Las lenguas de acceso a la información sobre el COVID, en Quechua y Shipibo en Perú; y en Kichwa en Ecuador

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Introducción / Introduction

Plan

1. Contexto (Fernando Ortega)
2. El Proyecto macro: Las Lenguas Minorizadas y COVID-19 (Elena Koulidobrova)
3. El Proyecto en Ecuador
    a. Metodologia (Rosita Guaman)
    b. Analisis: (Jefferson Imbaquingo)
4. Reflexiones (Fernando Ortega)

Contexto

- Las noticias sobre la pandemia y la información relacionada estuvieron ampliamente disponibles a través de medios nacionales e internacionales

- Problema de salud, antropología, lingüística
  - Global
  - America Latina
  - Ecuador

Introducción

- Las noticias sobre la pandemia y la información relacionada estuvieron ampliamente disponibles a través de medios nacionales e internacionales / información vertical (Kristeva et al. 2018, Carrol et al. 2021, i.a.).

- La mayor parte de esta información se entregó en los idiomas dominantes, vías y normas en consonancia con las construcciones del lenguaje dominante (Piller et al. 2020)

- La pandemia fue realmente dura para los pueblos indígenas y especialmente para los ancianos, portadores de conocimientos y lenguas ancestrales.
  Comunidades indígenas (Garcia et al. 2020)
  Personas sordas (Paludneviciene et al. 2020, i.a.)
  Comunidades de migrantes (De Nardi & Phillips 2021, Machado & Goldberg 2021, etc.)
  Comunidades rurales (Cecilia 2020, Alcendor 2021, Fitzsimon et al. 2021, etc.)

⇒ Las comunidades ya minorizadas se vieron aún más afectadas

El Proyecto Macro: SAIPM COVID-19

Salud Indígena, Poblaciones Minorizadas y COVID-19
INDIGENOUS HEALTH, MINORITIZED COMMUNITIES, AND COVID-19
(https://sites.google.com/view/saipm-covid19/home)

Overarching questions / Preguntas generales

a. ¿La información crítica sobre la pandemia llegó a las comunidades indígenas (rurales)? [Did the critical information about the pandemic reach (rural) Indigenous communities?]

a. De no ser así, ¿cómo se puede hacer más eficaz el método de entrega de información? [If not, how can the method of information delivery be made more effective?]

a. ¿Podemos obtener respuestas a estas preguntas y documentar las variedades lingüísticas relevantes en el proceso? [Can we obtain answers to these questions and document the relevant linguistic varieties in the process?]

El Proyecto Macro: SAIPM COVID-19

[shameless self-promotion]

- Study 1: Quechua-speaking and Shipibo/Iskonawa communities in Peru.
- Study 2: Spanish-English speakers in Puerto Rico
- Study 3: Kichwa-speaking communities in Ecuador
- Study 4: Nuosu Yi-speaking community in Tibet
- Study 4: Anishinaabemowin-speaking communities in Canada

Linguistic varieties:

- Kiribati, Cuzco Quechua, Shipibo, Nuosu Yi, Puerto Rican Spanish (documented, N between 1-71, depending on the language)
- Andean Ecuadorian Kichwa, Anishinaabemowin (in progress)

El Proyecto Macro: SAIPM COVID-19

- Recopilación de datos: septiembre de 2020-mayo de 2022
  - Ecuador: enero 2022-marzo 2022
- Procesamiento, transcripción, traducción y análisis de datos: en proceso algunas comunidades (kichua); terminado otros (quechua, shipibo, iskonawa, nuosu yi, PR spa…)

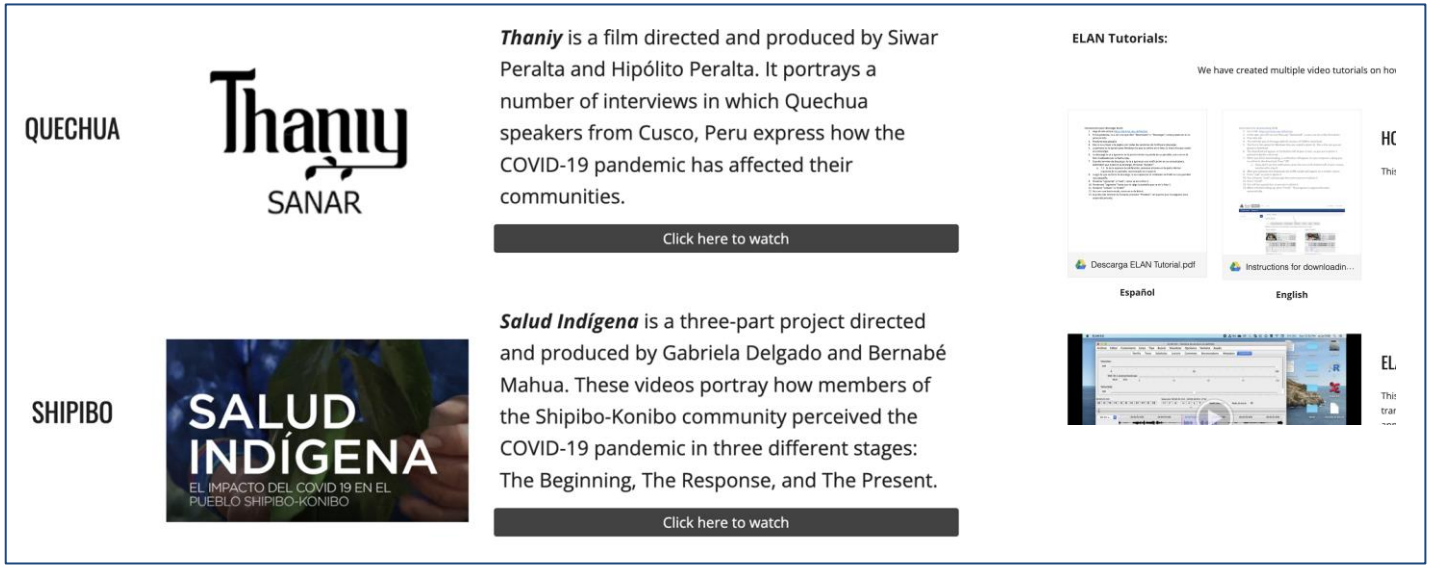
Audio grabado. Algunas recogidas personalmente; otros vía zoom .

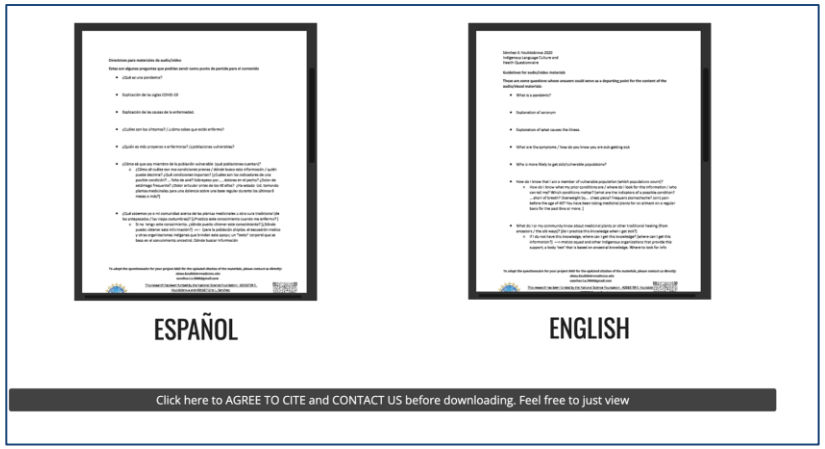
Todos los datos se transcriben, traducen y se ponen a disposición del público como corpus para otras investigaciones (investigadores de la comunidad como primeros autores). Accesible como pdf, docx, csv, ELAN para análisis adicionales

El Proyecto Macro: SAIPM COVID-19

Fases del Proyecto:

- **Fase 1**: Cuestionario para/con comunidades
- **Fase 2:** Protocolos y preguntas orientadoras para la creación de materiales audiovisuales para comunidades/por comunidades.
- **Fase 3:** Documentación de lenguas con comunidades/para uso comunitario (transcrito, traducido. Los investigadores comunitarios son los primeros autores).





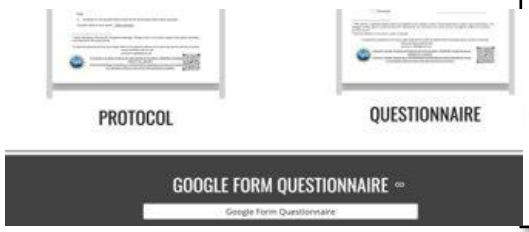
El Proyecto Macro: SAIPM COVID-19

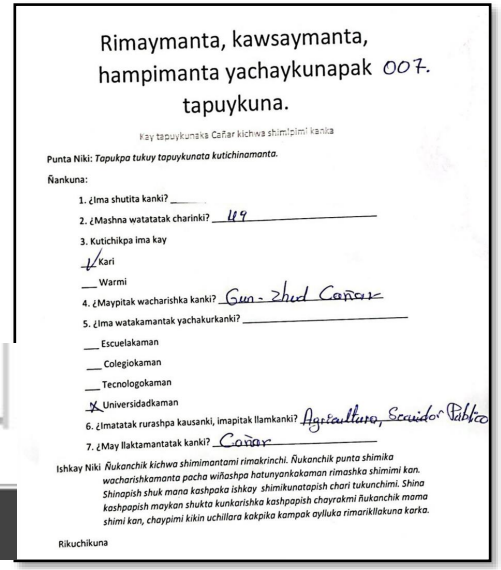
Fases del Proyecto:

- **Fase 1**: Cuestionario para/con comunidades

Dirigido por entrevistadores, investigadores de la comunidad, miembros del equipo de investigación

- *Parte I*: Datos demográficos (edad, sexo, lugar de origen).
- *Part II:* Edad de adquisición indígena y dominante, Patrones de uso de la lengua, Actitudes lingüísticas
- *Part III*: Conocimiento del virus, riesgos, prevención, enfoques de atención médica; mitos falsos, COVID adaptados culturalmente (https://covid-no-mb.org/); preferencias de canalización de información; preparación de la comunidad

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Kay tapuykunaka Cañar kichwa shimipimi kanka

Punta Niki: *Tapukpa tukuy tapuykunata kutichinamanta.*

Ñankuna:

1. ¿Ima shutita kanki? ____
2. ¿Mashna watatatak charinki? 49
3. Kutichikpa ima kay
   - X Kari
   - ___ Warmi
4. ¿Maypitak wacharishka kanki? Gun-Zhud Cañar
5. ¿Ima watakamantak yachakurkanki? ____
   - ___ Escuelakaman
   - ___ Colegiokaman
   - ___ Tecnologokaman
   - X Universidadkaman
6. ¿Imatatak rurashpa kausanki, imapitak llamkanki? Agricultura, Escaidor Público
7. ¿May llaktamantatak kanki? Cañar

Ishkay Niki *Ñukanchik kichwa shimimantami rimakrinchi. Ñukanchik punta shimika wacharishkamanta pacha wiñashpa hatunyankakaman rimashka shimimi kan. Shinapish shuk mana kashpaka ishkay shimikunatapish chari tukunchimi. Shina shinapish maykan shukta kunkarishka kashpapish chayrakmi Ñukanchik mama shimi kan, chaypimi kikin uchillara kakpika kampak aylluka rimarikllakuna karka.*

Rikuchikuna

Ecuador

JEFF

Participants: Ecuador

- Ecuador has 14 Indigenous language spoken + Deaf (˜40,000 *native signers* of Ecuadorian Sign Language).

Languages

- acu Achuar-Shiwiar
- kwi Awa-Cuaiquer
- qud Calderón Highland Quichua
- qxr Cañar Highland Quichua
- cbi Chachi
- qug Chimborazo Highland Quichua
- con Cofán
- ecs Ecuadorian Sign Language
- qvi Imbabura Highland Quichua
- qvj Loja Highland Quichua
- mue Media Lengua
- qvo Napo Lowland Quichua
- qvz Northern Pastaza Quichua
- sey Paicoca
- qxl Salasaca Highland Quichua
- jiv Shuar
- snn Siona
- quw Tena Lowland Quichua
- teb Tetete
- cof Tsafiki
- auc Waorani
- zro Záparo

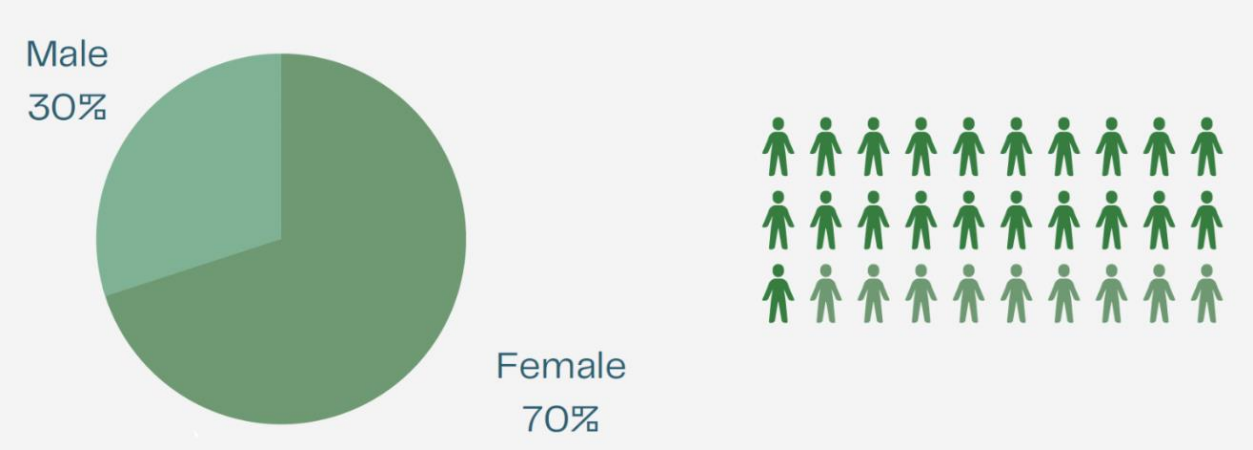
˜100,000

"At the regional level, the indige nous rural population […] accounts for 24% of the total rur al population of Latin America (E CLAC, 2020a)."

