



Estructura de la Discusión y Conclusiones

Prof. Alfonso J. Rodriguez Morales,
MD, MSc, DTM&H, FRSTMH(Lon), FFTM RCPS(Glasg), FACE, PhD(c)
Investigador Senior - H index 17

Original articles: Body of the manuscript



Introduction

Since the 1990s, there has been substantial growth in the volunteer tourism market, partly due to the increasing variety in available volunteer experiences.¹ In the United Kingdom alone, it is thought that 230,000 young people take gap years, 90,000 people take career breaks, and 200,000 people travel in their retirement.²

Methods

Design

A cross-sectional questionnaire was used to assess short-term volunteers' health overseas and on return to the UK.

Setting

InterHealth is a specialist travel clinic in London with charitable status, providing medicals, vaccinations, travel supplies, and psychological support predominantly to those working overseas in the relief and development sector.

Results

Response rate

Since completion of the questionnaire was compulsory, an overall response rate of 100% was achieved. Within the questionnaire, the response rate ranged from 67.6% to 100% to individual questions.

From the 426 completed forms, one patient was excluded as they completed the post-travel health questionnaire in

Discussion

This cross-sectional questionnaire study of 413 participants is the largest study of the health of short-term overseas volunteers to developing countries to date. Other studies have used similar questionnaire methodologies but have had different populations of older aid, humanitarian and health workers on longer assignments.^{5,7}

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Original articles: What should be written first?

- ▶ Order of appearance is different to the writing one
- ▶ Usually you write a manuscript when finish a study, which usually had an initial protocol or project, then, part of **background or introduction**, as well **methods** should be advanced.
- ▶ Then, logical writing order would be:
 - ▶ Methods > Results > Introduction > **Discussion or**
 - ▶ Methods > Results > **Discussion** > Introduction
 - ▶ Then, abstract and keywords and finally the title

Key elements writing a paper

- order your material
- construct a neat abstract
- write an effective introduction
- describe your methods so that other researchers could repeat your study
- report your results precisely
- make your discussion relevant and interesting

Discussion

Say what your findings mean, not what you would like them to mean or think they ought to mean.

JS Lilleyman²⁹

What should be in a Discussion?

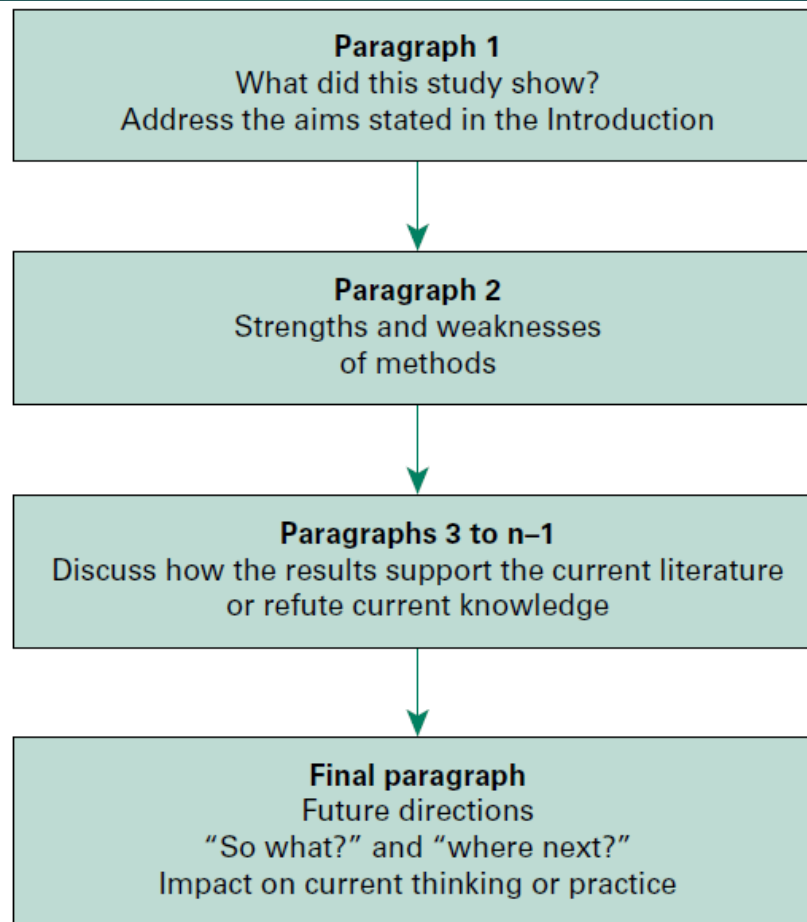


Figure 3.6 Template for the discussion.

