

Factors Associated with Perception and Expectations to work in the area of Primary Health Care at Five Facilities of the First Level Care in Lima, Peru

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ABSTRACT

Aim: To identify the frequency of perception and expectations to work in the area of primary health care (PHC) as well as their associated factors with personnel at five health facilities.

Method: Cross-sectional study on five health facilities of PHC. Perception and expectations to work in PHC were measured, and their association with social-work variables was investigated. Simple and multiple regression analysis was performed to estimate prevalence ratios (PR), using the *Poisson* family, robust variance and having a health facility as a cluster.

Results: Out of 94 participants, 64.9% did not have an adequate perception about working in the area of PHC. The 60.6% had an expectation to work in PHC 10 years from now. A positive association was found between female gender and perception about working in the area of PHC (PR = 3.24). There was a negative association between being divorced and/or widowed and the expectation to work in PHC (PR: 0.51).

Conclusions: Perception about working in PHC is low, but more than half of the sample expect to work in PHC 10 years from now. Being a woman increases the prevalence job perception in PHC. Working time over 5 years was positively associated with having expectations to work in PHC. On the contrary, divorced/widowed marital status was negatively associated.

Keywords: Primary health care; Human Resources for Health; Equity in health; motivation; Peru (Source: MeSH)

INTRODUCTION

Primary Health Care has been postulated as the renovation that world health systems need to achieve the sustainable and categorical improvement of health. However, the work in this service does not get the necessary strength to accomplish its goals¹⁻⁶. Peru is not alien to this problem,⁽⁷⁻⁸⁾ since health inequity can be seen reflected on indicators of morbi-mortality at national level, particularly on rural areas with difficult access⁹. An important component of such health problem is constituted by the shortage and/or the inadequate distribution of health professionals that are interested in working and promoting the primary care¹⁰⁻¹⁴.

Different studies have evaluated the students, medical and/or personnel perception and expectations to work in PHC¹⁵⁻¹⁷. However, there is not conclusive literature that has evaluated those characteristics on health personnel that work in PHC^{10,18-20}. In this context, taking into account that health personnel at the facilities of the first level in Primary Health Care (PHC) have a technical-professional profile formed since they were educated in their schools, it is important to know the perception and expectations they have about working in PHC, which would let us implement strategies to generate a higher motivation and better conditions on that aspect to contribute in a positive way to renovate our health system and achieve the optimization of health on our populations, with emphasis on the first level. Therefore, the objective of this study was to identify the factors associated with the perception and expectations to work in the area of primary health care on health personnel that work in five facilities of PHC in Lima, Peru in 2019.

METHODOLOGY

Study design: This is a transversal study on health personnel that work at five health facilities of the first level in Lima, Peru: C.S Magdalena, C.S Pachacamac, C.S La Libertad, C.S Conde la Vega Baja, C.S. Pica Piedra and C.S Guayabo.

Population and Sample: Health personnel working at five health facilities of the first level, during January and February in 2019. The research included health personnel that had an employment contract with the five facilities mentioned before at the moment of the application of the study instrument. In addition, those who accepted voluntarily to participate in the study were included as well. The study used a convenience sample as it is not probabilistic.

Study procedures: A permission request for the execution of the study was sent to the five health facilities mentioned above. The personnel included in the sample were asked questions from a questionnaire previously used in another research that evaluated the perceptions and expectations to work in PHC on students of medicine in Latin America.⁽¹⁶⁾ This instrument had a Cronbach's alpha of 0,76¹⁶. A pilot study was conducted on the 10% of the population of health personnel that worked in the first level of care at the five health facilities. The recollection of data was in charge of students of medicine who distributed themselves in the five facilities of the study.

The instrument of data recollection was constituted in two sections: I) socio-educative data and II) Perception and expectations to work in PHC. The average duration time of the survey is 10 ± 5 minutes. The main dependent variables

were perception and expectation to work in the first level of care (PHC). Job perception in PHC was evaluated with 14 questions with options to answer from 0 to 4 using Likert scale. The total points range from 0 to 56, therefore, a high score indicated bad perception about working in PHC.