Participants

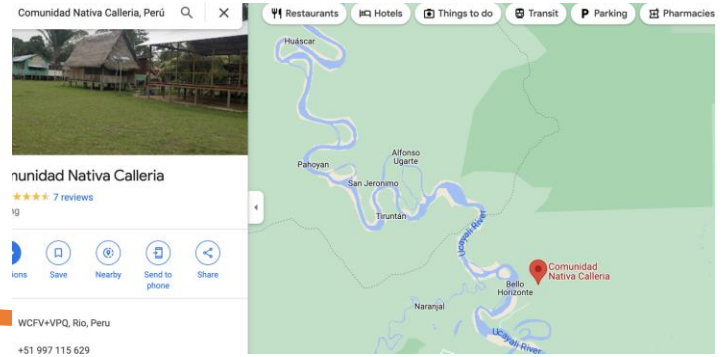
Cañar - El Juncal, El Tambo

- N=30
- Edad 29-76 (media: 68.8)
- Entrevista en persona



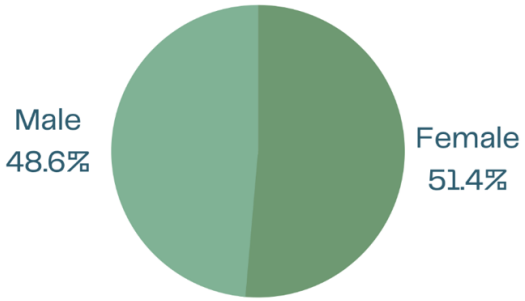
JEFF

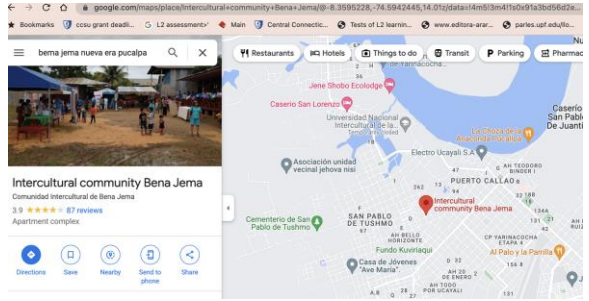
Participants



- Southern Cuzco
  - 10 communities: N=71
  - Quechua
  - Interviewed by skype/phone/in-person
- Ucayali
  - 2 communities: N=23 + 15
  - Shipibo but a subset also speakers of Iskonawa
  - Interviewed in person

- Ages 18-81 (mean: 44)





Participantes

Lengua de la comunidad	Español
Kichwa	30 (100%)Yes
Quechua	50 (70.42%) Yes 21 (29.58%) No
Shipibo	35 (92.11%)Yes 3 (7.89%) No

Table 1: Number and percentage of participants who stated they speak Spanish

A much more homogeneous community than in Peru

Una comunidad mucho más homogénea que en la investigación de Perú

Participants

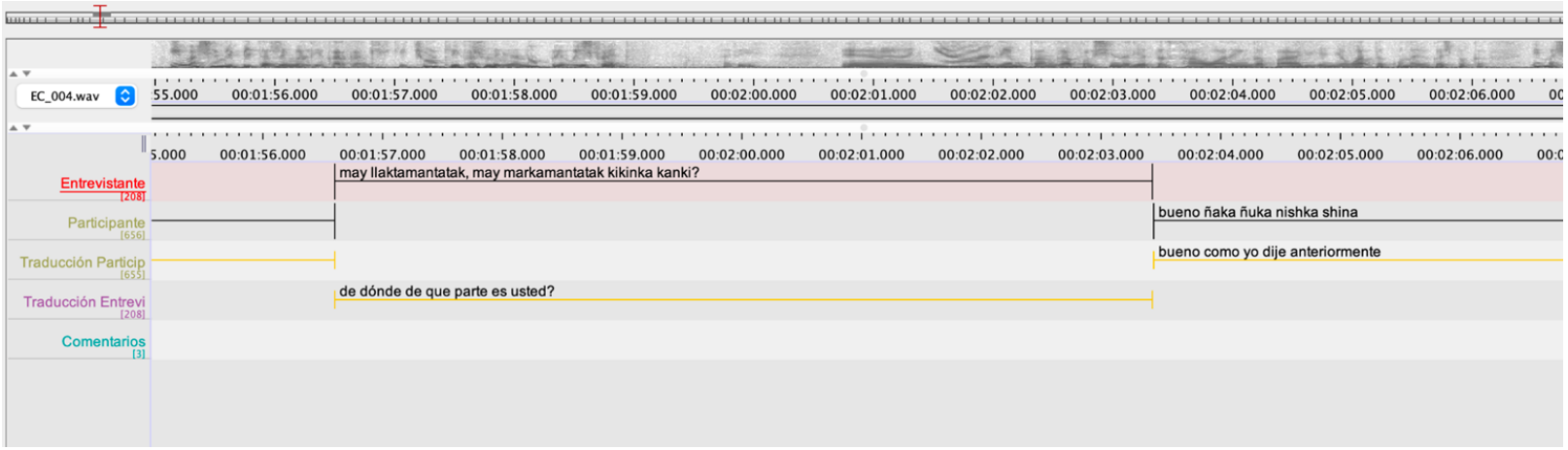
A much more homogeneous community than in Peru

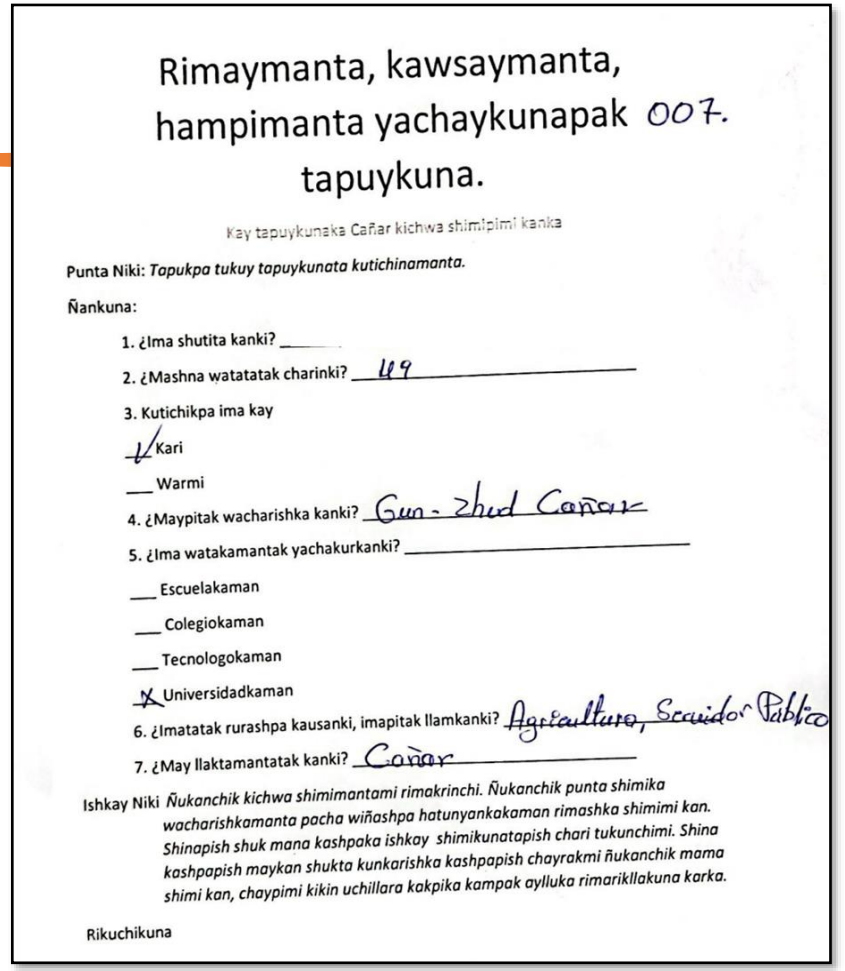
	Kichwa	Quechua	Shipibo
Sin ecuela	1 (3.33%)	7 (9.85%)	2 (5.26%)
Primaria	1 (3.33%)	36 (50.70%)	7 (18.42%)
Secundaria	12 (40%)	24 (33.80%)	23 (60.52%)
Instituto	11 (36.66%)	4 (5.63%)	4 (10.52%)
Universidad	5 (16.66%)	0 (0%)	2 (5.26%)
Total:	30 (100%)	71 (100%)	38 (100%)

Tabla 2: Nivel de educación alcanzado por grupo

Metodología

- Etapa 1: Reclutamiento
- Etapa 2: Recolección de los datos
- Etapa 3: Transcripción y traducción (ELAN)





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   - [ ] Escuelakaman
   - [ ] Colegiokaman
   - [ ] Tecnologokaman
   - [x] Universidadkaman
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Rikuchikuna

https://sites.google.com/view/saipm-covid19/home

Ejemplo de transcripción (ELAN, docx, .mp)

(1) Trascripción: **Kichwa** (en progreso **Guamán et al., in progress**)
'If your answer is 'yes', how would you *prevent* yourself from getting sick with coronavirus?' (Q#42)

%QA	**Ña kay corona virus unkuy hapikpika ima shinata kikinka kuidarinki? / ¿Cuándo se contagiaba de la enfermedad de corona virus cómo usted se cuida?**
%ILB	payka markokunata kakush upiarka tutyta rurarka ña papita hapishkakpika chashna payka mana ima tukurkachu, chashna harkarishkanka yuyani porque chaykuna harkashkanka ña chashna may eucaliptukunata kushnichishpa ima chashna payka chaykunata chaykunawan kakurish ima tukuymi purikurka
%DLB	ella sabía fregar el altamiso y tomaba todo; sabía hacer cuando le había agarrado a papi así ella no pasó nada, así se había protegido pienso porque esas cosas haya protegido ya así que **eucaliptos humiando que cosas que ella hacía masajendo con esas cosas h**acía todo y estuvo andando.

Sample of transcript (ELAN, docx, .mp)

(2) Transcript: **Shipibo** (Sanchez, D. et al. 2022)
'If your answer is ‘yes’, how would you *prevent* yourself from getting sick with coronavirus? (Q#42)

%QA:	Mia itibetin akin iki, ¿Jatian jawe min akai mia ja isinman yatantima kopi?
%ILB:	Repoti jake ea, ochocha ea niti jake ea, matsibo en xeati yamake en
%DLB:	‘I must wear a mask, I must be away from others, I **must not drink cold things.’**

Sample of transcript (ELAN, docx, .mp)

(3) Transcript: **Quechua** (Macedo, B.. et al. 2022)

'If your answer is 'yes', how would you *prevent* yourself from getting sick with coronavirus?' (Q#42)

%QA:	(Arí niqtinqa) ¿imaynatan amachakuwaq mana coronavirus hap'inasuykipaq?
%ILB:	Manachá qhillita mikhuymanchu, p'istukuymanchá riki, cuidakuyman mana anchayhina comunta puriymanchu huk ladukunapi, wasillaypichá tiyayman riki
%DLB:	**'I would not eat dirty food, if I would keep warm,** I would take care of myself by not going to other places, I would just stay at home.'

Análisis y resultados

Perspectives on COVID, preventive measures, and traditional medicine

Ecuador:

- 90% of participants considered COVID-19 a disease.

- Among those who responded to the relevant questions (N=30), 20% made reference to psychologically affected", "death"); contagion("virus," "flu," "air-spread"); ***exhibited differential knowledge or 'misinformation'*** *("a simple virus sent by the US and China, or big companies")***.**

- Most indicated **self- care** and **social distancing** as preventive measures and mentioned a variety of conventionalized (Indigen ous and Colloquial Spanish) terms for self-protection as well the disease itself ("mascarilla")

Perspectives on COVID, preventive measures, and traditional medicine

Ecuador:

- Medicinal Plants: **77% cited traditional plant use; however, analysis continues**

- Plants mentioned: *garlic, ginger, eucalyptus, vapors, saunas, teas, bitter pants*

‘How do you take care of yourself when you are sick?' (Q#44)

Fig 1. Freq. Visualization; medicinal plants; Kichwa data [Spa]

Analysis

Goals: To determine how information about COVID-19 was received by speakers of Kichwa in Cañar, Ecuador.

- Research Questions

1. How does proficiency in the Indigenous language or access to Spanish (the socially-dominant language) correlate with the participants acceptance or rejection of some of the myth busters?

- The participant pool is reasonably homogeneous – no effects were found

  - Analysis: GLMM; truth value assigned to the statement by the participants (False=0, Truth=1) as a fixed factor and gender + level of proficiency in the Indigenous languages as predictors.)

Language of COVID-related information

	Both	Indigenous Language	Spanish
Quechua	38 (53.52%)	10 (14.08%)	23 (32.4%)
Shipibo	30 (78.94%)	7 (18.42%)	1 (2.64%)
Kichwa	100%	0	0

Table 3: Number and percentage of participants according to language of COVID information

Access to the dominant language

Table 4: Participants according to Contexts of Spanish Use
Contexts of Spanish use were coded from 0-4: 0= no contexts of Spanish use, 1= only one context of Spanish use, 2= 2 contexts, 3=3 contexts, 4= 4contexts.

Contexts: home/family, friends, community, work

Nu contexts Spanish use	0	1	2	3	4	Other	Total
Kichwa	0 (0%)	2 (6.66%)	6 (20%)	9 (30%)	13 (43.33%)	0 (0%)	30 (100%)
Quechua	30 (42.25%)	19 (26.76%)	13 (18.31%)	4 (5.63%)	5 (7.04%)	0 (0%)	71 (100%)
Shipibo	22 (57.89%)	7 (18.42%)	6 (15.79%)	2 (5.26%)	0 (0%)	1 (2.63%)	38 (100%)

Vacunas

¿Están vacunados?

- Quechua y Shipibo = N/A (todavía no había vacunación)
- Cañar Kichwa:

    Si = 76% (N=26)

    No = 2% (N=1)

    N/A = 20% (N=6 – otra respuesta)

Research Questions

Goals: To determine how information about COVID-19 was received by speakers of Kichwa in Cañar, Ecuador.

