

Practising Scientific English

Focus su Introduzione e Materiali e Metodi



Roma, 18/03/21



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Osservatorio Epidemiologico



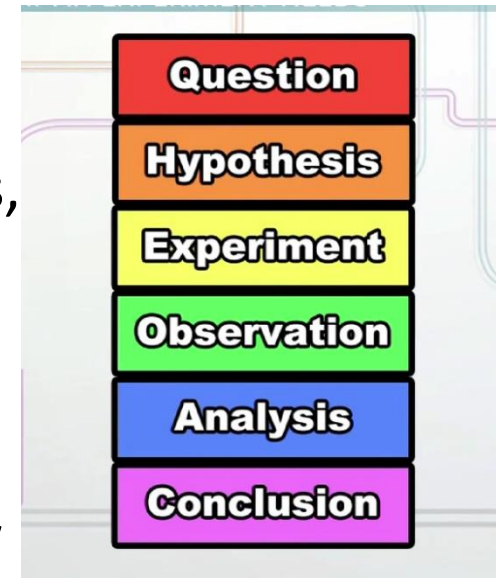
- Before we start...
- General recommendations
- Introduction
- Material and Methods



Before we start...

Premise:

- We have already conducted a solid study (i.e. Original/innovative idea, strong/clear hypothesis, well-designed, reliable data sources...) *"A good manuscript starts with good Science"* Mary M. Christopher, DVM, PhD University of California-Davis
- We have done an extensive Bibliographic Review
- We have time! Writing a scientific paper is a demanding activity and it needs to be done without continuous interruptions
- We have decided the article type



Types of Articles

- Review/Mini-Review
- Original Articles (Full Articles/Short Communications)
- Clinical cases
- Opinions
- Technical Notes
- Letter to the Editor
- Point/Counterpoint



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- Review/Mini-Review
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How do we choose a Journal?

- Quality of the research
- Topics of the journal
- Topics dealt by previous articles
- Look at your bibliography
- Bibliographic Indexes (i.e. IF)
- Open Access? (embark)
- Publication fee
- Recent Articles
- Journal Guidelines
- Revision and publication timing



Journal Citation Reports

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Journals By Rank

Categories By Rank

All Journal Categories ranked by Number of Journals

Customize Indicators

	Category	Edition	#Journals	Total Cites	Median Impact Factor	Aggregate Impact Factor
29	COMPUTER SCIENCE, INFORMATION SYSTEMS	SCIE	156	543,628	2.468	3.297
31	LAW	SSCI	155	131,513	1.041	1.433
31	PHYSICS, APPLIED	SCIE	155	2,897,750	2.166	4.626
31	PSYCHIATRY	SCIE	155	925,489	2.500	3.640
34	BUSINESS	SSCI	152	708,481	2.509	3.534
35	SOCIOLOGY	SSCI	150	313,101	1.328	1.704
36	ENDOCRINOLOGY & METABOLISM	SCIE	143	1,085,816	3.235	4.316
36	ENGINEERING, CHEMICAL	SCIE	143	1,628,909	2.326	4.755
38	PSYCHIATRY	SSCI	142	667,994	1.941	3.206
39	VETERINARY SCIENCES	SCIE	141	357,943	1.135	1.478
40	FOOD SCIENCE & TECHNOLOGY	SCIE	139	1,051,204	2.095	3.279
40	MEDICINE, RESEARCH & EXPERIMENTAL	SCIE	139	1,041,927	3.139	3.380
42	CARDIAC & CARDIOVASCULAR	SCIE	138	1,051,808	2.375	4.361