In addition, expectation to work in PHC 10 years from now was measured with the question: "Do you think you will be working in a health facility 10 years from now?", having from 0 to 4 as the options to answer using Likert scale. High scores indicated adequate expectation to work 10 yrs from now. After the recollection of data, a template was designed using Excel 2016. The supervision, monitoring of activities and the quality control of pre and post digitation were done by two researchers, identifying the duplicates, out of range or not plausible values.

Statistical analysis and Power calculation: For the descriptive analysis of the quantitative variables, graphical and analytical assumption of normality was evaluated, reporting central tendency and dispersion measures. For categorical variables, absolute and relative frequencies were obtained.

For the analysis of job perception variable in PHC, terciles were generated using the score of the questions about perception. After that, the variable was dichotomized taking the superior tercile as bad perception about working in PHC and the medium and inferior tercile as good job perception in PHC. Likewise, all the process was carried out for the expectation to work in PHC variable.

For the hypothesis test analysis of the categorical variables, the assumption of expected frequencies was evaluated using the Chi square test in case it was proved; in case it did not, the Fisher's exact test was used. In the case of numerical variables, the T-student test was applied if the assumption of homogeneity of variances passed, if not, the Mann Whitney U test was used. It was considered a statistical significance of 5%. For the analysis of simple regression, generalized lineal models were used (GLM) with a family Poisson distribution, log link, robust variance and using a health facility as a cluster, estimating prevalence ratios (PR) and 95% for confidence intervals. We considered a p-value less than 0.05 as statistically significant. The statistics program STATA v.15.1 StataCorp LP, College Station, TX, USA was used.

Ethical considerations: For the execution of the research, the protocol was sent to the Ethics Board of Norbert Wiener University, and the approval was obtained. The questionnaire was anonym and confidentiality of the surveyed was preserved at any moment. Codes for each participant and facility were used.

RESULTS

Out of 94 participants in the study, we found that 75.5% were female and the mean age was 42.9 ± 12.6 years old, the 41.5% had a status of married and the 71.3% came from Lima. The 13.8% were physicians and the 23.4% were technical nurses. Regarding the contract condition, most of the surveyed reported themselves to be appointed employees (55.4%). The median of working time was 7.5 ± 20 years. The 64.9% did not perceive themselves to be working in PNA, but the 60.6% reported having expectations to work in PNA 10 years from now (Table 1).

We found statistical significance only between gender and perception to work in PHC, and it was associated to present a higher frequency of job perception to continue in PNA (p=0.011). In the table 3, we found that working time at the health facility was associated to having expectations to work in PNA 10 years from now (p=0.035). In the simple linear regression analysis, women had a higher prevalence in job perception in PHC than men in 224% (PR=3.24, 95% CI:1.47-7.16). the rest of covariables did not have an associated result for the perception about working in PHC. We also found that being a divorced and/or widowed physician was negatively associated to the expectation to work in PHC 10 years from now (RP:0.59, 95% CI:0.37-0.96), while those physicians who had worked up to five years in the health facility increased 62% the prevalence of having expectations to work in PHC 10 years from now (RP:1.62, 95% CI:1.32-1.98) (Table 4).

In the multiple regression analysis, we found negative association between the status of divorced and/or widowed and the expectation to work in the PHC 10 years from now (PR:0.51, 95% CI:0.31-0.83). On the other hand, working time was associated in a positive way to the outcome (PR:1.67, 95% CI:1.11-2.48) (Table 5).

Table 1: Social-labor characteristics of health personnel that work at 5 health facilities of primary health care, Lima-2019.