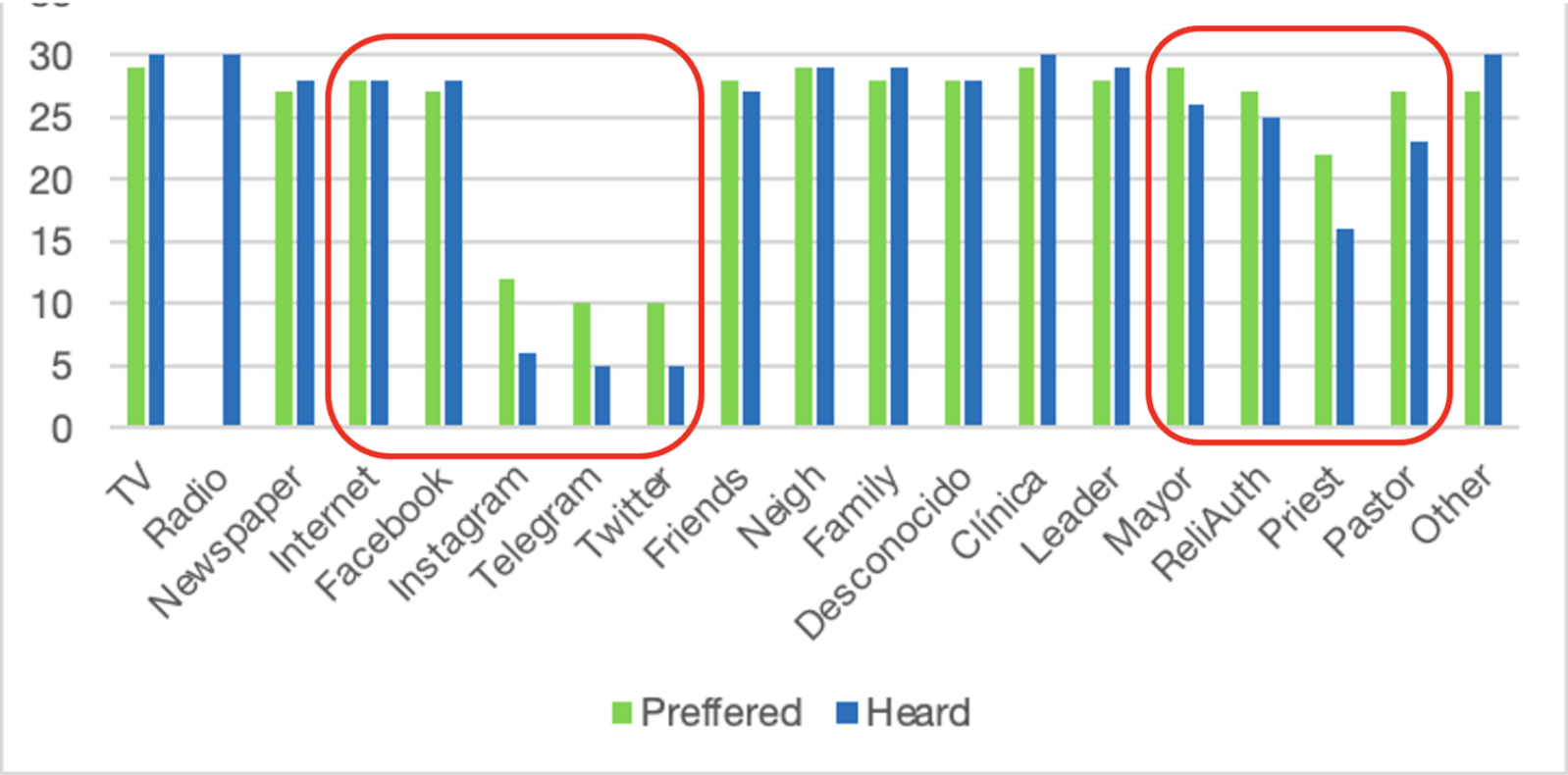
- Research Questions

2. What means of information delivery are preferred by the participants?

- **Prediction**: social media and community leadership, though not necessarily clinics
- **Analysis**: series of t-tests

Methods of information delivery

- Methods of information delivery did not always align with preferred methods, raw N



Overall, there was no significant difference between "heard" and "preferred" samples (t= 0.21, df=18, p=0.41)

However, when **social media and community authorities were isolated as message** delivery channels, ==> the difference became visible (t=3.31, df=9, p=0.00425)

Research Questions

Goals: To determine how information about COVID-19 was received by speakers of Kichwa in Cañar, Ecuador.

- Research Questions

3. Are there differences across groups? Explicitly, given the "social media" data:

Does age have an effect on the mentioning of risks or prevention?

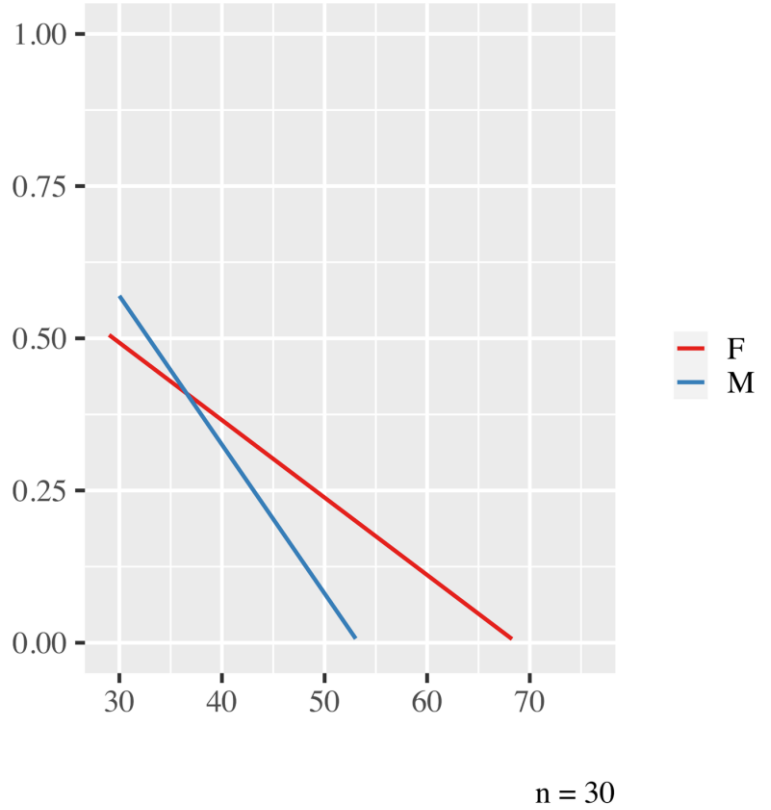
=> Yes: The younger someone is, the more likely they are to mention **social distance** as prevention method (β=-0.1215, SE=0.0545, z=-2.229, p=0.0258)

- Analysis; GLMM

Work continues

- Los más jóvenes son más propensos a mencionar que la distancia social es una medida para prevenir el covid

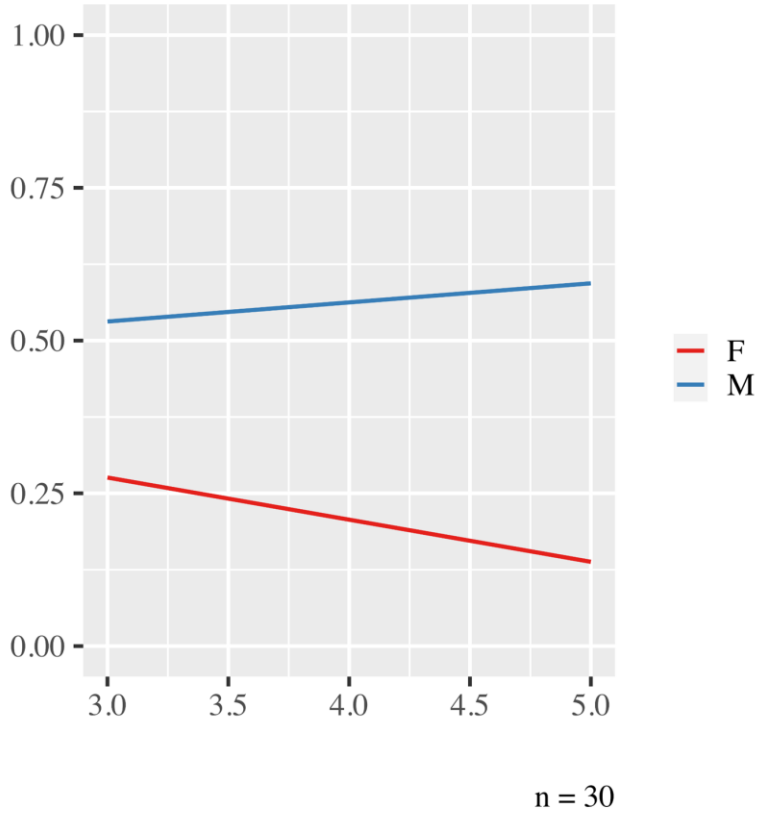
(β=-0.1215, SE=0.0545, z=--2.229, p=0.0258 *)



Work continues

- Los varones son más propensos a mencionar que si estás sano, no necesitas usar guantes.

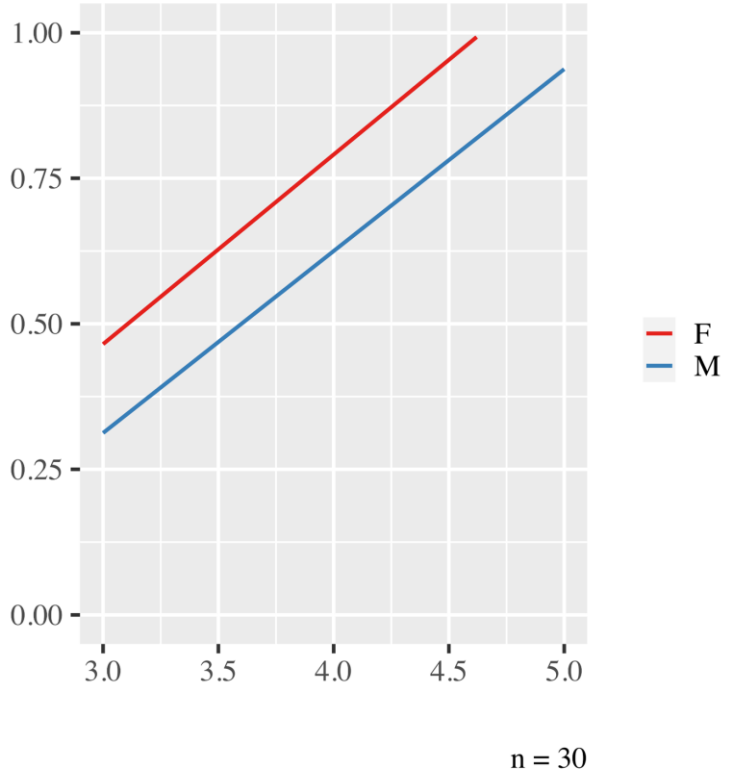
(β=1.76703, SE=0.89812, z=1.967, p=00.0491)



Work continues

- Aquellos con mayor proficiencia en lengua indigena son más propensos a mencionar que el COVID es causado por insectos

(β=-22.4534, SE=6.6868 , z=-3.358, p=0.000785)

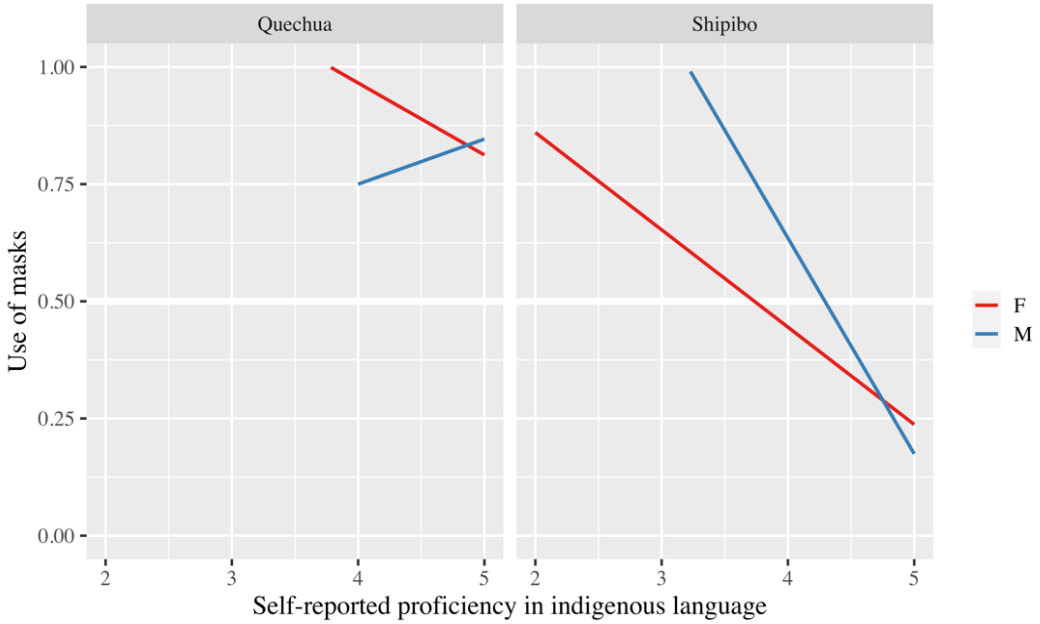


Work continues

- No other effects have been found, but ...
- Both the transcription and the analyses continue (within group and across groups)

E.g., in comparison:

The statement *not being necessary if one is healthy* was considered false by **female** Quechua participants and Shipibo participants of **both genders** with higher levels of proficiency in the Indigenous language (β=-2.3182, SE=0.7520, z=-3.083, p=0.002050)



Reflexiones / **Concluding Remarks**

1. Diferencias en la forma en que se entregó la información de COVID versus cómo a la comunidad le hubiera gustado que se entregara, particularmente en lo que respecta a las redes sociales y las autoridades comunitarias.
2. Los más jóvenes consideran dar más peso al distanciamiento social como prevención
3. La medicina tradicional todavía se practica ampliamente como prevención y "cura" para muchas dolencias, incluida la COVID.

1. Differences in the manner COVID info was delivered vs. how the community would have liked to have it be delivered, particularly wrt social media and community authorities
2. Younger people consider give more weight to social distancing as a prevention than
3. Traditional medicine is still widely practiced as a both a preventative and a 'cure' for many ailments *including COVID*

Reflexiones / **Concluding Remarks**

4. La homogeneidad del grupo no permite ciertos análisis; por lo tanto, se deben emprender otras formas de análisis
5. La mayoría de los participantes recibieron información sobre COVID en ambos idiomas.
6. En algunos aspectos, los resultados finales demuestran paralelismos entre los datos Kichwa y los datos quechua/shipibo; sin embargo, en otros aspectos, la diferencia es sorprendente; obvia, pero hay que decir: las comunidades indígenas en los Andes no son un monolito.

4. Homogeneity of the group (in terms of language background, e.g.) does not allow for certain analyses; thus, others must be undertaken
5. Information about COVID was received in both languages by most participants.
6. In some respects, the final results demonstrate parallels between the Kichwa data and Quechua/Shipibo data; however, in other ways, the difference is striking – obvious but must be said: Indigenous communities in the Andes are not a monolith

Reflexiones

7. Hay una diferencia en la percepción de la información de diferentes edades y géneros.
8. Los resultados resaltan la importancia de brindar información en las lenguas indígenas a través de las fuentes preferidas por las comunidades.
9. ….. Muchos otros análisis están sucediendo mientras hablamos. ¡Por favor revisa los datos!

7. There is a difference in perception of information of difference ages and genders
8. Results highlight the importance of providing information in the Indigenous languages through the sources preferred by the communities.
9….. Many other analyses are happening as we speak. Please check out the data!

Selected References

Read Peru stuff in a paper, with lots of references:

Sánchez, L., & Koulidobrova, H. (2023). World Health Organization myth busters and indigenous perceptions of COVID-19: Quechua and Shipibo communities. *Ampersand*, *10*, 100118.