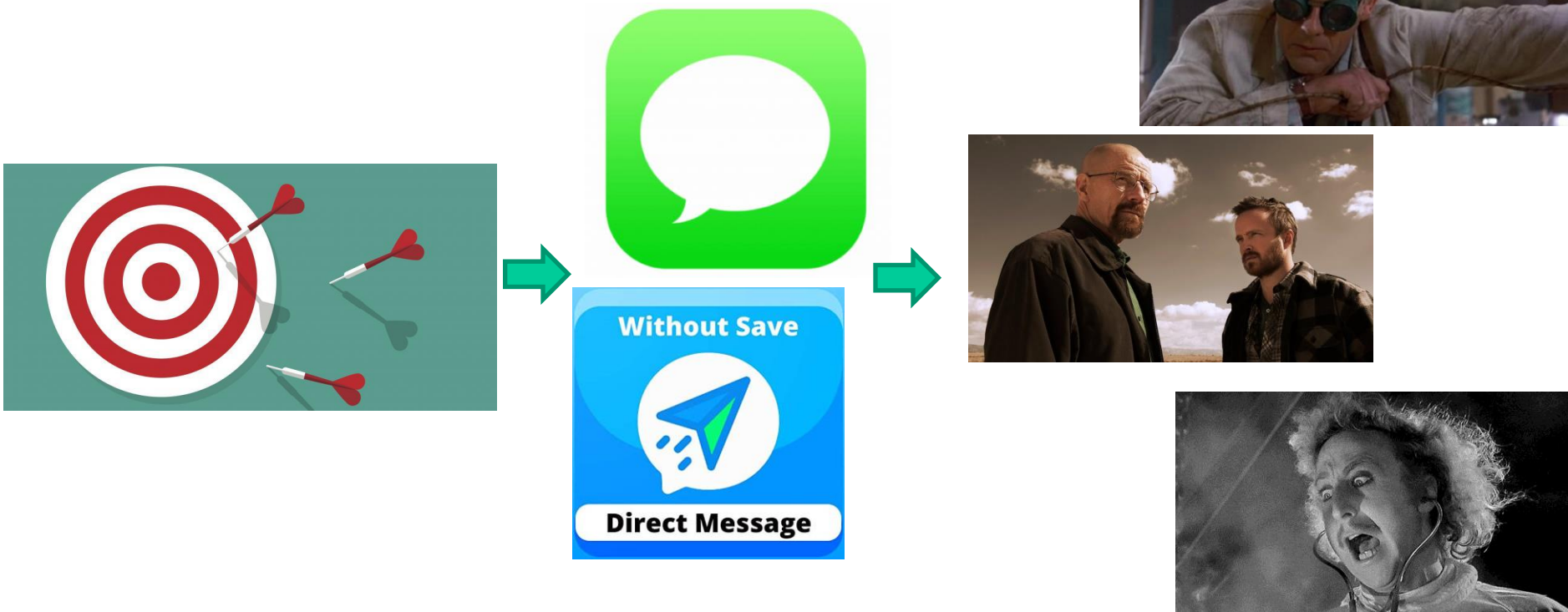


Journal Citation Reports

Journal Titles Ranked by Impact Factor

Compare Selected Journals		Add Journals to New or Existing List		Customize Indicators	
Select All		Full Journal Title	Total Cites	Journal Impact Factor ▼	Eigenfactor Score
<input type="checkbox"/>	1	LAB ANIMAL	732	9.600	0.00132
<input type="checkbox"/>	2	Annual Review of Animal Biosciences	955	6.091	0.00266
<input type="checkbox"/>	3	Animal Nutrition	1,214	4.492	0.00242
<input type="checkbox"/>	4	Transboundary and Emerging Diseases	4,477	4.188	0.00986
<input type="checkbox"/>	5	ANIMAL HEALTH RESEARCH REVIEWS	1,110	3.833	0.00090
<input type="checkbox"/>	6	VETERINARY RESEARCH	5,418	3.357	0.00707
<input type="checkbox"/>	7	VETERINARY MICROBIOLOGY	16,042	3.030	0.01569
<input type="checkbox"/>	8	MEDICAL MYCOLOGY	4,984	2.822	0.00540
<input type="checkbox"/>	9	EQUINE VETERINARY JOURNAL	7,200	2.477	0.00454
<input type="checkbox"/>	10	VETERINARY RECORD	9,896	2.442	0.00653

- Remember always the main goals of your study and the messages you want to deliver





Title

Firstname Lastname¹, Firstname Lastname² and Firstname Lastname^{2,*}

¹ Affiliation 1; e-mail@e-mail.com

² Affiliation 2; e-mail@e-mail.com

* Correspondence: e-mail@e-mail.com; Tel.: (optional; include country code; if there are multiple corresponding authors, add author initials) +xx-xxxx-xxx-xxxx (F.L.)

Received: date; Accepted: date; Published: date

Abstract: A single paragraph of about 200 words maximum.

Keywords: keyword 1; keyword 2; keyword 3 (List three to ten pertinent keywords specific to the article; yet reasonably common within the subject discipline.)

1. Introduction

2. Materials and Methods

2.1. *Study design Overview*

3. Results

4. Discussion

5. Conclusion

6. References

- If you can, start following the Author guidelines of the Journal or at least a generic layout





Bluetongue circulation in goats Lazio and Tuscany (Central Italy)

General recommendations

Outline the informations/
concepts / elements/
findings / reasonings you
want to include for each
section and guess a
«weight» -> logical
structure of the paper

Firstname Lastname ¹, Firstname Lastname ² and Firstname Lastname ^{2,*}

1. Introduction

- Describe briefly the Bluetongue (BT) disease
 - o Virus
 - Strains
 - characteristics
 - o competent, vectors
 - o mechanism of spread
 - o Factors of infections
- Bluetongue and goats
 - o Describe the pathogenesis
 - o Problems for farmers
 - economic loss (describe the reasons and quantify, search a paper)
 - husbandry problems (trade restrictions,
- Italian and European epidemiological situation
 - o Outbreaks in Italy (look the reference lab report)
 - o Outbreaks in Europe (look OIE reports)
- Problem: few studies regarding occurrence in goat and even less in Italy
 - o List studies for goats
 - o List Italian studies for goats
- Aim:
 - o Occurrence BT in goat in Italy
 - o Risk factor in goat
 - o Difference with ovine