Limitations and Evidences

DISCUSSION

In this preliminary study, we showed that, in the absence of other biologic or social factors, climate variability may have a substantial impact in the epidemiology of leishmaniasis in northeastern Colombia. The world's climate seems to be changing at an unprecedented rate.^{4,5,13,14} Shifts in the distribution and behavior of insect vectors and bird species indicate that biologic systems are already adapting to ecological variations. It is well established that climate is an important determinant of the distribution of vectors and pathogens,^{4,5,13,14} such as those of malaria,¹⁵⁻¹⁷ dengue,¹⁸ and recently, leishmaniasis.^{6-9,19,20}

The statistical analysis of this study was based on the mean number of cases per year rather than on incidence rates in these populations. Therefore, because the analysis covered a long period of time and to avoid bias, we contemplated the rate of annual population growth in these populations. Both populations included in our study were considered to have a stable population growth of 1.0% to 2.5% annually, which does not significantly differ from other provinces in the country. Population growth data are not generated on a yearly basis because this information is obtained and estimated by

population censuses, which were carried out in 1985, 1993, 1999, and 2003 in Colombia. The population in Santander increased by 2% annually between 1985 and 1993 (1,511,392 individuals increased to 1,811,741 by 1993); from 1993 to 1999 showed a 1.09% annual population growth (1,938,910 individuals by 1999); and in 2003, there was a 1.23% annual growth (2,039,336 individuals by 2003). In the case of North Santander, the population growth by 1993 was 2.68% (population size increased from 913,491 in 1985 to 1,162,474 by 1993); a population growth of 1.95% between 1993 and 1999 (1,316,119 individuals by 1999); and a 2.07% annual population growth in 2003 (1,435,237 individuals by 2003). Based on these facts, we were unable to calculate exact incidence rates in these populations, which could only be estimated for the inter-census periods. However, our results show that the proportional variability associated to climatic changes at these locations was directly associated to a true increase in the number of cases of leishmaniasis independent of the stable population growth, particularly in Santander. In addition, we were not able to identify an increased notification rate directly attributable to increased awareness of the disease that could be responsible for the increased incidence of leishmaniasis cases at these locations.

Cardenas R, Sandoval CM, Rodriguez-Morales AJ, Franco-Paredes C. Impact of Climate Variability in the Occurrence of Leishmaniasis in Northeastern Colombia. *Am J Trop Med & Hyg* 2006 Aug; 75(2):273-7. (52 cites)

Support to knowledge

be studied in different endemic areas because climatic changes may differently impact the occurrence of cases of leishmaniasis and other vector-borne infections. Although North Santander had a higher incidence of disease with more stable transmission ($P > 0.05$ at linear regression of incidence), cases in this location showed a significant deviation from the trend and mean number of cases in relation to El Niño years ($P = 0.04$; Figure 2). This is converse to what occurred in Santander, a location with decreased incidence, but more unstable transmission ($P = 0.004$ at linear regression of incidence) and a significant increase of cases over the study period, and where there were no significant differences in the incidence of leishmaniasis between El Niño or La Niña years. Our results therefore show geographical differences (or spatial heterogeneity) in the impact of climatic changes even within geographically close areas in northeastern Colombia.

We were also able to show that the ecological factors prevailing in both areas were not different as evidenced by the NDVI (Figure 3). Climate and ecological variability differences during El Niño periods (1987, 1992–1994, 1997, and 2002) and La Niña periods (1988–1989, 1995–1996, and 1998–2001) was evidenced by NDVI values < 0.06 during El Niño periods (dry seasons) and increased above 0.06 during La Niña periods (wet seasons). These numbers reflect a consistent pattern in the ecological factors between El Niño and La

ing the study period. In this regard, we have recently begun to prospectively collect this information that will be taken into consideration in future analyses that we will be carrying out in these same and other provinces in Colombia. Another important issue is the study of *Lutzomyia* spp. and the long-term impact of climatic variability on their populations, which appeared, given these results, that are environmentally favored when dry seasons are present, by facilitating reproduction and growth to adults of sand flies.