- https://covid-no-mb.org/. Accessed on March 20, 2022.
- García, G. M., Haboud, M., Howard, R., Manresa, A., & Zurita, J. (2020). Miscommunication in the COVID-19 Era. *Bulletin of Latin American Research*, *39*, 39-46.
- Colón-Rodríguez, Keyra and Imbaquingo, Jefferson (Eds.) International Christian University Working Papers in Linguistics 20: Health Questionnaire Digital Archive. Tokyo, Japan: International Christian University. pp. 11-753. doi/10.34577/00005149
- Paludneviciene, R., Knight, T., Firl, G., Luttrell, K., Takayama, K., & Kushalnagar, P. (2021). Perception of COVID-19 physical distancing effectiveness and contagiousness of asymptomatic individuals: cross-sectional survey of deaf and hard of hearing adults in the United States. *Journal of Medical Internet Research*, *23*(2), e21103.
- Piller, I., Zhang, J., & Li, J. (2020). Linguistic diversity in a time of crisis: Language challenges of the COVID-19 pandemic. *Multilingua*, *39*(5), 503-515.
- Rodríguez Alzza, C (2020). https://redaccion.lamula.pe/2020/08/09/las-voces-femeninas-que-resisten/redaccionmulera/
- https://www.languageonthemove.com/paying-lip-service-to-indigenous-inclusion-in-perus-covid-19-prevention-campaign/

ADDENDUM (IN CASE PEOPLE ASK)

ADDENDUM (IN CASE PEOPLE ASK)

Perspectives on COVID, preventive measures, and traditional medicine

Peru:

- 94% of participants considered COVID-19 a disease.
- Among those who responded to the relevant questions (N=79), 24% made reference to the potential for serious outcomes (“grave”, “dangerous”, “kills”); referenced contagion (“virus,” “microbe,” “air-spread”); ***8% exhibited lack of knowledge or misinformation (“you get it when you eat bats”).***
- Most indicated self-care and social distancing as preventive measures and mentioned a variety of conventionalized (Indigenous and Colloquial Spanish) terms for self-protection as well the disease itself (“tapaboca”).

Perspectives on COVID, preventive measures, and traditional medicine

Peru:

- Medicinal Plants: 97.2%% cited traditional plant use. 53% cited a preference for traditional herbs as preventive measures and treatments over western medicine

- Plants mentioned: *matico, garlic, ginger, eucalyptus, vapors, saunas, teas*

'How do you take care of yourself when you are sick?' (Q#44)

Fig 1. Freq. Visualization; medicinal plants; Quechua data [Spa]

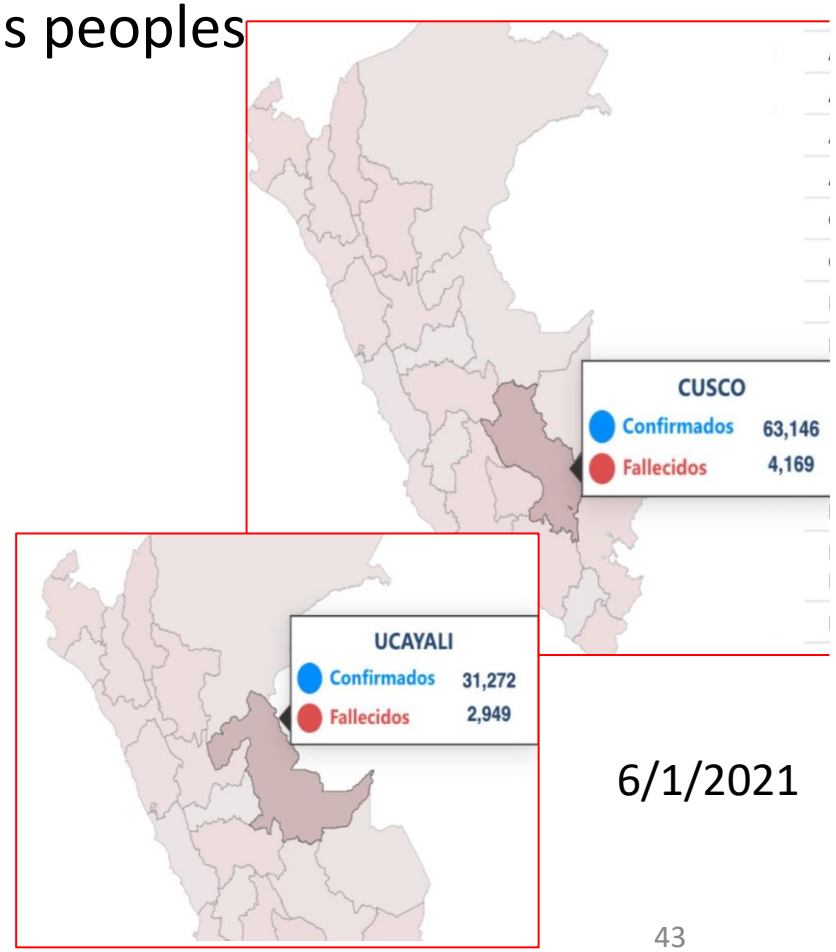
Fig 2a.b.. Freq. Visualization; medicinal plants; Shipibo data [Ship]: 'traditional' analysis

Communities and locations

- Peru has 48 Indigenous languages spoken by 55 indigenous peoples

- Cusco Quechua (quz): ~1.5 million speakers
- Shipibo-Konibo (shp): ~30,000 speakers
- Iskonawa (isc): 25 speakers (bilingual shp)

https://bdpi.cultura.gob.pe/pueblos/



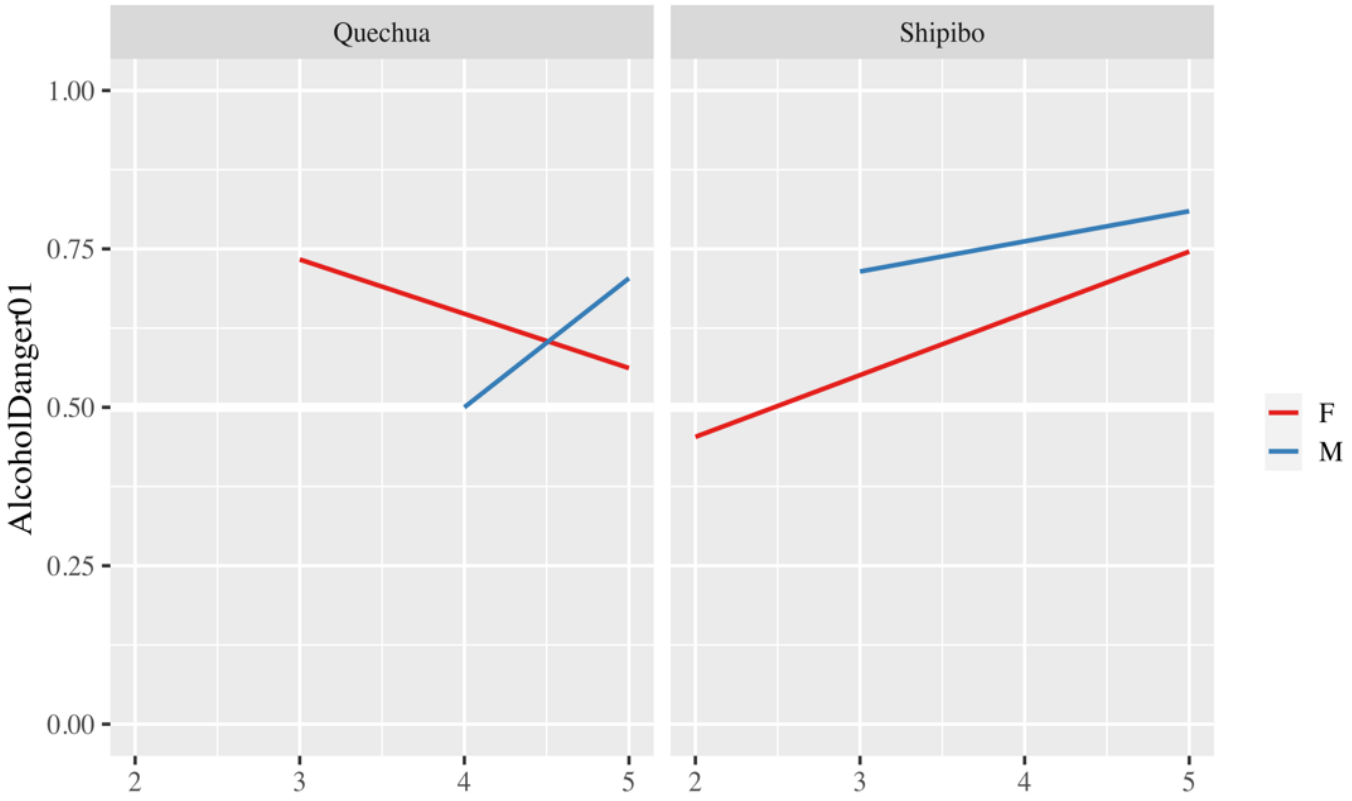
- Many Indigenous communities are located in rural areas

”At the regional level, the indigenous rural population […] accounts fo r 24% of the total rural population of Latin America (ECLAC, 2020a).”

6/1/2021

Results: **Myth-buster** ”*drinking alcohol being dangerous for people who contract COVID and not a cure*”

- The statement about *drinking alcohol* was considered true among **the Shipibo speakers** and **the male Quechua speakers with higher levels of proficiency** in the indigenous language (β=0.04632, SE=0.37683, z=0.123, p=0.902)

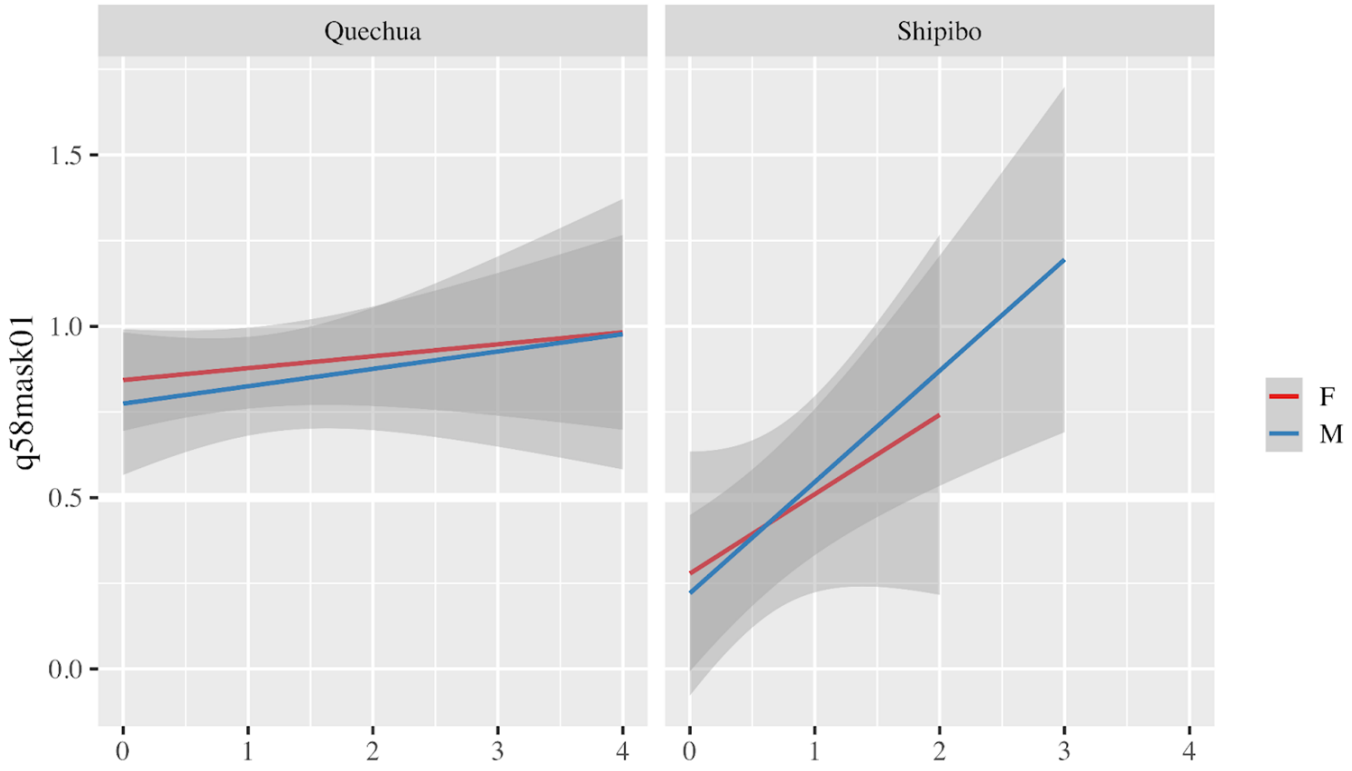


Results: **Myth** *"If you are always healthy and never get sick, you do not need to use gloves or a mask."*

- The statement about *masks and gloves not being necessary if one is healthy* was considered false by **female** Quechua participants and Shipibo participants of **both genders** with higher levels of proficiency in the Indigenous language (β=-2.3182, SE=0.7520, z=-3.083, p=0.002050)

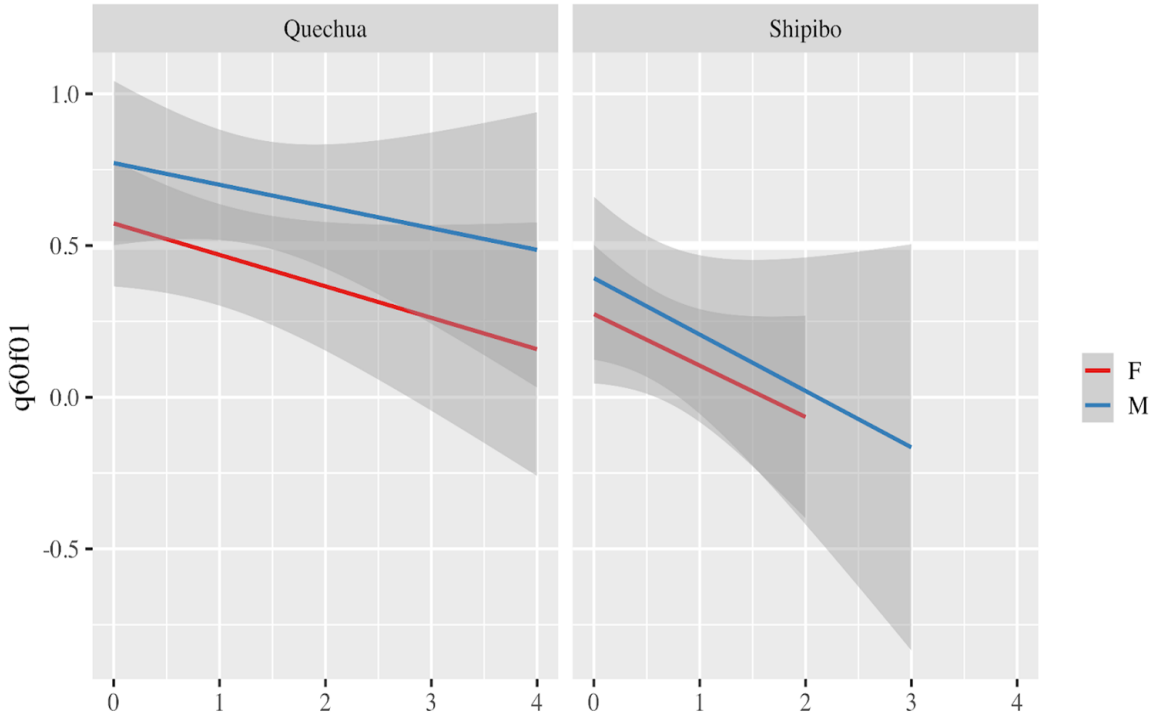
Results: Myth *"If you are always healthy and never get sick, you do not need to use gloves or a mask."*

