetic acid	3	2/2	CT(2/2)	0/0	Prevalence	RD = −12 (−40 to 8)[i]	0·0%/NA[k]
Abattoir	**Post-evisceration spray**							
	50 ppm chlorine spray applied at 552 kPa	1	NA[k]	ChT(1/3)	0/0	Concentration	NA[j,k,m]	NA[k]
Abattoir	**Pre-chill carcass spray or dip**							
	10% trisodium phosphate spray applied at 206·8 kPa	8	3/8	ChT(3/8)	0(0)/0(0)	Concentration	MD = 1·31 (0·70 to 1·92)[i,j]	99·9%/0·351

Table 1 (*cont.*)

Setting[a]	Intervention type/Selected Product[b]	# relevant studies[c]	# studies/ trials included in MA[d]	Study design/ (#studies/ trials)[e]	# random allocation/ blinding[f]	Outcome	MA estimate (95% CI)[g]	Heterogeneity/ publication bias[h]
	0·1% cetylpyridinium chloride spray applied at 206·8 kPa	6	3/6	ChT(3/6)	0(0)/0(0)	Concentration	MD = 0·85 (0·51 to 1·18)[i]	99·3%/0·715
	1% lactic acid spray applied at 206·8 kPa	5	2/2	ChT(2/2)	0(0)/0(0)	Concentration	MD = 0·91 (0·55 to 1·27)[i]	95·8%/NA[k]
	10% trisodium phosphate dip	6	4/11	CT(4/11)	0(0)/0(0)	Prevalence	RD = 20 (17 to 21)[i]	90·1%/0·153
	1–2% lactic acid dip	4	2/14	CT(2/14)	0(0)/0(0)	Prevalence	RD = 20 (19 to 21)[i]	13·5%/0·104
	1–2% lactic acid dip	4	2/8	ChT(2/8)	0(0)/0(0)	Prevalence	RD = 18 (11 to 20)[i]	0·0%/0·683
Abattoir	**Immersion Chilling**							
	20 ppm total chlorine	11	2/2	ChT(2/2)	0(0)/0(0)	Concentration	MD = 0·49 (0·18 to 0·81)[i,j]	0·0%/NA[i]
	1–2% acetic acid	4	2/5	ChT(2/5)	0(0)/0(0)	Concentration	MD = 0·30 (−002 to 0·63)[i]	80·1%/0·006

[a]Intervention application point.
[b]For each intervention type up to three datasets were selected to represent intervention profile. The selection was based on a combination of arbitrary, biologic and contextual criteria.
[c]Studies (papers) confirmed relevant during the SR-MA process.
[d]Number of relevant studies (trials) for each intervention type or product that were included in random-effect MA.
[e]ChT–challenge trial, CT – controlled trial.
[f]Random allocation of intervention/concealment of treatment.
Randomized and/or non-randomized clinical or field trials and/or challenge trials.
[g]RD – Risk difference, MD – Mean difference.
[h]Statistical significance of heterogeneity ($\geqslant$25%) and publication bias ($\leqslant$0·1) as measured through Egger's regression asymmetry test.
[i]Calculated from MA.
[j]Selected for inclusion in the quantitative exposure assessment.
[k]Not applicable.
[l]PMBH – polyhexamethylenebiguanide hydrochloride.
[m]Calculated from individual studies.

Table 2. *Description of the variables used to model* Salmonella *status in broiler chickens at the grow-out farm*

Variable	Description	Units	Distribution/equation	Source (s)
Farm variables				
WFP'	Prevalence of *Salmonella* in broiler chicken feces	—	Beta (399, 2862)[a]	[29–32]
BFP'	Prevalence of *Salmonella* in broiler flocks	—	Beta (93, 65)[a]	[28]
RD_{Lac}	Reduction in risk due to lactose	—	Pert (23, 45, 50)[b]	[19]
RD_{CF3}	Reduction in risk due to CF3	—	Pert (44, 46, 47)[b]	[19]
WFP_{int}	WFP of *Salmonella* in broiler chickens after treatment with CF3 competitive exclusion culture or a lactose water additive	—	$WFP_{int} = WFP' \; x \; (100\text{-}RD)/100$	[19]
Transport variables				
$P(con_{trans})$	Probability an uncontaminated bird originating from a positive flock becomes externally contaminated during transport	—	$P(con_{trans}) = [P(con_{wf}) + P(con_{co})] - [P(con_{wf}) \; x \; P(con_{co})]$	[19]
$P(con_{trans})'$	Probability an uncontaminated bird originating from a negative flock becomes externally contaminated during transport	—	$P(con_{trans})' = [1-(1-BFP')^{Nflock}] \; x \; R_{damp}$	[19]
$P(con_{wf})$	Probability of a random uncontaminated bird contacting *Salmonella*-contaminated material on the transport truck	—	$P(con_{wf}) = 1-(1-WFP')^{Ncontact}$	[19]
$N_{contact}$	Number of contacts an uncontaminated bird may have with *Salmonella* contaminated material on a transport truck	—	Pert (1·5, 3, 4·5)[b]	[34, 35]
$P(con_{co})$	Probability of carry-over contamination from *Salmonella*-positive flocks transported prior to the current flock	—	$P(con_{co}) = [1-(1-BFP')^{Nflock}] \; x \; R_{\text{damp}}$	[19]
N_{flock}	Number of flocks transported prior to the current flock	—	[Uniform (1, 5)] – 1[c]	[19][e]
R_{damp}	Term for dampening the probability of carry-over contamination from a *Salmonella*-positive flock transported prior to the current flock	—	Uniform (0, 0·5)[c]	[19][e]
CFU_{trans}	Colony forming units (CFU) per bird on contaminated birds post-transport	CFU/carcass	Cumulative[d]	[27]

[a]Beta (α, β).
[b]Pert (minimum, most likely, maximum).
[c]Uniform (minimum, maximum).
[d]Cumulative (minimum, maximum, range of values, cumulative probability of each value in range).
[e]Values chosen based on authors' discretion.

REFERENCE

1. **O. Bucher, A. Fazil, A. Rajić, A. Farrar, R. Wills, S. A. McEwen**. Evaluating interventions against Salmonella in broiler chickens: applying synthesis research in support of quantitative exposure assessment. *Epidemiology and Infection*, Available on CJO 2011. doi:10.1017/S0950268811001373.