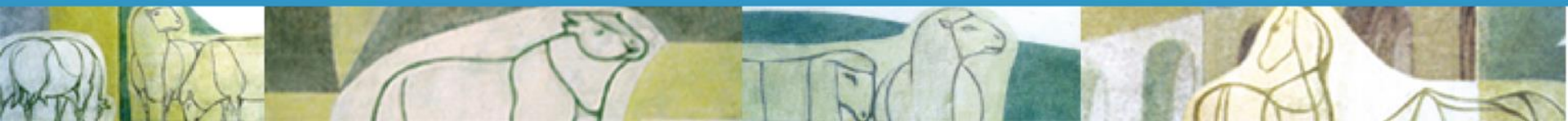
2. Materials and Methods



- Share the job with the other Authors!



“You should spend the next week typing down names
of all co-authors on your paper.”



General recommendations

- Make your manuscript easy to follow for the reader! Make it attracting and catchy

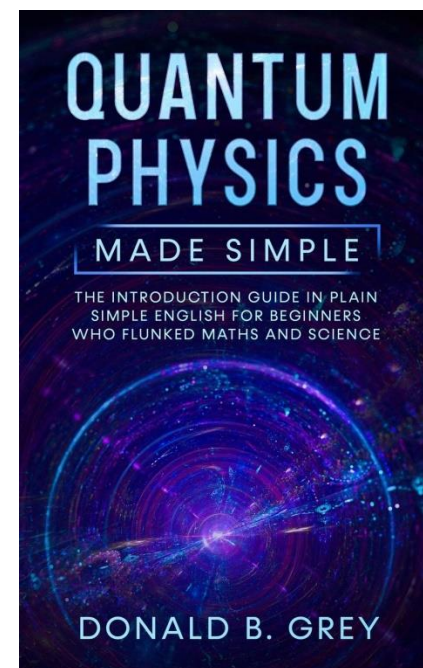
“Making the simple complicated is commonplace; making the complicated simple, awesomely simple, that's creativity.” (Charles Mingus)

- Provide evidences to support your statements/concepts/facts -> you need to be objective



Some tips regarding the language

- **Use simple English!** clear form, no long and complex phrases
- **No contract forms** («It's», «We've studied»...)
- Paragraph organization is important in written English!
- Good/Clever usage of the linkers to express your concepts/thoughts («however», «anyway», «in contrast», «moreover», «as well as»...)

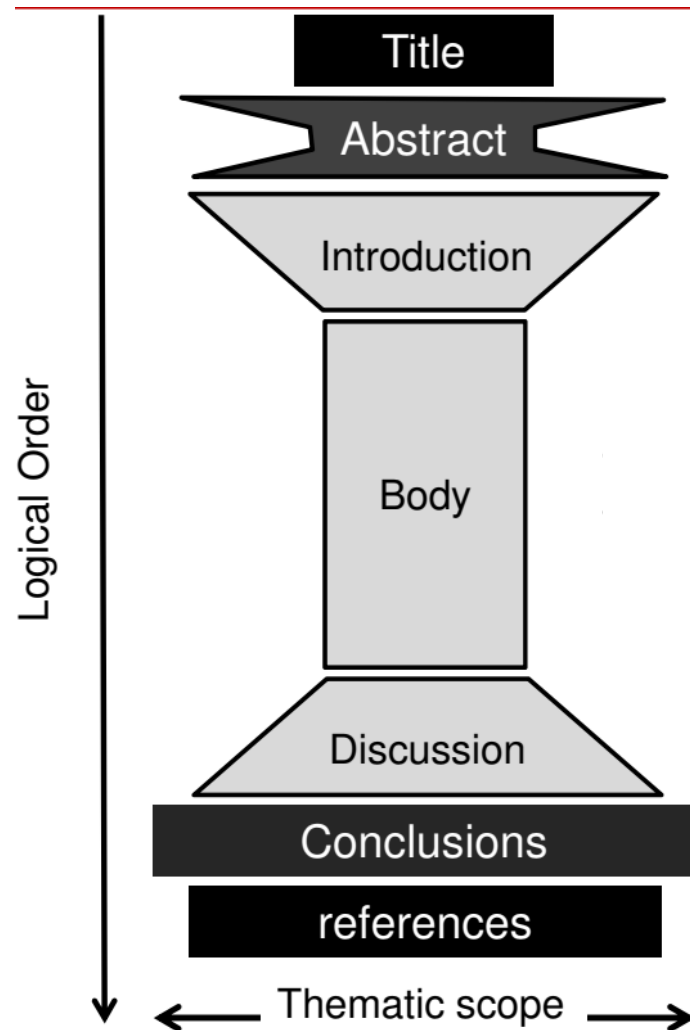


Some tips regarding the language

- Be cautious in your statements!! i.e. Strong expressions are rare because they are used for sure/certain beliefs.
 - Modal verbs are essential («might», «may», «could», «can», «must», «should», etc...)
 - Recurrent expressions in Academic English: «appear», «seems»...
- Tense use (past tense... but not only!)
- Be sure that your manuscript is revised by a mother language or proficient English Speaker before the submission