- The statement about *masks and gloves not being necessary if one is healthy* was considered true by speakers with **more contexts of Spanish use** , especially among the Shipibo speakers (β=0.894, SE=0.340, z=2.625, p=0.007)



Receiving information from other sources

- Those who have more contexts of Spanish use choose the "Other" option less (β=0.542, SE=0.245, z= -2.215, p=0.027).
- There was an effect of language group -- more pronounced among the Shipibo participants (β=-1.995, SE=0.661, z=-3.019, p=0.003)
- and gender: men chose this option more (β=1.0375, SE=0.5025, z= 2.065, p= 0.03895)



Shipibo (3 videos)

https://sites.google.com/view/saipm-covid19/audiovisual-materials-for-healthcare-education/shipibo

Bernabé Mahua
(Shipibo videographer)

https://youtu.be/3EdDgujP4MM

Quechua Video

- https://sites.google.com/view/saipm-covid19/audiovisual-materials-for-healthcare-education/quechua
- Siwar Peralta (Quechua videographer)

Example 2

- Some differentiated materials were created
- (a) limited to *certain* languages,
- (b) potentially lack explanatory info consonant with the community goals

https://www.iadb.org/en/gender-and-diversity/indigenous-peoples-and-covid-19

- Also true for resources cited by the UN https://www.un.org/development/desa/covid-19

RQs

Goals: To determine how information about COVID-19 was received by speakers of Kichwa in Cañar, Ecuador.

- Research Questions

1. How does proficiency in the indigenous language or access to Spanish (the socially-dominant language) correlate with the participants acceptance or rejection of some of the myth busters from WHO?

1. What means of information delivery are preferred by the participants?

1. Does age have an effect on the risks or prevention?

Participantes

- Distribución de género por lengua de la comunidad

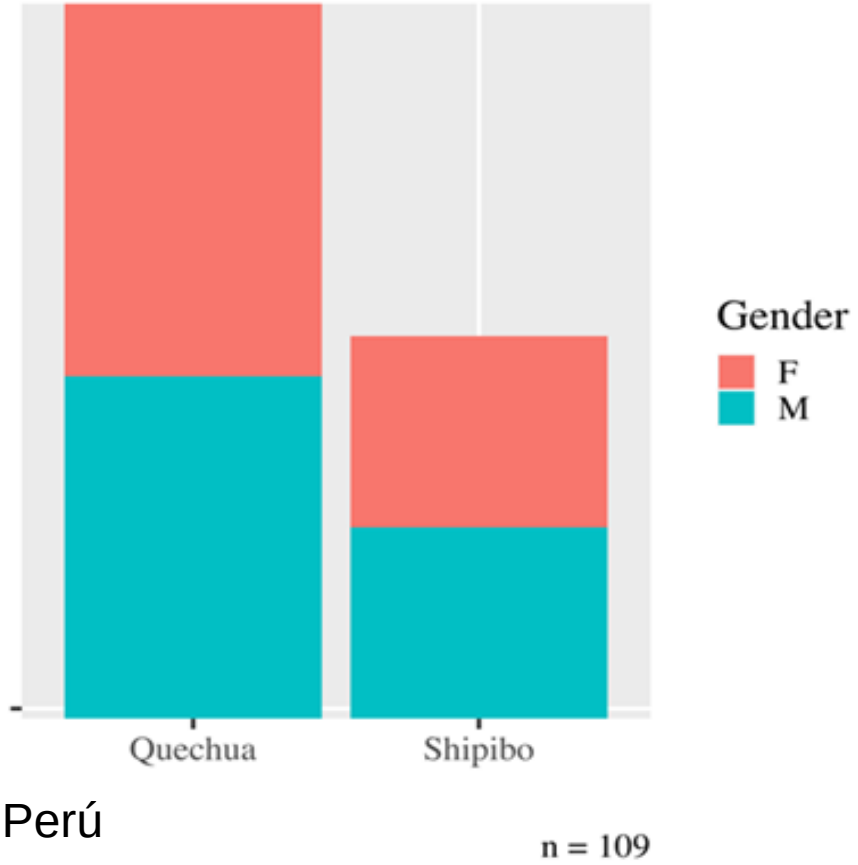


Figura 1. Perú

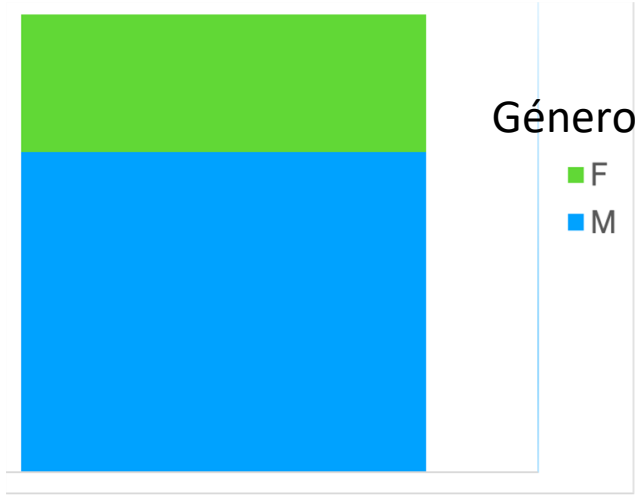


Figure 2. Ecuador

Participantes

- Fluidez en la lengua indígena por lengua de la comunidad

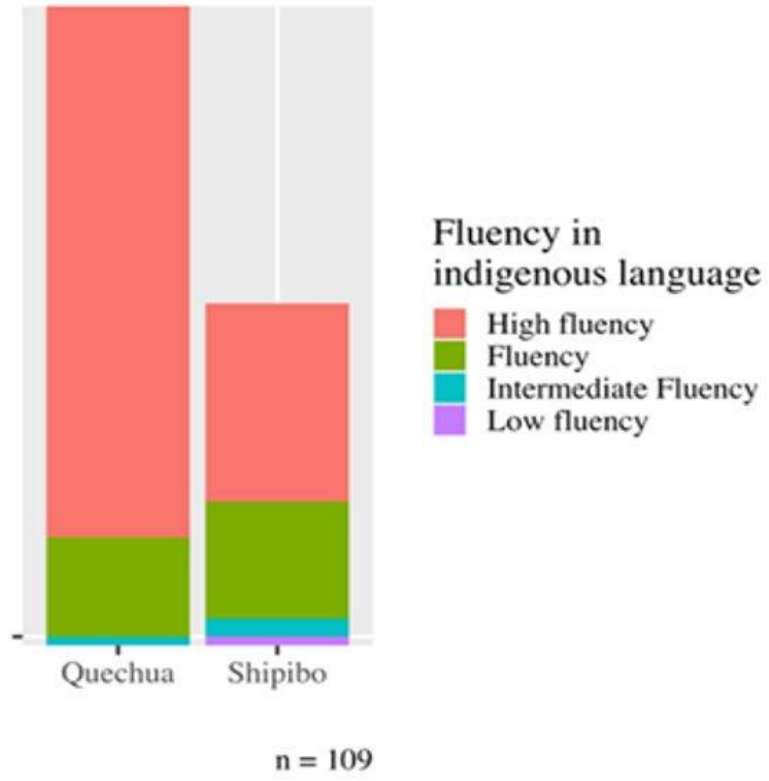


Figura 3. Perú

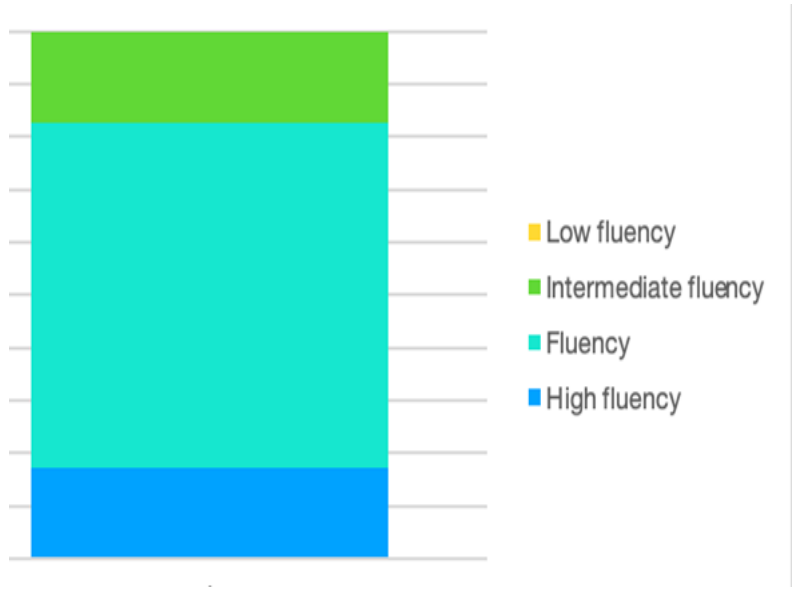
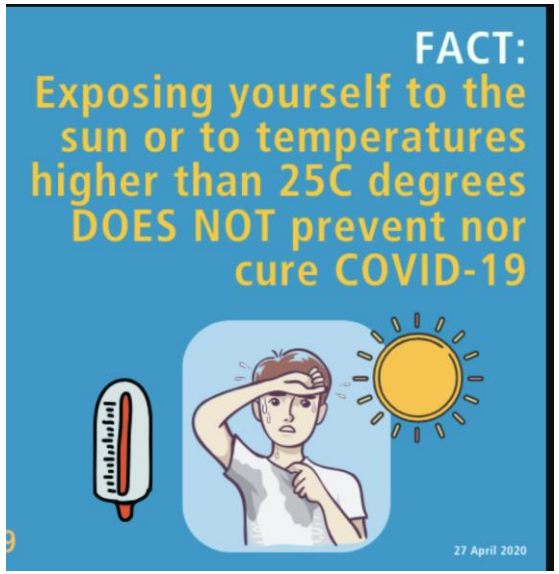


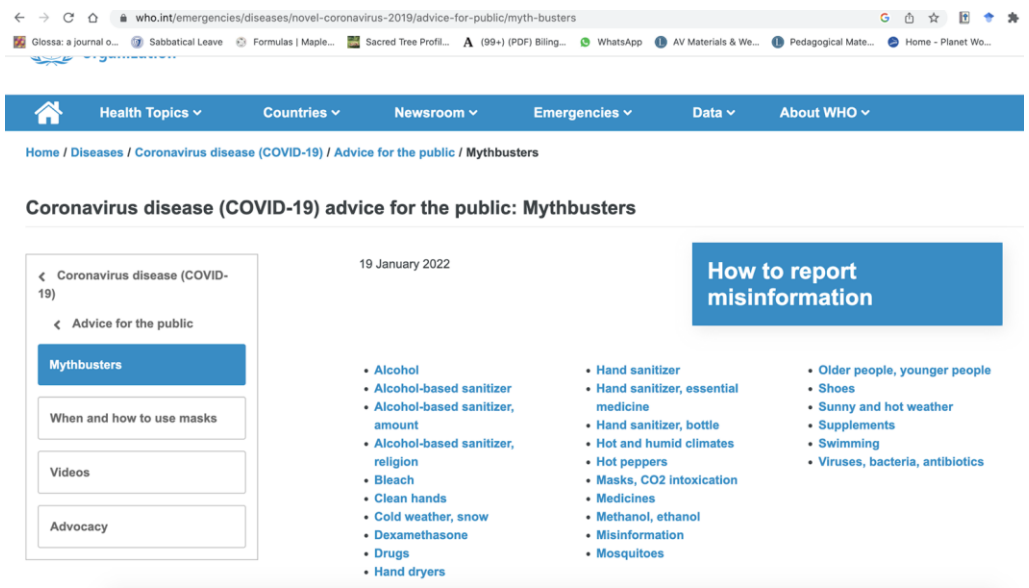
Figure 4. Ecuador

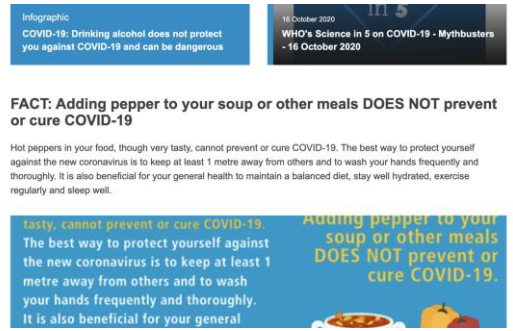
Introduction

World Health Organization Myth(busters):

- How do minoritized populations perceive this information?
- Do they receive/have access to it?
- Does the information match the cultural framework?