In summary, our study adds to the growing evidence linking human diseases to climate fluctuations and suggests that variations in the incidence of vector-borne diseases in Latin America and elsewhere are associated to annual changes in weather conditions. While we acknowledge that during the study period activities carried out by the leishmaniasis control program improved in terms of case management in both regions, the increased number of cases of leishmaniasis corresponds statistically and biologically, in a large proportion, with climate changes and far exceeds those that could be attributed to increased awareness and diagnosis of the disease in the two locations. Our results suggest that increased frequency of droughts, as expected under climate change scenarios for Colombia, is likely to increase the incidence of leishmaniasis in the region.

Given the substantial burden of disease associated to vec-

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What is Previously known

Discussion

As stated previously, few studies describe clinical epidemiology of patients with moderate to severe malaria due *P. vivax* requiring hospitalization,² even more in children where most reports correspond to case reports and imported cases series,^{1,3-6} which are different from those cases seen in *P. vivax* malaria endemic zones.

Occurrence of anemia and thrombocytopenia in these patients were considerable remarkable, almost 95 per cent and 60 per cent, respectively, which required an appropriate and early management, justifying the hospitalization. These complications are infrequently reported in *P. vivax* and even more in children and probably are more frequently than reported when are investigated.

Although some authors have indicated the symptoms may differ from those in adults and, as children often have febrile illnesses, malaria may

Rodríguez-Morales AJ, Sánchez E, Vargas M, Piccolo C, Colina R, Arria M. Anemia and Thrombocytopenia in Children with *Plasmodium vivax* Malaria. *J Trop Ped* 2006 Feb;52(1):49-51. (48 cites)

Discussion

Similar to what takes place in other regions of the world, in Venezuela, social and economic factors play a major role in selecting people to live in or near malarious areas.^{2,17} Furthermore, an unprecedented increase in populations' mobility in the past few decades has contributed to the spread of malaria into new populations.⁸ Sometimes this spread is associated with the introduction of new malaria species or resistant strains.^{18,19} Population movement can increase malaria transmission by urbanization phenomena, colonization of new territories, agricultural labor, and intercontinental travel.^{8,19} The rapid urbanization that follows migration routes in Latin America, much of it driven by rural-urban labor migration, is associated with complex transformations of these ecosystems and contribute to epidemiological transformations linked to malaria transmission similar to what has been described in sub-Saharan Africa.^{4,8,19} In our study, we were able to identify that the 3.8% of the burden of malaria during a 10-year period was caused by imported malaria in the state of Sucre. The factors associated with population mobility

- Clear explanation on why we found what we report in the study
- Similarities and differences with other studies and experiences

Rodríguez-Morales AJ, Delgado L, Martínez N, Franco-Paredes C. Impact of Imported Malaria on the Burden of Disease in Northeastern Venezuela. *Journal of Travel Medicine* 2006 Jan-Feb; 13(1):15-20. (23 cites)



What should be in a Discussion?

*The discussion should not simply stop.
It should come to a definite, clear end.*

Mimi Zeiger

La Discusión

- ▶ Parte Crítica del Manuscrito
- ▶ Concluye si lo que se hizo tuvo o no sentido
- ▶ Pone en perspectiva lo hecho con relación a resultados de estudios previos con los cuales debe contrastarse
- ▶ Debe hablar de las limitaciones

La Discussiòn

- ▶ Debe sugerir las posibles lineas a seguir en relaciòn al problema estudiado

Discussion

Say what your findings mean, not what you would like them to mean or think they ought to mean.