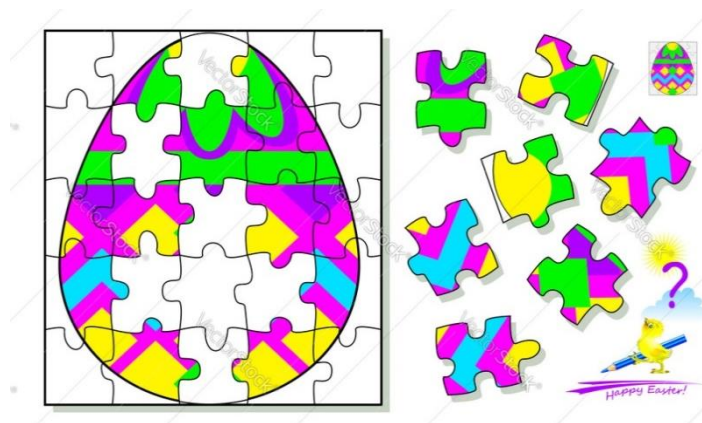
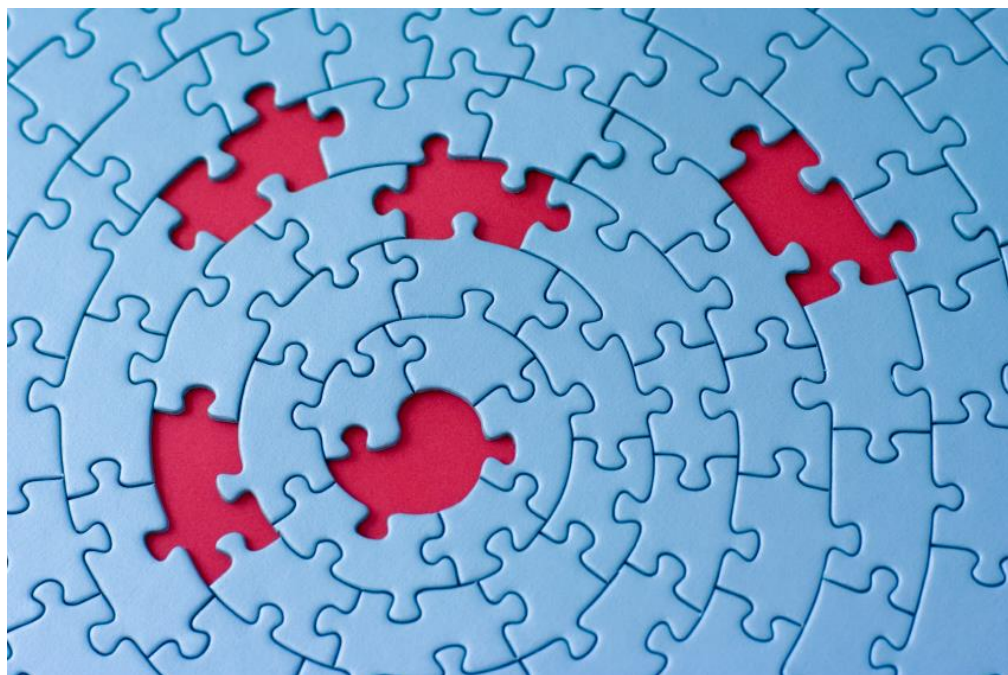


General recommendation



Introduction

Provides the reader with the Background/Context related to your research and includes the hypothesis/goals of your study



Good practices

- Try to be brief (2-3 typed pages)
- Focus on the main subject(s)
- Cite the most recent literature (preferably from reliable/trusted sources)
- State clearly the objective(s) of the study



Good practice

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Bad practices

- Long introduction
- Too wordy, too many subjects
- Extensive review of the topic
- The objective(s) are vague or not well described



Background

- *Incipit*: Briefly describe the main characteristics of the object of your investigation
- What is known or believed about the topic?
- What is still unknown or problematic? (what's the problem?)
- Findings of relevant studies (past verb tense)
- Importance of the topic (support your study)



Goal(s) of the study

State clearly and concisely your hypothesis and the consequent objective(s) of the study at end of the introduction -> try to make your paper «appealing»

- Common expression

- *“To determine whether”*
- *«To this end, we investigated....»*
- *“The purpose/objective of this study was to”*
- *“This study tested the hypothesis that”*
- *“This study was undertaken to”*



Goal(s) of the study

Preventive Veterinary Medicine 181 (2020) 105074

Evaluation of intrinsic and extrinsic risk factors for dog visceral hemangiosarcoma: A retrospective case-control study register-based in Lazio region, Italy



The Risk of Infection by African Swine Fever Virus in European Swine Through Boar Movement and Legal Trade of Pigs and Pig Meat

Preventive Veterinary Medicine 149 (2018) 47–52

Monitoring for the possible introduction of Crimean-Congo haemorrhagic fever virus in Italy based on tick sampling on migratory birds and serological survey of sheep flocks

20 % of all malignant tumour cases detected at necropsy. The purpose of this study was to investigate the possible risk factors, both intrinsic and extrinsic, involved in visceral HSA development in dogs living in the Lazio region (Italy).