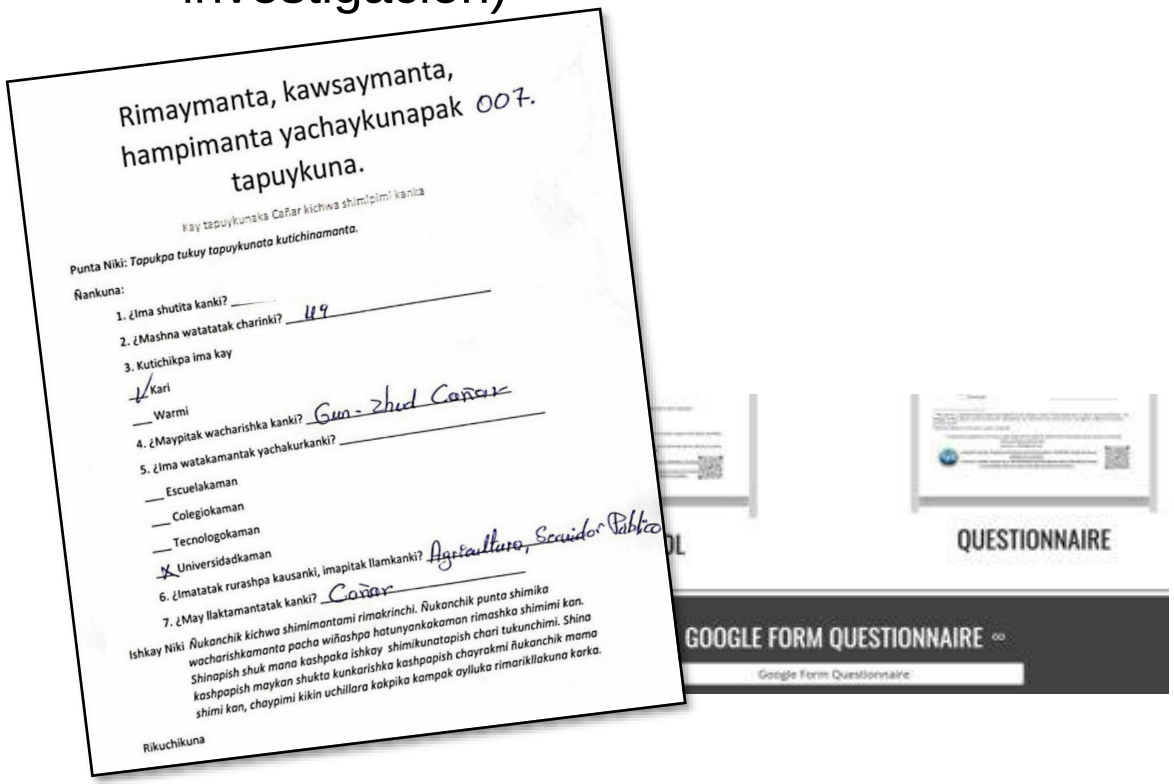






Instrumento (cuestionario)

- Dirigido por entrevistadores (investigadores de la comunidad, miembros del equipo de investigación)



https://sites.google.com/view/saipm-covid19/home

Parte I: Datos demográficos (edad, sexo, lugar de origen).

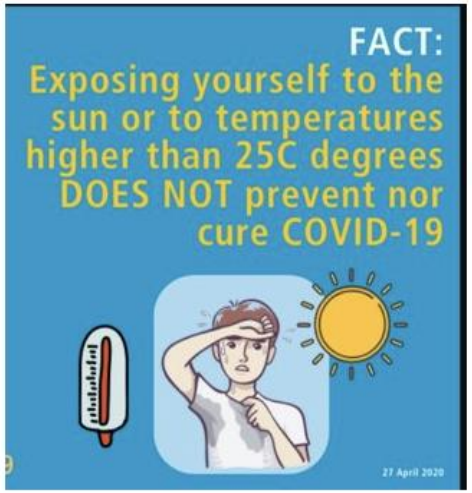
Part II:Edad de adquisición indígena y dominante, Patrones de uso de la lengua,
Actitudes lingüísticas

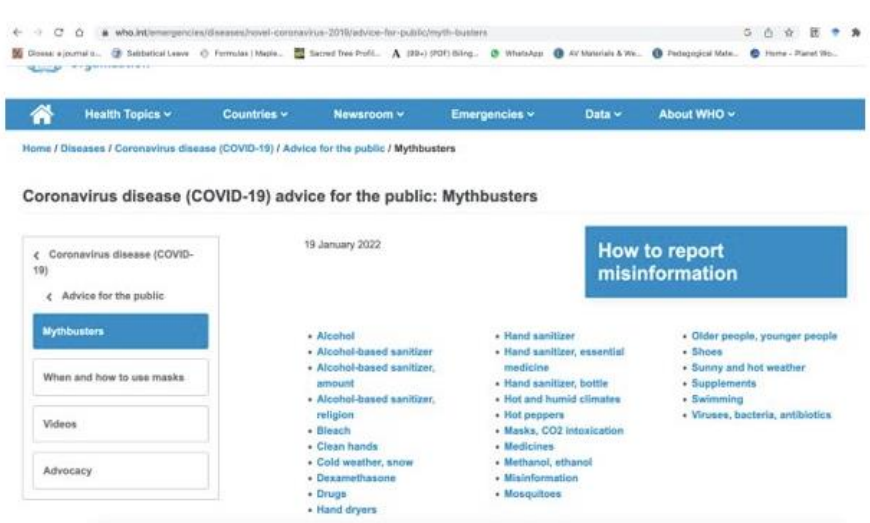
Part III: Conocimiento del virus, riesgos, prevención, enfoques de atención médica; mitos falsos, COVID adaptados culturalmente (https://covid-no-mb.org/); Preferencias de

Introducción

- Las noticias sobre la pandemia y la información relacionada estuvieron ampliamente disponibles a través de medios nacionales e internacionales.

- La mayor parte de esta información se entregó en los idiomas dominantes, vías y normas en consonancia con las construcciones del lenguaje dominante.





Introducción

- Las noticias sobre la pandemia y la información relacionada estuvieron ampliamente disponibles a través de medios nacionales e internacionales.

- Sin embargo, la mayor parte de esta información se entregó en los idiomas dominantes, vías y normas en consonancia con las construcciones del lenguaje dominante.

- La información no llegaba a determinadas poblaciones (y si llegaba, no siempre era culturalmente apropiada).
  - Personas sordas y con problemas de audición (Paludneviciene et al. 2020, i.a.)
  - Comunidades de migrantes (García et al. 2020, De Nardi & Phillips 2021, Machado & Goldberg 2021, etc.)
  - Comunidades rurales (Cecilia 2020, Alcendor 2021, Fitzsimon et al. 2021, etc.)

Introduction

- Pandemic news and the related information became widely available via domestic and international structures.

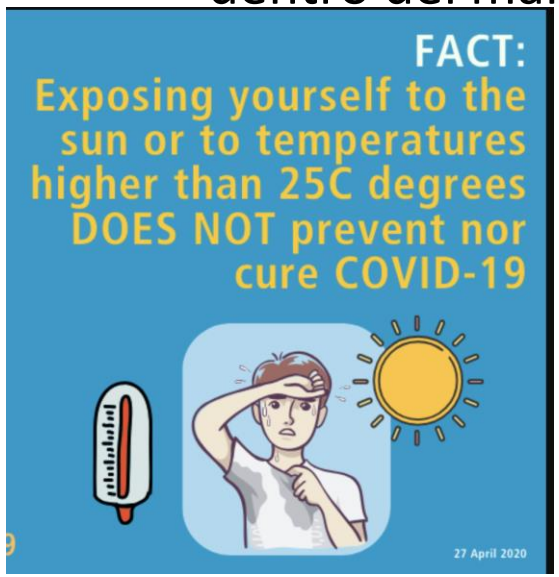
- However, most of this information was delivered in the dominant languages, avenues and norms consonant with the dominant language constructs

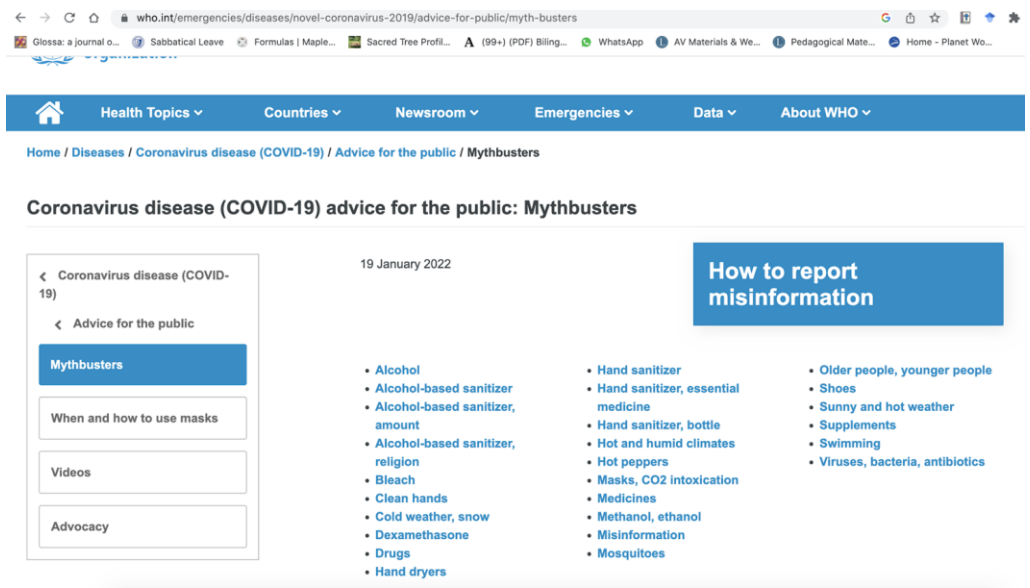
- Information was not reaching certain populations (and if it did it was not always culturally appropriate).
  - Deaf and Hard of Hearing (Paludneviciene et al. 2020, i.a.)
  - Migrant communities (Garcia et al. 2020, De Nardi & Phillips 2021, Machado & Goldberg 2021)
  - Rural communities (Cecilia 2020, Alcendor 2021, Fitzsimon et al. 2021)

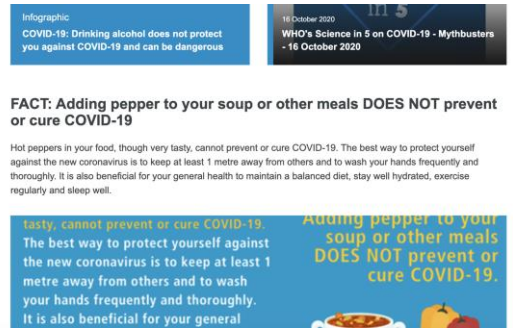
Introduction

World Health Organization Myth(busters): / Organización Mundial de la Salud

- How do minoritized populations perceive this information? / ¿Cómo las poblaciónes minorizadas percibieron esta información?
- Do they receive/have access to it? / ¿La recibieron/tienen acceso?
- Does the information match the cultural framework? / ¿La información está dentro del marco cultural?







Ejemplo 1 / Example 1

Información oficial del gobierno de Ecuador en las primeras etapas de la pandemia proporcionada en español, utilizando construcciones europeas.

Figure 1 Open in figure viewer | PowerPoint

'Stay at Home' Poster

Source: Ministry of Tourism (Ecuador, 2020).

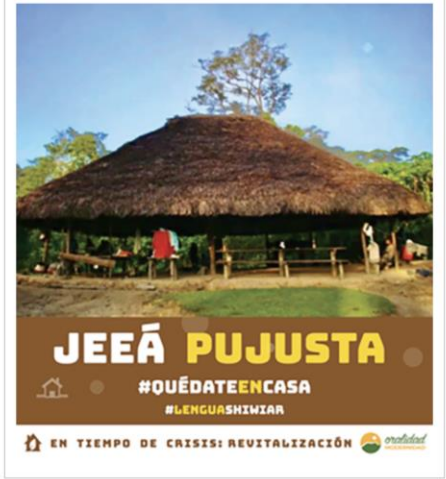


Figure 2 Open in figure viewer | PowerPoint

Shiwiar House

Source: Photo P. Kunchikuy (https://oralidadmodernidad.org/recursos/)

Realidad de muchas comunidades indígenas

- 15 lenguas indígenas "oficiales" incluyendo una lengua de signos / 'official' Indigenous spoken languages and at least one sign language (https://www.ethnologue.com/country/EC/)
- poblaciones inmigrantes: Colombia, USA, Peru, Venezuela

(https://migrants-refugees.va/country-profile/ecuador) ==> (+ other [Indigenous] lgs) (Pisani et al. 2009, Berg et al. 2022, i.a.)

Ejemplo 2 / Example 2

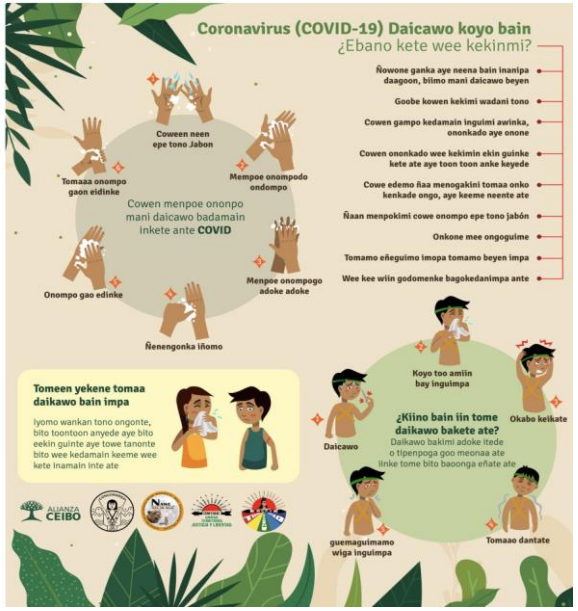
- Se crearon materiales diferenciados

(a) limitado a ciertos idiomas,

(b) potencialmente carecían de información explicativa en relación con los objetivos de la comunidad

(c) las comunidades fueron a menudo 'infantilizadas'

https://www.iadb.org/en/gender-and-diversity/indigenous-peoples-and-covid-19



Information campaign of the peoples and nationalities in native languages of the Ecuadorian Amazon: **Kichwa, Shuar, Wao Tededo, Ai'Kofan, Maicoca (Siona and Siekopai)** to inform and prevent our bases **#StayAtHome** (https://confeniae.net/campana-covid19-en-lenguas-originarias/)

- Also true for resources cited by the UN https://www.un.org/development/desa/indigen

Introducción

- The method of delivery was often *vertical* and did not match culturally- accepted practices regarding health (Kristeva et al. 2018, Piller et al. 2020, Carrol et al. 2021, i.a.).

- Potentially variable access to the dominant language may have had an effect on lexical inferencing and, thus, content accuracy.

- Already minoritized communities were further affected:
  - in terms of access to information
  - In terms of increased risk

Aim / Apuntar

Overarching questions / Preguntas generales

a. ¿La información crítica sobre la pandemia llegó a las comunidades indígenas (rurales)? [Did the critical information about the pandemic reach (rural) Indigenous communities?]

a. De no ser así, ¿cómo se puede hacer más eficaz el método de entrega de información? [If not, how can the method of information delivery be made more effective?]

a. ¿Podemos obtener respuestas a estas preguntas y documentar las variedades lingüísticas relevantes en el proceso? [Can we obtain answers to these questions and document the relevant linguistic varieties in the process?]