JS Lilleyman²⁹

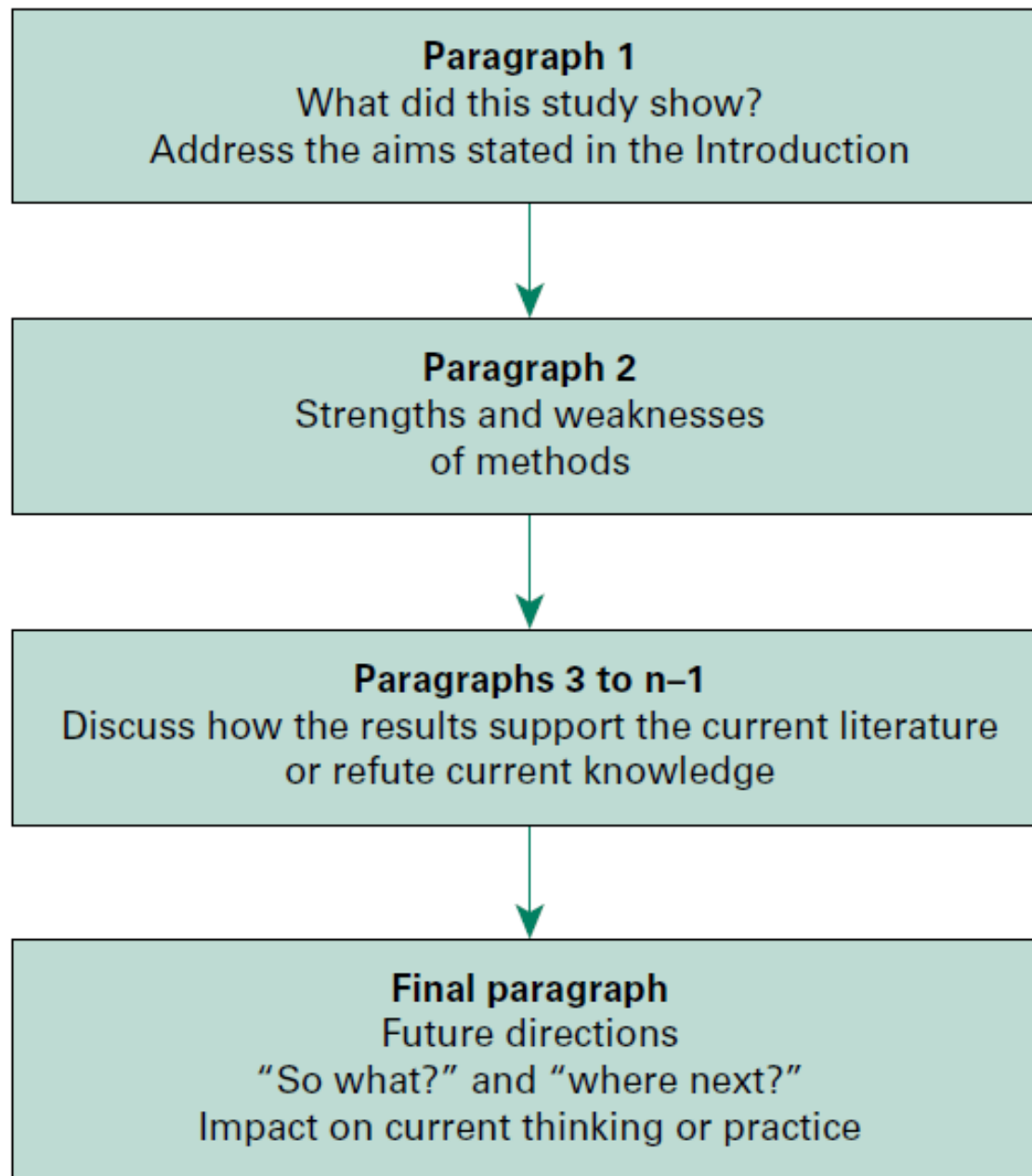


Figure 3.6 Template for the discussion.

Box 3.4 Final paragraphs from two discussion sections

1. Further studies are needed in which objective measurements of house dampness, exposure to biological contaminants, and health effects are used in addition to questionnaires, so that the associations found in our study and in other studies can be substantiated or refuted.
2. A considerable body of evidence now exists that supports the contention that dampness and mould in the home is an important public health issue, not solely for its immediate impact but also for the long-term implications. Poor housing conditions in childhood are associated with higher rates of admission to hospital, and higher morbidity and mortality in adult life. Hopefully, planners, policy makers, and medical practitioners will now plan concerted joint action to eradicate this unacceptable and needless health risk.³²



Glasgow, Escocia, RU
Noviembre 2010



Fellow en
Medicina del Viajero
Faculty of Travel Medicine, RCPSCG



Londres, Inglaterra, RU
Noviembre 2010