In that model to indicate which pathway was of greatest risk. In this study, we adapt a generic risk assessment framework (34) to assess quantitatively the risk of infection with ASFV in domestic pigs or wild boar across Europe at a fine spatial scale (100 km² cells) via multiple pathways, namely trade in live pigs, trade in pig meat products, and movement of wild boar. We create risk maps for 2019 of the probability of infection in pigs and boar for each pathway and for all pathways combined, in order to identify hotspots of ASFV incursions in the EU, and the pathways of most importance in each area.

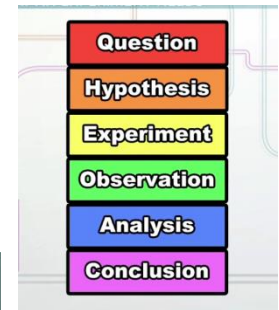
In this scenario, an innovative approach was adopted to monitor CCHFV introduction and circulation in Italy, targeting two epidemiological phases of the virus:

1) introduction: monitored by tick sampling on migratory birds to evaluate the arrival of potential CCHFV vectors in Italy from endemic areas of Africa and Eastern Europe. This would provide data

Introduction

Recommendations

- From generic to specific: real/tangible problem -> literature -> your study
- Connect logically all elements: problem(s) -> potential reason(s) or solution(s) -> hypothesis -> type of study -> your study
- Select only important/pertinent studies
(and aggregate the results)
- Be honest and transparent!



Describes the materials and methodologies/techniques you used to conduct your investigation and provides such information with a level of detail that permits to repeat the study

- How did you study the problem?
Design of the study (including definition of time and space)
- What did you study and what did you use? (Materials)
Target/Study population (Animals? Foods?), Field and Lab materials, Tools (software, dataset...)
- How did you conduct the study? (Methods)
Explain (chronologically) the steps, the aims and what you did to accomplish it
Report the methodologies you applied (field, lab, statistical context)



Good practices

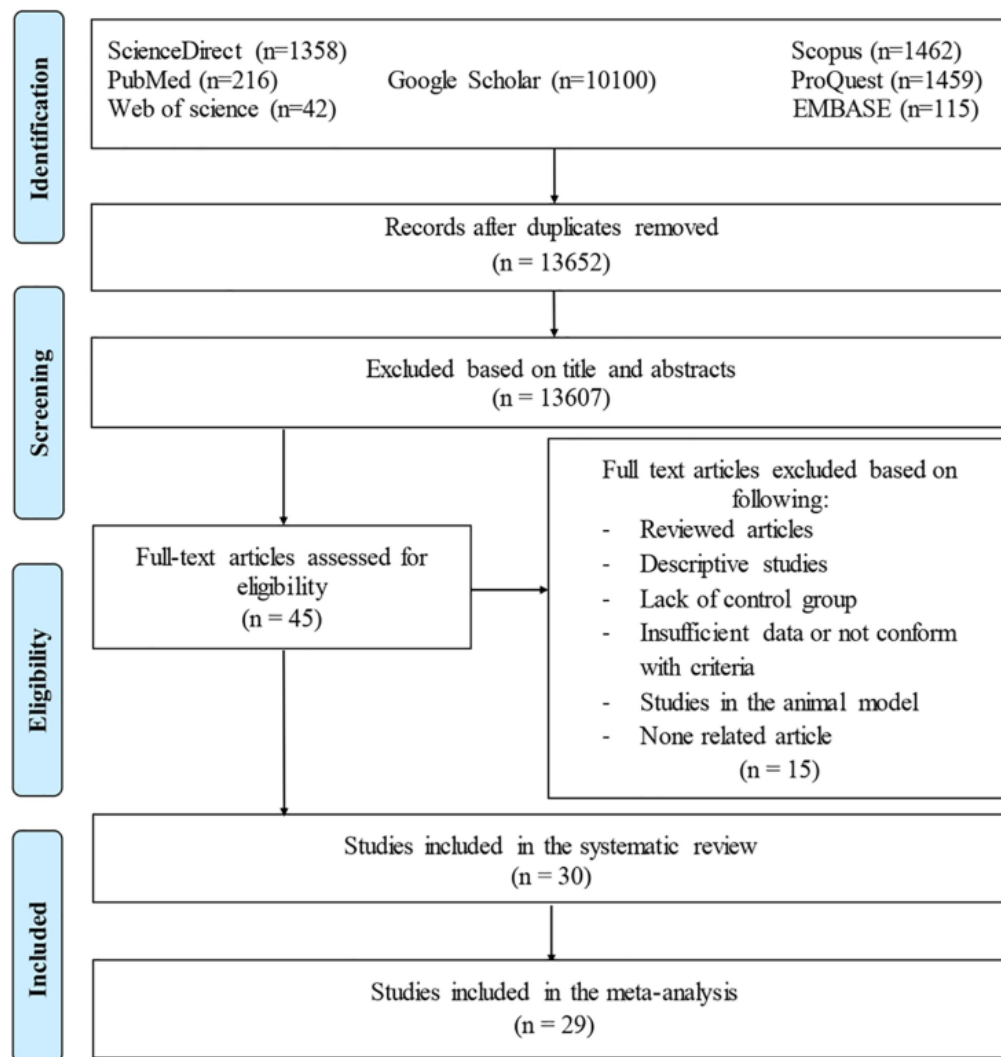
- Published method? Concise description and citation
- Unpublished or modified method? Detailed description
- Provide quantitative data (concentrations, measures, time, etc...) and material producers
- Statistical analysis is part of M&M!
- Subheadings make M&M more readable
- Too much data to report -> Appendix or Supplementary material