Characteristics	N (%)
Gender	
Male	23 (24.5)
Female	71 (75.5)
Age (years)†*	42.9 ± 12.6
Civil status	
Single	38 (40.4)
Married	39 (41.5)
Domestic partner	9 (9.6)
Divorced/Widowed	8 (8.5)
Place of birth	
Lima	67 (71.3)
Inland regions	27 (28.7)
Profession	
Physician	13 (13.8)
Nurse	14 (14.9)
Obstetrician	7 (7.5)
Odontologist	5 (5.3)
Nutritionist	4 (4.3)
Psychologist	5 (5.3)
Laboratory technician	6 (6.4)
Technical nurse	22 (23.4)
Others	18 (19.2)
Contract type	
Permanent Appointment	51 (55.4)
Temporary	11 (12.0)
Outsourced	30 (32.6)
Working time at the health facility**	7.5 ± 20
Perception about working in PHC	
No	61 (64.9)
Yes	33 (35.1)
Expectation to work in PHC 10 years from now	
No	37 (39.4)
Yes	57 (60.6)
* Mean ± standard deviation	
** Median and interquartile range	
PHC: First level care	

Table 2. Factors associated to job perception in the first level of Primary Health Care (PHC), Lima-2019.

Variables	Perception about working in PHC		p	
	No (n=61)	Si (n=33)		
	n(%)	n(%)		
Gender				
Male	20 (87.0)	3 (13.0)	0.011	
Female	41 (57.8)	30 (42.3)		
Age (years)*	43.0 ± 1.6	42.8 ± 2.3	0.942**	
Civil status†				
Single	22 (57.9)	16 (42.1)	0.642	
Married	28 (71.8)	11 (28.2)		
Domestic partner	6 (66.7)	3 (33.3)		
Divorced/Widowed	5 (62.5)	3 (37.5)		
Place of birth				
Lima	42 (62.7)	25 (37.3)	0.480	
Inland regions	19 (70.4)	8 (29.6)		
Profession†				
Physician	12 (92.3)	1 (7.7)	0.073	
Nurse	10 (71.4)	4 (28.6)		
Obstetrician	5 (71.4)	2 (28.6)		
Odontologist	4 (80.0)	1 (20.0)		
Nutritionist	2 (50.0)	2 (50.0)		
Psychologist	5 (100.0)	0 (0.0)		
Laboratory technician	4 (66.7)	2 (33.3)		
Technical nurse	10 (45.5)	12 (54.6)		
Others	9 (50.0)	9 (50.0)		
Contract type ***				
Permanent appointment	33 (64.7)	18 (35.3)		1.000
Temporary	7 (63.6)	4 (36.4)		
Working time at the health facility ***				
Up to 3 years	21 (61.8)	13 (38.2)	0.629	
Up to 5 years	4 (66.7)	2 (33.3)		
Up to 10 years	12 (80.0)	3 (20.0)		
More than 10 years	23 (62.2)	14 (37.8)		

*** Some values might not amount to 94 due to lost data,

* Mean ± standard deviation

** p value calculated with the Student's t test,

† p value calculated with the Fisher test, the rest of categorical variables with Chi-square test

Table 3. Factors associated with expectation to work in Primary Health Care (PHC), Lima-2019.