Aim

General goal

Understand the perspective on various aspects of COVID-19 in bilingual communities:

- L1 is culturally divergent from the economically dominant L2
- Various levels of competency in L2

Specific goals

1. Examine:
   a) how individuals in these communities processed health emergency information (controlling for proficiency levels, and from a cultural perspective) in pandemic times.
   b) their views on the WHO myth busters
   c) their opinions regarding methods of information dissemination
2. Language Documentation

To date:

[shameless self-promotion]

- Study 1: Quechua-speaking and Shipibo/Iskonawa communities in Peru.
- Study 2: Spanish-English speakers in Puerto Rico
- Study 3: Kichwa-speaking communities in Ecuador
- Study 4: Nuosu Yi-speaking community in Tibet
- Study 4: Anishinaabemowin-speaking communities in Canada

Linguistic varieties:

- Kiribati, Cuzco Quechua, Shipibo, Nuosu Yi, Puerto Rican Spanish (documented, N between 1-71, depending on the language)
- Andean Ecuadorian Kichwa, Anishinaabemowin (in progress)

To date:

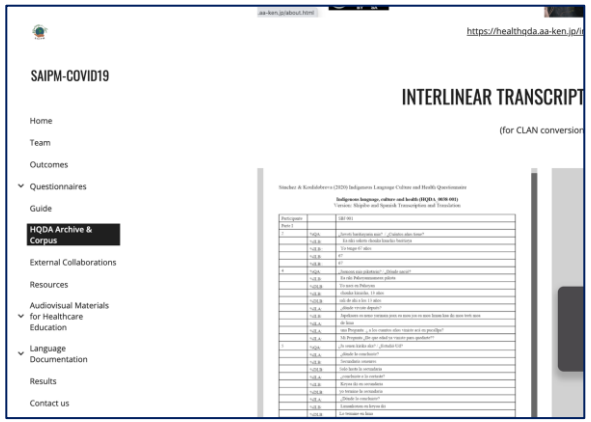
Sánchez et al. 2o22:

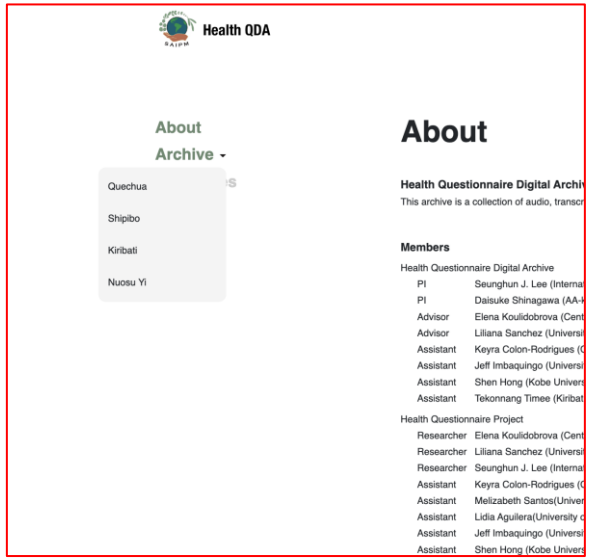
- Study 1: Quechua-speaking and Shipibo/Iskonawa communities in Peru.

1. Proficiency in the Indigenous language showed a positive effect on rejecting alcohol as a cure and the idea that healthy persons do not need to wear mask.
2. More contexts of Spanish use (the socially-dominant language) correlate with believing healthy persons do not need masks.
3. Information about COVID was received in both languages by most participants.
4. There were differences across groups on how they preferred to receive information about COVID.
5. …..

Database

- Today: transcribed / translated (Kichwa is still in progress!)
- Publicly available for researchers, communities, and health educators





Features:

- Our Indigenous collaborators are the first authors on the databases
- Available in audio and csv/word/pdf/ELAN (partial)
- Audio-visual and Language documentation resources as well

https://sites.google.com/view/saipm-covid19/home

Instrumento (cuestionario)

- Dirigido por entrevistadores (investigadores de la comunidad, miembros del equipo de investigación)

https://sites.google.com/view/saipm-covid19/home

Parte I: Datos demográficos (edad, sexo, lugar de origen).

Part II:Edad de adquisición indígena y dominante, Patrones de uso de la lengua,
Actitudes lingüísticas

Part III: Conocimiento del virus, riesgos, prevención, enfoques de atención médica; mitos falsos, COVID adaptados culturalmente (https://covid-no-mb.org/); Preferencias de

Resultados y análisis

First, some descriptive data

Primero, algunos datos descriptivos

Perspectives on COVID, preventive measures, and traditional medicine

Peru:

- 94% of participants considered COVID-19 a disease.
- Among those who responded to the relevant questions (N=79), 24% made reference to the potential for serious outcomes (“grave”, “dangerous”, “kills”); referenced contagion (“virus,” “microbe,” “air-spread”); ***8% exhibited lack of knowledge or misinformation (“you get it when you eat bats”).***
- Most indicated self-care and social distancing as preventive measures and mentioned a variety of conventionalized (Indigenous and Colloquial Spanish) terms for self-protection as well the disease itself (“tapaboca”).

Perspectives on COVID, preventive measures, and traditional medicine

Ecuador:

- 90% of participants considered COVID-19 a disease.

- Among those who responded to the relevant questions (N=30), 20% made reference to psychologically affected", "death"); contagion ("virus," "flu," "air-spread"); ***exhibited lack of knowledge or misinformation ("a simple virus sent by the US and China, or big companies").***

- Most indicated self- care and social distancing as preventive measures and mentioned a variety of conventionalized (Indigen ous and Colloquial Spanish) terms for self-protection as well the disease itself ("mascarilla")

Perspectives on COVID, preventive measures, and traditional medicine

Peru:

- Medicinal Plants: 97.2%% cited traditional plant use. 53% cited a preference for traditional herbs as preventive measures and treatments over western medicine

- Plants mentioned: *matico, garlic, ginger, eucalyptus, vapors, saunas, teas*

'How do you take care of yourself when you are sick?' (Q#44)

Fig 1. Freq. Visualization; medicinal plants; Quechua data [Spa]

Fig 2a.b.. Freq. Visualization; medicinal plants; Shipibo data [Ship]: 'traditional' analysis

Perspectives on COVID, preventive measures, and traditional medicine

Ecuador:

- Medicinal Plants: **77% cited traditional plant use; however, analysis continues**
- Plants mentioned: *garlic, ginger, eucalyptus, vapors, saunas, teas, bitter pants*

‘How do you take care of yourself when you are sick?' (Q#44)

Fig 1. Freq. Visualization; medicinal plants; Kichwa data [Spa]

Reminder: Research Questions

Goals: To determine how information about COVID-19 was received by speakers of Kichwa in Cañar, Ecuador.

- Research Questions

1. How does proficiency in the Indigenous language or access to Spanish (the socially-dominant language) correlate with the participants acceptance or rejection of some of these myth busters?

1. What means of information delivery are preferred by the participants?

1. Are there differences across groups?

Reminder: Research Questions

Goals: To determine how information about COVID-19 was received by speakers of Kichwa in Cañar, Ecuador.

- Research Questions

1. How does proficiency in the Indigenous language or access to Spanish (the socially-dominant language) correlate with the participants acceptance or rejection of some of the myth busters?

- The participant pool is reasonably homogeneous – no effects were found

    - Analysis: GLMM; truth value assigned to the statement by the participants (False=0, Truth=1) as a fixed factor and gender + level of proficiency in the Indigenous languages as predictors.)

Language of COVID-related information

	Both	Indigenous Language	Spanish
Quechua	38 (53.52%)	10 (14.08%)	23 (32.4%)
Shipibo	30 (78.94%)	7 (18.42%)	1 (2.64%)
Kichwa	100%	0	0

Table 5: Number and percentage of participants according to language of COVID information

Access to the dominant language

Table 2: Participants according to Contexts of Spanish Use
Contexts of Spanish use were coded from 0-4: 0= no contexts of Spanish use, 1= only one context of Spanish use, 2= 2 contexts, 3=3 contexts, 4=contexts.

Contexts: home/family, friends, community, work

Nu contexts Spanish use	0	1	2	3	4	Other	Total
Kichwa	0 (0%)	2 (6.66%)	6 (20%)	9 (30%)	13 (43.33%)	0 (0%)	30 (100%)
Quechua	30 (42.25%)	19 (26.76%)	13 (18.31%)	4 (5.63%)	5 (7.04%)	0 (0%)	71 (100%)
Shipibo	22 (57.89%)	7 (18.42%)	6 (15.79%)	2 (5.26%)	0 (0%)	1 (2.63%)	38 (100%)

Reminder: Research Questions

Goals: To determine how information about COVID-19 was received by speakers of Kichwa in Cañar, Ecuador.

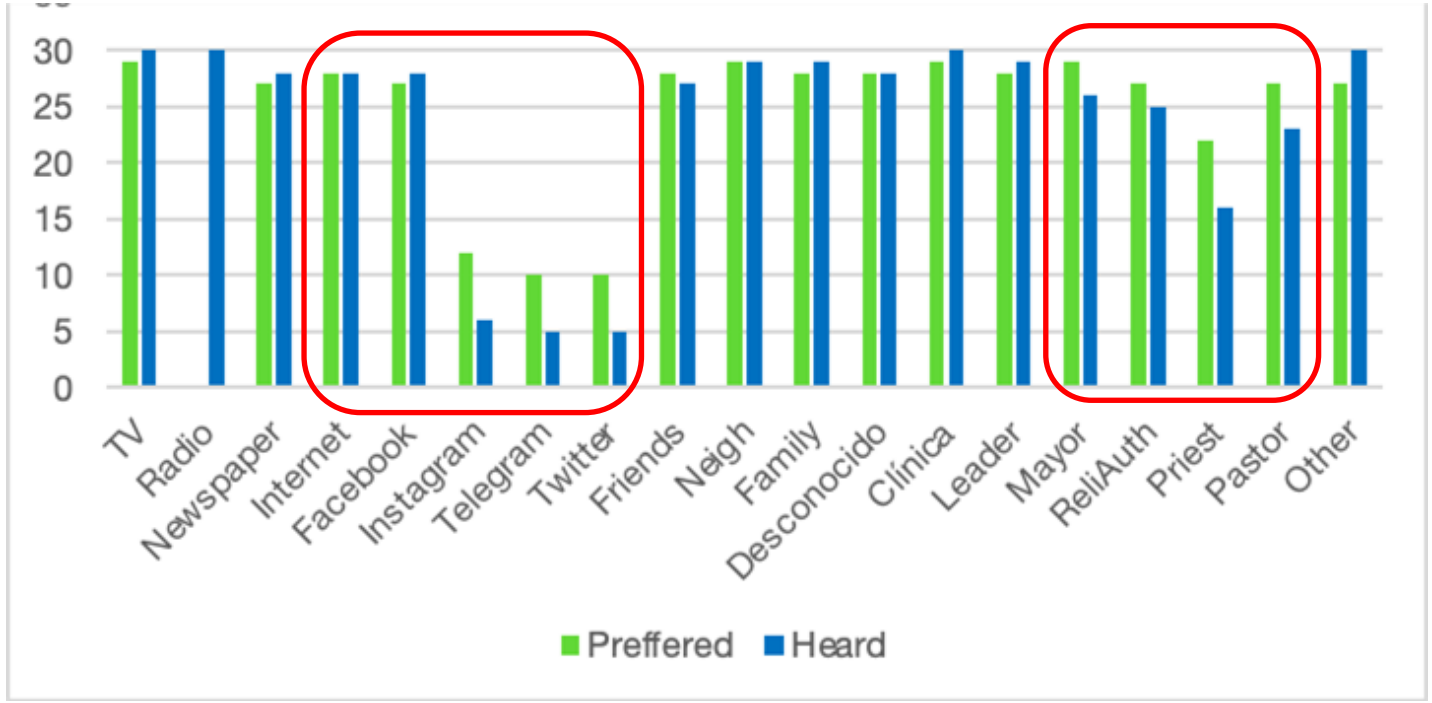
- Research Questions

2. What means of information delivery are preferred by the participants?

- Prediction: social media and community leadership, though not necessarilly clinics
- Analysis: series of t-tests

Methods of information delivery

- Methods of information delivery did not always align with preferred methods, raw N



Overall, there was no significant difference between "heard" and "preferred" samples (t= 0.21, df=18, p=0.41)

However, when social media and community authorities were isolated as message delivery channels,

==> the difference became visible (t=3.31, df=9, p=0.00425)

Reminder: Research Questions

Goals: To determine how information about COVID-19 was received by speakers of Kichwa in Cañar, Ecuador.

- Research Questions

3. Are there differences across groups? Explicitly, given the "social media" data:

Does age have an effect on the mentioning of risks or prevention?

=> Yes: The younger someone is, the more likely they are to mention **social distance** as prevention method (β=-0.1215, SE=0.0545, z=-2.229, p=0.0258)

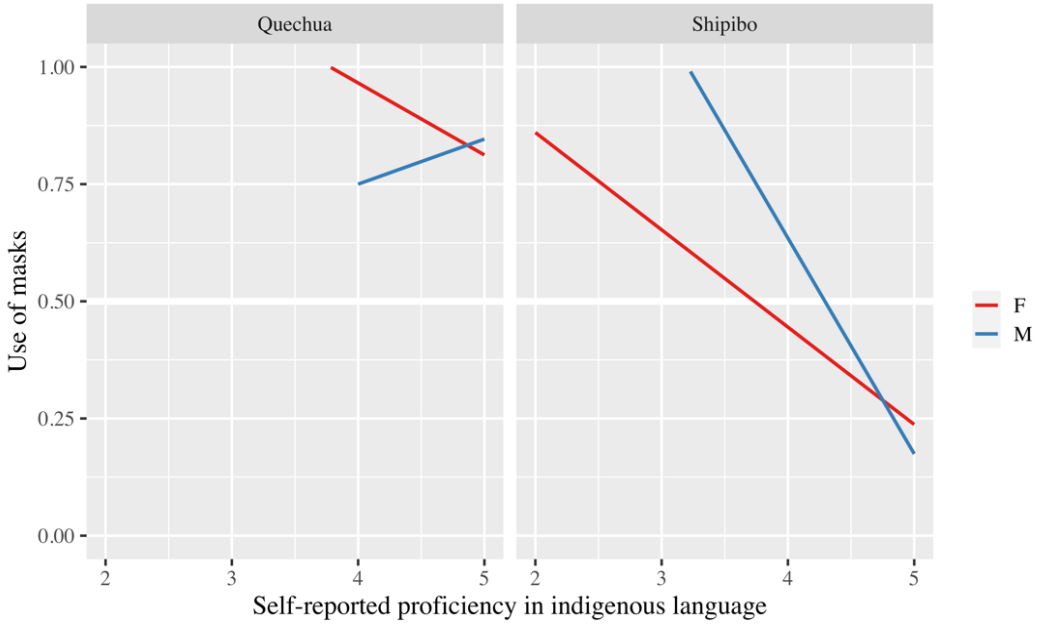
- Analysis; GLMM

Work continues

- No other effects have been found, but ...
- Both the transcription and the analyses continue (within group and across groups)

E.g., in comparison:

The statement *not being necessary if one is healthy* was considered false by **female** Quechua participants and Shipibo participants of **both genders** with higher levels of proficiency in the Indigenous language (β=-2.3182, SE=0.7520, z=-3.083, p=0.002050)



Observaciones / Concluding Remarks

1. Diferencias en la forma en que se entregó la información de COVID versus cómo a la comunidad le hubiera gustado que se entregara, particularmente en lo que respecta a las redes sociales y las autoridades comunitarias.
2. Los más jóvenes consideran dar más peso al distanciamiento social como prevención
3. La medicina tradicional todavía se practica ampliamente como prevención y "cura" para muchas dolencias, incluida la COVID.