Bad practices

- Long M&M
- Mix M&M with Results
- No clear description of some steps, data analysis in particular



- Diagrams / Schemes to better explain the methodology



Is there any association between *Toxoplasma gondii* infection and depression? A systematic review and meta-analysis

Fig 1. The PRISMA flow diagram of the search strategy, study selection, and data management procedure of *T. gondii* infection and depression.

- Diagrams / Schemes to better explain the methodology

Risk Assessment of Human Listeriosis from Semisoft Cheeses Made from Raw Sheep's Milk in Lazio and Tuscany (Italy)

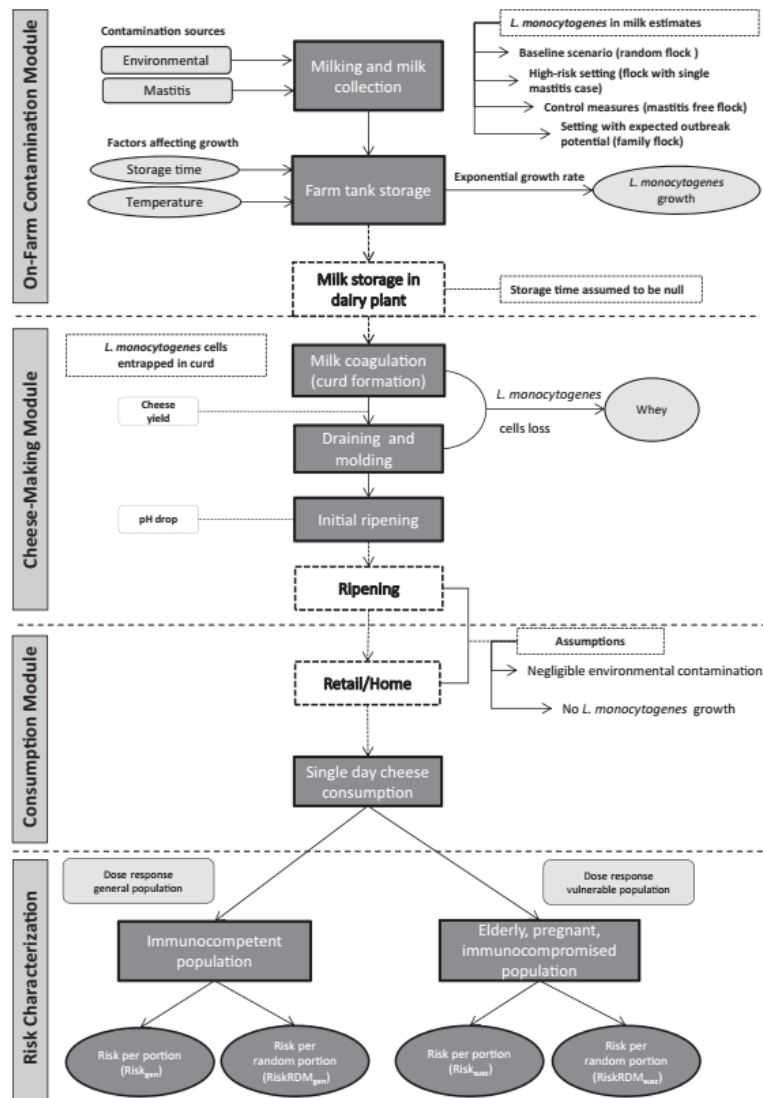


Fig. 1. Flow chart of the quantitative risk assessment model for *L. monocytogenes* in raw sheep's milk cheese.

