Epidemiology of Diseases in the Peruvian Andes

Christie Caceres, M.D.; Madeleine Leefe, MS4;
Nicholas Seeliger, M.D.; Emilio Russo, M.D.
LSU Rural Family Medicine Residency – Bogalusa, Louisiana

Introduction

Healing Peru (NGO), LSU New Orleans Health Science Center and other volunteers from the US have been going to Peru for the last few years with the goal of providing healing and relief of suffering in remote Andean communities in Peru. Many of these communities are located between 12000 to 14000 feet above sea level.

In 2017 Fast Electronic Medical Record (fEMR) was implemented in the rural clinics in the Peruvian Andes, for the first time. FEMR offered the ability to collect important demographic and health information about the regional population. These data help to provide detailed information on epidemiology of disease in the Peruvian Andes and potentially affect planning and implementation with a view toward more sustainable and appropriate medical efforts in the future.

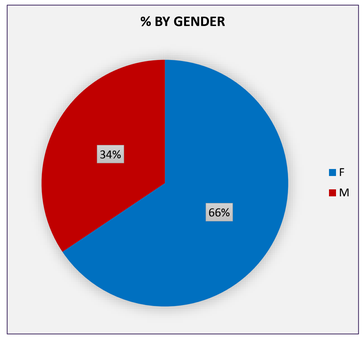
Objectives

- Describe demographics of the population seen in rural clinics in the Peruvian Andres.
- Describe health characteristics (common complaints and diagnosis) of rural communities around Cusco, Peru.
- Compare information obtained with existing regional statistics.
- Propose future opportunities for region specific engagement as directed by developed data in context of local needs and resources.

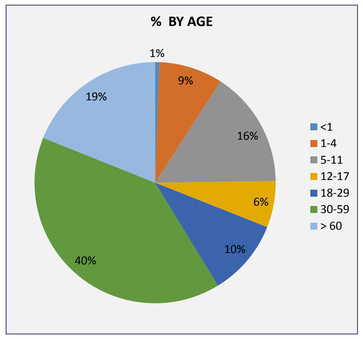
Method

- Cross-sectional studies were performed utilizing the data gathered and warehoused in fEMR in the medical mission in Cusco, Peru between February 17 to March 12, 2017.
- 1203 patient charts were uploaded to Microsoft Excel. Each patient's information was reviewed and organized for analysis in the following categories: age, sex, chief complaints and diagnosis.
- A total of 1061 patient charts were included in the final analysis. 142 were eliminated for lack of information in one of the categories required. 87 patient charts were completed with information recorded in history, physical exam, and treatment administered.
- Analysis of the information was performed using dynamic tables within Microsoft Excel.

Results



Graphic 1. Distribution by gender



Graphic 2. Distribution by age

Gender/Age	<1	01-04	05-11	12-17	18-29	30-59	> 60	TOTAL	%
F	2	44	73	39	86	321	131	696	65.60
M	4	47	93	27	23	101	70	365	34.40
Total	6	91	166	66	109	422	201	1061	100

Table 1. Distribution by Gender and Age

PRINCIPAL CAUSES OF MORBIDITY	AGE GROUP							TOTAL	%
	<1	1-4	5-11	12-17	18-29	30-59	> 60		
Diseases of the musculoskeletal system and connective tissue	0	2	5	10	27	186	122	352	33.18
Diseases of the digestive system	1	12	34	12	28	136	45	268	25.26
Certain infectious and parasitic diseases	0	49	110	22	15	28	2	226	21.30
Diseases of the genitourinary system	0	1	6	5	32	144	23	211	19.89
Diseases of the eye and adnexa	0	5	13	6	7	57	43	131	12.35
Diseases of the nervous system	0	1	9	4	16	61	9	100	9.43
Diseases of the respiratory system	2	8	16	2	14	21	11	74	6.97
Diseases of the skin and subcutaneous tissue	1	15	11	11	4	7	2	51	4.81
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	0	4	5	1	7	17	5	39	3.68
Factors influencing health status and contact with health services	3	14	3	0	4	3	6	33	3.11

Table 2. Principal causes of Morbidity (ICD 10 Classification)

Results (cont.)

N°	DX	TOTAL CASES	%
1	Parasitosis	190	17.91
2	Headaches (HA)	121	11.40
3	Osteoarthritis (OA)	93	8.77
4	Gastritis	84	7.92
5	Gastro esophageal reflux (GERD)	83	7.82
6	Urinary tract infection (UTI)	75	7.07
7	Vaginitis	67	6.31
8	Lumbago	62	5.84
9	Caries	40	3.77
10	Xerophthalmia	31	2.92

Table 3. Most common diagnosis

Discussion

Comparison was made between data collected by Healing Peru existing data collected by the ministry of health in Cusco.
At least 7 of the principal causes of morbidity were the same, with small differences in prevalence. The most common diagnosis were parasitosis, HA, OA, gastritis, GERD, UTI, vaginitis, and lumbago.
Disease of the circulatory system (HTN), as well as endocrine, nutritional and metabolic diseases (i.e. DM) are not frequently found in this population. The LSU endeavor encountered 6 cases of HTN and 4 cases of DM during the 4 week period.

Recommendations

- Use information for patient management and for the planning and preparation of future medical missions.
- Create education material on more common diseases.
- More research is necessary to validate current evidence[2].
- Future assessment of the short-term or long-term impacts of medical missions to be able to measure efficacy of interventions performed[2].
- Opportunities connect patient to existing and potentially ineffectively utilized local/regional resources.

References

1. Luna, D. *Health informatics in Developing Countries:* , HIR Health Research information . 2014. Am J Public Health. 2014 July; 104(7): e38–e48.
2. Sykes, K. Short-Term Medical Service Trips: A Systematic Review of the Evidence.
3. Health Ministry Cusco Statistics. http://www.diresacusco.gob.pe/estaditica/estadistica.htm

Contact

www.healingperu.com
https://www.medschool.lsuhsc.edu/family_medicine/global_health.aspx
ccacer@lsuhsc.edu