Variables	Expectation to work in PHC		p	
	No (n=37)	Yes (n=57)		
	n(%)	n(%)		
Gender				
Male	9 (39.1)	14 (60.9)	0.979	
Female	28 (39.4)	43 (60.6)		
Age (years)*	44.0 ± 2.2	42.3 ± 1.6	0.528**	
Civil status†				
Single	14 (36.8)	24 (63.2)	0.571	
Married	15 (38.5)	24 (61.5)		
Domestic partner	3 (33.3)	6 (66.7)		
Divorced/Widowed	5 (62.5)	3 (37.5)		
Place of birth				
Lima	28 (41.8)	39 (58.2)	0.480	
Inland regions	9 (33.3)	18 (66.7)		
Profession†				
Physician	7 (53.9)	6 (46.2)	0.595	
Nurse	6 (42.9)	8 (57.1)		
Obstetrician	2 (28.6)	5 (71.4)		
Odontologist	1 (20.0)	4 (80.0)		
Nutritionist	3 (75.0)	1 (25.0)		
Psychologist	3 (60.0)	2 (40.0)		
Laboratory technician	2 (33.3)	4 (66.7)		
Nurse technician	6 (27.3)	16 (72.7)		
Contract type***				
Permanent appointment	20 (20.5)	31 (30.5)		0.954
Temporary contract	5 (4.4)	6 (6.6)		
Outsourced	12 (12.1)	18 (17.9)		
Working time at the facility † ***				
Up to 3 years	13 (38.2)	21 (61.8)	0.035	
Up to 5 years	0 (0.0)	6 (100.0)		
Up to 10 years	10 (66.7)	5 (33.3)		

* Mean ± standard deviation,

** p value calculated with Student's t test,

*** Some values might not amount to 94 due to lost data

† p value calculated with the exact Fisher test, the other categorical variables used Chi-square test,

PHC: Primary Health Care

Table 4. Independent factors associated with perception about working in PHC on health personnel at 5 facilities of PHC, Lima-2019. Simple regression analysis (N=92)

Characteristics	Simple regression			Multiple regression		
	PR	IC 95%	p*	PR	IC 95%	p*
Gender						
Male	Ref.			Ref.		
Female	3.24	1.47 - 7.16	0.004	3.24	1.47 - 7.16	0.004
Age (years)	1.00	0.98 - 1.02	0.935			
Civil status						
Single	Ref.					
Married	0.67	0.41 - 1.11	0.118			
Domestic partner	0.79	0.16 - 4.02	0.778			
Divorced/Widowed	0.89	0.65 - 1.22	0.468			
Place of birth						
Lima	Ref.					
Inland regions	0.79	0.21 - 3.01	0.735			
Profession						
Not physician	Ref.					
Physician	0.19	0.33 - 1.16	0.072			
Contract condition						
Permanent appointment	Ref.					
Temporary	1.03	0.36 - 2.95	0.956			
Outsourced	0.94	0.75 - 1.18	0.621			
Working time						
Up to 3 years	Ref.					
Up to 5 years	0.87	0.42 - 1.82	0.715			
Up to 10 years	0.52	0.25 - 1.11	0.092			
More than 10 years	0.99	0.73 - 1.35	0.947			

*p value obtained through generalized lineal models (GLM), *Poisson family*, log link function, robust variance, using health facility as a cluster, PR: prevalence ratios

Table 5: Independent factors associated with expectation to work in Primary Health Care (PHC) 10 years from now on health personnel at 5 facilities in primary health care, Lima-2019. Simple regression analysis (N=92)

Characteristics	Simple regression			Multiple regression*		
	PR	95% CI	p*	PR	95% CI	p*
Gender						
Male	Ref.					
Female	0.99	0.63 - 1.58	0.983			
Age (years)	1.00	1.00 - 1.00	0.046			
Civil status						
Single	Ref.			Ref.		
Married	0.97	0.60 - 1.60	0.917	0.91	0.52 - 1.61	0.754
Domestic partner	1.06	0.58 - 1.92	0.859	0.92	0.40 - 2.15	0.856
Divorced/Widowed	0.59	0.37 - 0.96	0.033	0.51	0.31 - 0.83	0.007
Place of birth						
Lima	Ref.					
Inland regions	1.15	0.95 - 1.38	0.159			
Profession						
Notphysician	Ref.					
Physician	0.73	0.49 - 1.10	0.134			
Contract condition						
Permanent appointment	Ref.					
Temporary	0.90	0.80 - 1.00	0.056			
Outsourced	0.99	0.74 - 1.32	0.930			
Working time						
Up to 3 years	Ref.			Ref.		
Up to 5 years	1.62	1.32 - 1.98	<0.001	1.67	1.11 - 2.48	0.013
Up to 10 years	0.54	0.22 - 1.30	0.170	0.55	0.22 - 1.39	0.206
More than 10 years	1.01	0.87 - 1.17	0.933	1.16	0.83 - 1.63	0.381