1. Differences in the manner COVID info was delivered vs. how the community would have liked to have it be delivered, particularly wrt social media and community authorities
2. Younger people consider give more weight to social distancing as a prevention than
3. Traditional medicine is still widely practiced as a both a preventative and a 'cure' for many ailments *including COVID*

Observaciones / Concluding Remarks

4. La homogeneidad del grupo (en términos de antecedentes lingüísticos, por ejemplo) no permite ciertos análisis; por lo tanto, se deben emprender otras formas de análisis)
5. La mayoría de los participantes recibieron información sobre COVID en ambos idiomas.
6. En algunos aspectos, los resultados finales demuestran paralelismos entre los datos Kichwa y los datos quechua/shipibo; sin embargo, en otros aspectos, la diferencia es sorprendente; obvia, pero hay que decir: las comunidades indígenas en los Andes no son un monolito.

4. Homogeneity of the group (in terms of language background, e.g.) does not allow for certain analyses; thus, others must be undertaken
5. Information about COVID was received in both languages by most participants.
6. In some respects, the final results demonstrate parallels between the Kichwa data and Quechua/Shipibo data; however, in other ways, the difference is striking – obvious but must be said: Indigenous communities in the Andes are not a monolith

Observaciones / Concluding Remarks

7. Los resultados resaltan la importancia de brindar información en las lenguas indígenas a través de las fuentes preferidas por las comunidades.
8….. Muchos otros análisis están sucediendo mientras hablamos. ¡Por favor revisa los datos!

7. Results highlight the importance of providing information in the Indigenous languages through the sources preferred by the communities.
8….. Many other analyses are happening as we speak. Please check out the data!

Selected References

Read Peru stuff in a paper, with lots of references:

Sánchez, L., & Koulidobrova, H. (2023). World Health Organization myth busters and indigenous perceptions of COVID-19: Quechua and Shipibo communities. *Ampersand*, *10*, 100118.

- https://covid-no-mb.org/. Accessed on March 20, 2022.
- García, G. M., Haboud, M., Howard, R., Manresa, A., & Zurita, J. (2020). Miscommunication in the COVID-19 Era. *Bulletin of Latin American Research*, *39*, 39-46.
- Colón-Rodríguez, Keyra and Imbaquingo, Jefferson (Eds.) International Christian University Working Papers in Linguistics 20: Health Questionnaire Digital Archive. Tokyo, Japan: International Christian University. pp. 11-753. doi/10.34577/00005149
- Paludneviciene, R., Knight, T., Firl, G., Luttrell, K., Takayama, K., & Kushalnagar, P. (2021). Perception of COVID-19 physical distancing effectiveness and contagiousness of asymptomatic individuals: cross-sectional survey of deaf and hard of hearing adults in the United States. *Journal of Medical Internet Research*, *23*(2), e21103.
- Piller, I., Zhang, J., & Li, J. (2020). Linguistic diversity in a time of crisis: Language challenges of the COVID-19 pandemic. *Multilingua*, *39*(5), 503-515.
- Rodríguez Alzza, C (2020). https://redaccion.lamula.pe/2020/08/09/las-voces-femeninas-que-resisten/redaccionmulera/
- https://www.languageonthemove.com/paying-lip-service-to-indigenous-inclusion-in-perus-covid-19-prevention-campaign/

Concluding Remarks

1. Differences in the manner COVID info was delivered vs. how the community would have liked to have it be delivered, particularly wrt social media and community authorities
2. Younger people consider give more weight to social distancing as a prevention
3. Traditional medicine is still widely practiced as a both a preventative and a 'cure' for many ailments *including COVID*
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7. Results highlight the importance of providing information in the Indigenous languages through the sources preferred by the communities.

8….. Many other analyses are happening as we speak. Please check out the data!

Observacione finales

1. Diferencias en la forma en que se entregó la información de COVID versus cómo a la comunidad le hubiera gustado que se entregara, particularmente en lo que respecta a las redes sociales y las autoridades comunitarias.
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7. Los resultados resaltan la importancia de brindar información en las lenguas indígenas a través de las fuentes preferidas por las comunidades.

Concluding Remarks

1. Differences in the manner COVID info was delivered vs. how the community would have liked to have it be delivered, particularly wrt social media and community authorities
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Analysis (Study 1)

- A GLMM model; truth value assigned to the statement by the participants (False=0, Truth=1) as a fixed factor and gender, language group (Quechua, Shipibo), and level of proficiency in the Indigenous languages as predictors.

- Here we report on how proficiency in the Indigenous language or access to Spanish (the socially-dominant language) correlate with the participants acceptance or rejection of some of these myth busters
  - We offer additional paths for analyses as well as collaborative efforts.

Results:
Effects of Proficiency in the Indigenous Language

Myth Busters (WHO)

Myth Busters (people who believe that the statements in WHO mythbusters are trrue/false)

Results: Effect of Number of Contexts of Spanish Use

Results: Language of information delivery

How do participants wish to receive COVID-related information?

- Most Quechua participants responded positively to receiving the information via media and social media in contrast to Shipibo participants (β=-1.4910, SE= 0.4795, z=-3.109, p=0.002)

- Most Shipibo participants responded positively to receiving the information from community leaders (β=1.573, SE=0.546, z=2.884, p=0.004)

How do participants wish to receive COVID-related information?

- Most Quechua participants mentioned other ways of receiving information about COVID, among them having healthcare professionals go to their communities to train them on how to deal with the disease (β=-1.551, SE=0.494, z=-3.14, p=0.002)

What is NOT there:

- There were **no group** effects in the participants' responses to receiving COVID information from neighbors or **other members of the community** (β= 0.24511, SE=0.90655, z=0.270, p= 0.787) or the day clinic (β= 0.893, SE=0.541, z=1.653, p 0.098)

Shipibo Data

(1) Transcript: **Shipibo** (Sanchez, D. et al. 2022)
'If your answer is ‘yes’, how would you *prevent* yourself from getting sick with coronavirus? (Q#42)

%QA:	Mia itibetin akin iki, ¿Jatian jawe min akai mia ja isinman yatantima kopi?
%ILB:	Repoti jake ea, ochocha ea niti jake ea, matsibo en xeati yamake en
%DLB:	‘I must wear a mask, I must be away from others, I **must not drink cold things.’**

Quechua Data

(2) Transcript: **Quechua** (Macedo, B.. et al. 2022)

'If your answer is 'yes', how would you *prevent* yourself from getting sick with coronavirus?' (Q#42)

%QA:	(Arí niqtinqa) ¿imaynatan amachakuwaq mana coronavirus hap'inasuykipaq?
%ILB:	Manachá qhillita mikhuymanchu, p'istukuymanchá riki, cuidakuyman mana anchayhina comunta puriymanchu huk ladukunapi, wasillaypichá tiyayman riki
%DLB:	**'I would not eat dirty food, if I would keep warm,** I would take care of myself by not going to other places, I would just stay at home.'

Perspectives on COVID, preventive measures, and traditional medicine Quechua-Shipibo

- 94% of participants considered COVID-19 a disease.
- Among those who responded to the relevant questions (N=79), 24% made reference to the potential for serious outcomes (“grave”, “dangerous”, “kills”); 24% referenced contagion (“virus,” “microbe,” “air-spread”); ***8% exhibited lack of knowledge or misinformation (“you get it when you eat bats”).***
- Most indicated self-care and social distancing as preventive measures and mentioned a variety of conventionalized (Indigenous and Colloquial Spanish) terms for self-protection as well the disease itself (“tapaboca”).

Kichwa Data

Transcript: **Kichwa** (Guamán et al., in progress)

'If your answer is ‘yes’, how would you *prevent* yourself from getting sick with coronavirus?' (Q#42)

7	43	**%QA**	Kikinka mana kikinka mana kashpaka kikinpak ayllu ukupi maykan imapish unay unkushka tiyanchu? kikinpak wasipi? / ¿usted no usted o sino, su familia en casa hay alguien con alguna enfermedad? ¿en su casa?
8		**%ILB**	na ñuka kay wasipika na ñukallatami nacion **unkush** kausani
9		**%DLB**	ya en esta casa yo soy la que me **enfermo** siempre
0		**%QA**	ña, kikin ari, bueno kay tapuy kan, si unkushka tiyakpi o mana tiyakpi manchu, mm, ña/ ya, sí usted, bueno esta pregunta es, si hay enfermo o no es posible, mm, ya

Goals and RQs

Goals: To determine how information about COVID-19 was received by speakers of Quechua and Shipibo-Konibo, and Iskonawa, Peru.

1. How does proficiency in the indigenous language or access to Spanish (the socially-dominant language) correlate with the participants acceptance or rejection of some of these myth busters?

1. What means of information delivery are preferred by the participants?

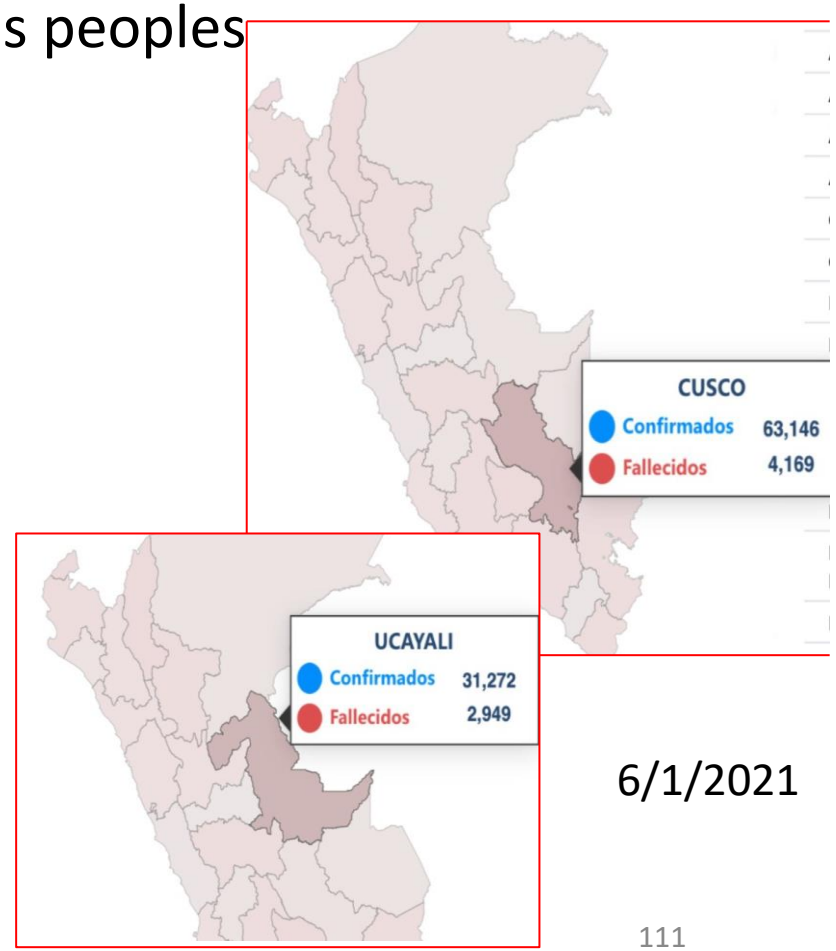
1. Are there differences that group people (age, gender, etc) wrt mention of risks and/or prevention?

Communities and locations

- Peru has 48 Indigenous languages spoken by 55 indigenous peoples

- Cusco Quechua (quz): ~1.5 million speakers
- Shipibo-Konibo (shp): ~30,000 speakers
- Iskonawa (isc): 25 speakers (bilingual shp)

https://bdpi.cultura.gob.pe/pueblos/



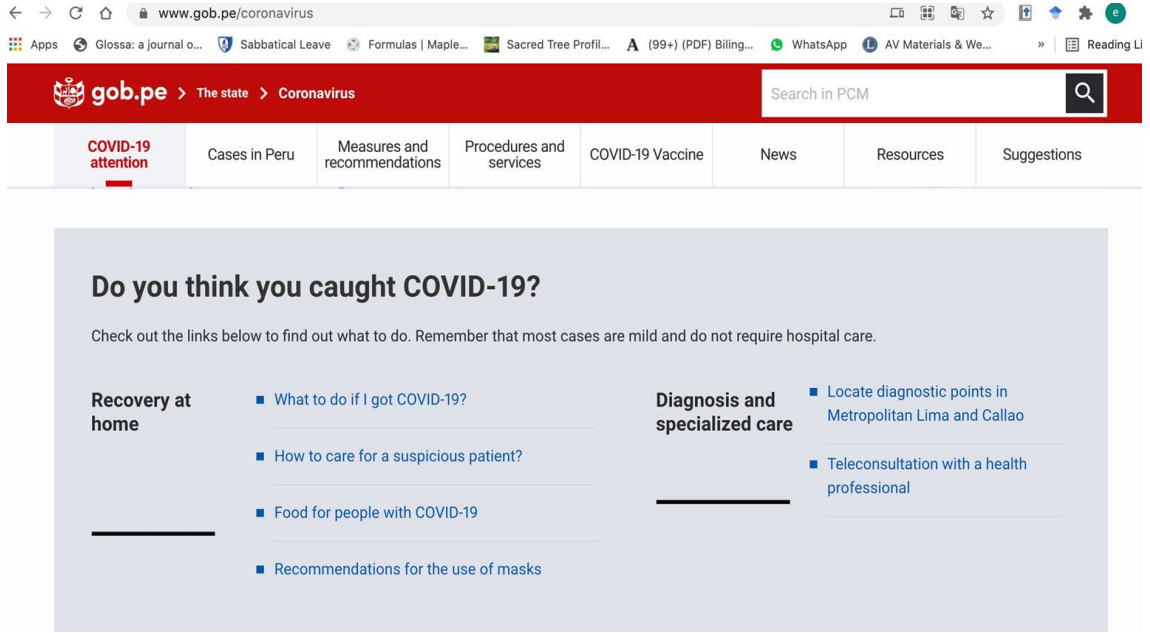
- Many Indigenous communities are located in rural areas

”At the regional level, the indigenous rural population […] accounts fo r 24% of the total rural population of Latin America (ECLAC, 2020a).”

6/1/2021

Example 1

Official information from the government of Peru at the early stages of the pandemic provided in Spanish



- 48 'official' Indigenous spoken languages and at least two sign languages
- Immigrant populations: China, Argentina, Bolivia, Chile, Ecuador

(+ other [Indigenous] languages) -- over 300 lgs (Hermosa Cabrera 2020)

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