- Figures/Maps

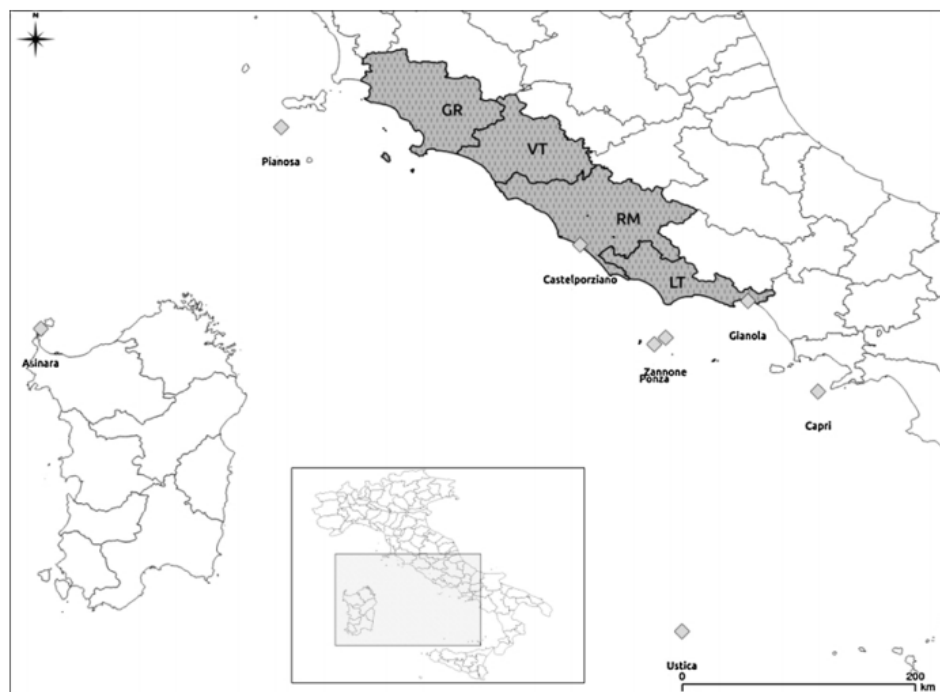


Fig. 1. Sampling area.

Legend

The dotted grey areas represent the provinces in which sheep were sampled (GR = Grosseto; LT = Latina; RM = Rome; VT = Viterbo). Grey diamonds indicate the ticks sampling sites (Castelporziano and Gianola are on the mainland, the remaining are islands). Localisation of the sampling area within Italy is displayed in the central box.



Too much information to report -> Appendix or Supplementary material

Appendix I. Analytical methods used for microbial analysis

Bacterial analysis	Method identification number (date issued)	Title of method ^a (Brief description of the method)
<i>L. monocytogenes</i>	MFLP-28 (November 2011)	The Qualicon Bax® System Method for the Detection of <i>Listeria monocytogenes</i> in a Variety of Food (PCR-based screening method)
	MFHPB-30 (February 2011)	Isolation of <i>Listeria monocytogenes</i> and other <i>Listeria</i> spp. from foods and environmental samples (Culture-based isolation and identification method)
	MFLP-74 (February 2011)	Enumeration of <i>Listeria monocytogenes</i> in foods (Enumeration method)
<i>E. coli</i> O157:H7/NM	MFLP-30 (November 2012)	Detection of <i>Escherichia coli</i> O157:H7 in select foods using the BAX® System <i>E. coli</i> O157:H7 MP (PCR-based screening method)
	MFHPB-10 (October 2014)	Isolation of <i>Escherichia coli</i> O157:H7/NM from foods and environmental surface samples (Culture-based isolation and identification method)
<i>Salmonella</i> spp.	MFHPB-20 (March 2009)	Methods for the Isolation and Identification of <i>Salmonella</i> from Foods and Environmental Samples (Culture-based isolation and identification method)
<i>Shigella</i> spp.	MFLP-25 (March 2006)	Isolation and Identification of <i>Shigella</i> spp. from Foods (Culture-based isolation and identification method)
<i>Campylobacter</i> spp.	MFLP-46 (March 2002, modified ^{**})	Isolation of Thermophilic <i>Campylobacter</i> from Food (Culture-based isolation and identification method)
Generic <i>E. coli</i>	MFHPB-19 (April 2002)	Enumeration of Coliforms, Faecal Coliforms and <i>E. coli</i> in Foods (Most Probable Number (MPN) enumeration method)
	MFHPB-27 (September 1997)	Enumeration of <i>Escherichia coli</i> in Foods by the Direct Plating (DP) Method (Direct Plating enumeration method)
pH level	MFHPB-03 (July 2014)	Determination of the pH of Foods including Foods in Hermetically Sealed Containers
Water activity level	MFLP-66 (August 2014)	Determination of Water Activity Using the Decagon Aqualab

^a *Compendium of Analytical Methods* (Health Canada, 2018), the methods used were the published versions at the time of analysis.