* p values obtained with generalized lineal models (GLM), *Poisson family*, log link function, robust variance, using a health facility as a cluster PR: prevalence ratios

DISCUSSION

The main finding of our research was that most of the sample did not report having an adequate perception about working in PHC (64.9%) despite being currently working at community facilities. It suggests that there exists a clear

demotivation/discouragement; it might happen due to the fact that the mean age of the participants is 42 and that more than the half had a permanent appointmentcontract (55.4%), so they will probably have to keep on working there despite not feeling comfortable. This idea is

reinforced due to the finding of the 60.6% who had expectations to continue working in 10 years in PHC. Multiple studies confirm that the frequency of expectations to work is low on the medical-student population,^(10,18-20) which accords with what was reported by the health personnel at the five PHC facilities in Lima. Similarly, a study that evaluated the professional perspectives, showed that only 2.3% had an intention to work at a health facility, the 38% consider that the physicians that work in PHC had less prestige than others the 75% perceive that the infrastructure is limited¹⁵. A multicentered research accords with these findings where Latin medicine students assured a low perception about working at a PHC facility¹⁶. On nurses and midwives in a rural area in Peru, they found that the possibilities of choosing an urban health facility was almost fifteen times higher than rural facilities.⁽¹⁸⁾ Likewise, a study revealed that physicians reported having five times more possibilities to work in urban areas instead of remote areas¹⁹. On Peruvian interns, the frequency of expectations of dedication to primary health care was 25.1%¹⁷ while other research on medicine students found that only the 14.5% had intention to work at a health facility and only the 21.9% wanted to work in inland regions of the country²¹. An explanation could be the perception of future physicians about the training received by the university in promoting health, where it was identified that it was favorable in the dimension of personal abilities (23.4%)²².

This study found that women had a 224% higher prevalence for and adequate perception about working in the area of PHC. There is not previous conclusive literature that determines the relationship between gender and perception about working in PHC. A Peruvian research showed a reduction of 34% in male gender about the possibility to choose a job in rural areas¹⁹. However, the probable mechanism that would explain that association could be that women have had a historical role as good managers and are leaders in the social sphere, which might encourage them to look forward working and furthering PHC²³. There exists evidence that shows women's great intention of receiving training in pediatrics,⁽²⁴⁻²⁶⁾ it would be a reason why they perceived working in PHC in an adequate way.

On the other hand, we found that health personnel's working time that had worked up to five years was associated positively to having expectations to work in PHC 10 years from now. It could happen due to the fact that quality of life would be better when we work in PHC. Also, it could be a product of those physicians that have succeeded in having a permanent appointment contract have a bigger predisposition to continue working there, despite the fact that their income is not attractive enough. An important factor for the decision of health personnel to work or, at least, to continue working in PHC is the incentive to gain and retain that group of work. In a department in the Peruvian Andes, a qualitative research found that the economic incentives, particularly the increase of salary, was identified as a probable strategy for improvement of the work in inland regions of the country¹⁰.

Another finding was that those divorced/widowed physicians had a lower expectation to work in PHC 10 years from now. It is probable that this relationship could be due to the implications and negative secondary impact to

their dissatisfaction in their marital life, reflected on possible emotional problems that trigger their lack of motivation to work in this type of first care facilities²⁷⁻³⁰. Despite that, it is necessary to conduct more studies focused on identifying the probable theoretical mechanism in the relationship between civil status and working in the area of PHC, particularly in the subgroups of interest of health personnel that have been exposed to situations that affect their emotional state.

This study had the following limitations, first the potential bias of selection due to the no probabilistic sampling regarding the five health facilities chosen, therefore, the results could not be inferred to the health personnel in Lima or inland regions of Peru. Second, measurement bias due to the fact that the instrument used was validated on medicine students, there was no extrapolation of other variables that could explain our outcome such as number of children, monthly payment, having an own house, speciality of the physician and or/nurse, among others.

However, the findings of this research show a little addressed reality about working personnel in primary health care, where there is an urgent need to make reforms in benefit of the health equity improvement. It is recommendable to do more research in the future on a bigger scale where health personnel are evaluated in terms of perceptions and expectations to work in PHC, and therefore, it could permit the confirmation of the findings of our research.

CONCLUSION

We conclude that the perception about working in PHC is low on the health personnel evaluated, but more than the half of the sample report having expectations to work in PHC 10 years from now. Being a woman increases the prevalence of job perception in PHC. Working time up to five years was associated positively with having expectations to work in PHC. On the contrary, the civil status of divorced/widowed was negatively associated.

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REFERENCES

1. Park S, Abrams R. Alma-Ata 40th birthday celebrations and the Astana Declaration on Primary Health Care 2018. *Br J Gen Pract J R Coll Gen Pract.* mayo de 2019;69(682):220-1.
2. WHO | The World Health Report 2006 - working together for health [Internet]. [citado 4 de mayo de 2019]. Disponible en: <https://www.who.int/whr/2006/en/>
3. Curioso WH, Henríquez-Suarez M, Espinoza-Portilla E. [From Alma-Ata to the digital citizen: towards a digital primary health care in Peru]. *Rev Peru Med Exp Salud Publica.* diciembre de 2018;35(4):678-83.