^b MFLP-46 was performed as written with the following modifications: 25 g from each sample were added to a filtered stomacher bag and stomached with 50 mL of peptone water for 2 min at 200 RPM. 25 mL of supernatant were removed and added to 100 mL of Park and Sanders Enrichment Broth, which is comprised of 100 mL of brucella broth, 0.5 mL supplement A per 100 mL of broth, 0.5 mL supplement B per 100 mL of broth, 5 mL blood per 100 mL of broth. The sample was then incubated under microaerophilic atmosphere in a Tri-Gas incubator (5% O₂, 10% CO₂, 85% N₂) at 37 °C for 3 to 4 h and then transferred to a 42 °C incubator and incubated under microaerophilic atmosphere (as specified above) for 24 and 48 h. Following incubation, the enrichment broth was plated as described in Section 6.3

Microbiological safety of ready-to-eat fresh-cut fruits and vegetables sold on the Canadian retail market

Helen Zhang*, Etsuko Yamamoto, Johanna Murphy, Annie Locas

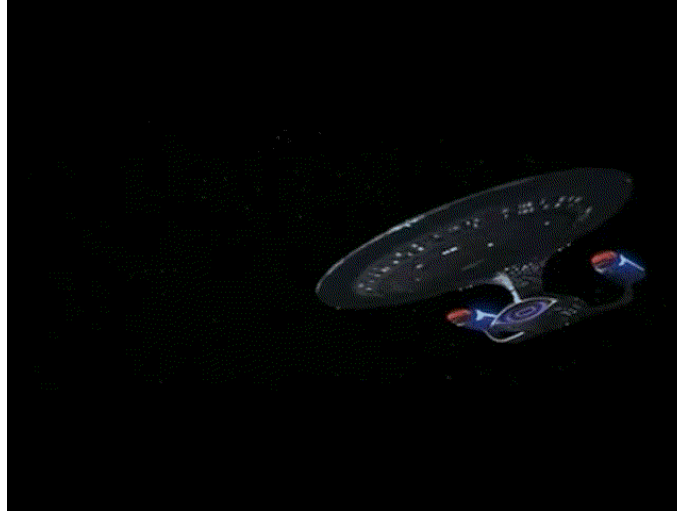
International Journal of Food Microbiology 335 (2020) 108855

Too much information to report -> Appendix or Supplementary material

APPENDIX: DESCRIPTION OF THE PARAMETERS AND STATISTICAL DISTRIBUTIONS USED IN THE QMRA MODEL FOR EACH PRODUCT (BASELINE SCENARIO)

Variable	Description	Value/Distribution	Source
Bradyzoites Concentration in the Portion			
Concentration of bradyzoites in muscle	Concentration of bradyzoites in muscle from an infected animal; data retrieved from a study that quantifies bradyzoites in muscle samples from infected goats using real-time polymerase chain reaction (PCR)	Lognormal distribution (μ, σ) ($\mu = 11.67, \sigma = 97.31$) truncated to (0.04; 41.3) (bradyzoites/g)	Juránková <i>et al.</i> ; ⁽⁵⁵⁾ Guo <i>et al.</i> ⁽²⁰⁾
Portion size	Size (in grams) of the portion for each food product in Italy prior to consumption	Cumulative distributions (Additional Supporting Information, Table SI) (in grams)	Food Consumption Survey INRAN-SCAI 2005–06; Leclercq <i>et al.</i> ⁽¹⁹⁾
Proportion of pork muscle tissue in the portion	Correction factors used to estimate the proportion of pork muscle tissue in each portion for every type of food	Several values and distributions (Additional Supporting Information, Table SII)	Several sources (see Table SII)
Weight loss	Correction factors used to quantify the loss of weight by muscle tissues in the portion after cooking or curing	Several values and distributions (Additional Supporting Information, Table SIII)	Several sources (see Table SIII)
Amount of raw pork muscle in the portion	Overall amount of raw pork muscle that was originally present in a portion considering the weight loss and the presence of other nonmuscle tissues	(Portion size \times Proportion of pork muscle tissue in the portion) + (Portion size \times Proportion of pork muscle tissue in the portion \times Weight loss) (grams)	Calculation
Number of bradyzoites in the contaminated portion	Number of bradyzoites originally present in the contaminated portion before the effect of cooking, curing, and freezing	Concentration of bradyzoites in the muscle \times Amount of raw pork muscle in the portion	Calculation
Treatment Models (Salting, Freezing, and Cooking)			
Probability of infection of a mouse for the salting model	Probability of infection of a mouse returned by the logistic model on the basis of the different salting parameters; the model was built using data regarding mice that were inoculated with an infected salted brain sample	$\frac{1}{1 + e^{-(22.349 - 0.412 \times \text{temperature} - 0.193 \times \text{treat. duration} - 3.316 \times \text{NaCl conc.} - 0.02 \times \text{temperature} \times \text{treat. duration})}}$	Opsteegh <i>et al.</i> ; ⁽¹⁷⁾ Table SIV (parameters for salting)
r_value for mouse dose response	Dose–response parameter that can be interpreted as the probability of one bradyzoite to successfully initiate an infection for mouse species	0.011	Opsteegh <i>et al.</i> ; ⁽¹⁷⁾ AFSSA ⁽⁶⁷⁾

BUONA RICERCA A TUTTI!



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