4. Roland M. 40 years on. Has the vision of Alma-Ata been realized? *Cad Saude Publica*. 2019;35(1):e00212218.
5. Bhutta ZA, Atun R, Ladhur N, Abbasi K. Alma Ata and primary healthcare: back to the future. *BMJ*. 22 de octubre de 2018;363:k4433.
6. Watkins DA, Yamey G, Schäferhoff M, Adeyi O, Alleyne G, Alwan A, et al. Alma-Ata at 40 years: reflections from the Lancet Commission on Investing in Health. *Lancet Lond Engl*. 20 de 2018;392(10156):1434-60.
7. Curisínche M, Yagui M, Castilla T, Cabezas C, Escalante G, Casas M, et al. [Process of construction of the national research agenda on Human Resources in Health in Peru 2011 - 2014]. *Rev Peru Med Exp Salud Publica*. junio de 2011;28(2):372-81.
8. Yagui M, Vargas J. [National agenda for research in human resources for health: generating evidence for improving the health sector competences]. *Rev Peru Med Exp Salud Publica*. junio de 2011;28(2):175-6.
9. Sánchez-Moreno F. La inequidad en salud afecta el desarrollo en el Perú. *Rev Peru Med Exp Salud Publica*. octubre de 2013;30(4):676-82.
10. Huicho L, Canseco FD, Lema C, Miranda JJ, Lescano AG. Incentivos para atraer y retener personal de salud de zonas rurales del Perú: un estudio cualitativo. *Cad Saude Publica*. abril de 2012;28(4):729-39.
11. Arroyo J. Los sistemas descentrados de recursos humanos en salud: el caso del Perú, 1990-2005. *Ciênc Amp Saúde Coletiva*. diciembre de 2006;11(4):1063-72.
12. Cotlear D [editor. A new social contract for Peru: an agenda for improving education, health care, and the social safety net [Internet]. The World Bank; 2006 ene [citado 4 de mayo de 2019] p. 1-330. Report No.: 35037. Disponible en: <http://documents.worldbank.org/curated/en/267341468296414845/A-new-social-contract-for-Peru-an-agenda-for-improving-education-health-care-and-the-social-safety-net>
13. Zevallos L, Pastor R, Moscoso B. [Supply and demand of medical specialists in the health facilities of the Ministry of Health: national, regional and by type of specialty gaps]. *Rev Peru Med Exp Salud Publica*. junio de 2011;28(2):177-85.
14. Mejía CR, Valladares-Garrido MJ, Romero BM, Valladares-Garrido D, Linares-Reyes E. Accidentes laborales asociados al desánimo de médicos SERUMS para laborar en el primer nivel de atención de Lima, Perú. *Rev Medica Inst Mex Seguro Soc*. 2017;55(6):686-91.
15. Mayta-Tristán P, Carbajal-Gonzalez D, Mezones-Holguín E, Mejía CR, Pereyra-Elías R, Villafuerte-Gálvez J, et al. Situación actual y perspectivas profesionales de los estudiantes de medicina de nueve países de Latinoamérica, 2008: estudio preliminar. *CIMEL Cienc E Investig Médica Estud Latinoam*. 2010;15(1):3-8.
16. Pereyra-Elías R, Mayta-Tristán P, Montenegro-Idrogo JJ, Mejía CR, Abudinén A G, Azucas-Peralta R, et al. Differences on Primary Care Labor Perceptions in Medical Students from 11 Latin American Countries. *PLoS One*. 2016;11(7):e0159147.
17. Expectativas profesionales de internos de medicina y su inclinación por la atención primaria de salud | *Anales de la Facultad de Medicina*. [citado 4 de mayo de 2019]; Disponible en: <http://revistasinvestigacion.unmsm.edu.pe/index.php/anales/artic le/view/1137>
18. Huicho L, Miranda JJ, Diez-Canseco F, Lema C, Lescano AG, Lagarde M, et al. Job preferences of nurses and midwives for taking up a rural job in Peru: a discrete choice experiment. *PLoS One*. 2012;7(12):e50315.
19. Miranda JJ, Diez-Canseco F, Lema C, Lescano AG, Lagarde M, Blaauw D, et al. Stated Preferences of Doctors for Choosing a Job in Rural Areas of Peru: A Discrete Choice Experiment. *PLoS ONE* [Internet]. 18 de diciembre de 2012 [citado 4 de mayo de 2019];7(12). Disponible en: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3525596/>
20. Gallego G, Dew A, Lincoln M, Bundy A, Chedid RJ, Bulkeley K, et al. Should I stay or should I go? Exploring the job preferences of allied health professionals working with people with disability in rural Australia. *Hum Resour Health*. 30 de junio de 2015;13(1):53.
21. Expectativas de laborar en el primer nivel de atención de salud de los estudiantes de una facultad de medicina de Lima, Perú | *Anales de la Facultad de Medicina*. [citado 4 de mayo de 2019]; Disponible en: <http://revistasinvestigacion.unmsm.edu.pe/index.php/anales/artic le/view/11076>
22. Percepción de los estudiantes de ciencias de la salud acerca de su formación en promoción de la salud | *Anales de la Facultad de Medicina*. [citado 4 de mayo de 2019]; Disponible en: <http://revistasinvestigacion.unmsm.edu.pe/index.php/anales/artic le/view/929>
23. Mitchell C, <https://www.facebook.com/pahowho>. OPS/OMS | OPS insta a ampliar el rol de las enfermeras en la atención primaria de salud [Internet]. Pan American Health Organization / World Health Organization. 2018 [citado 4 de mayo de 2019]. Disponible en: https://www.paho.org/hq/index.php?option=com_content&view=article&id=14325:paho-calls-on-the-role-of-nurses-in-primary-health-care-to-be-expanded&Itemid=1926&lang=es
24. Spector ND, Cull W, Daniels SR, Gilhooly J, Hall J, Horn I, et al. Gender and Generational Influences on the Pediatric Workforce and Practice. *Pediatrics*. 1 de junio de 2014;133(6):1112-21.
25. Vargas Huicochea I, Muggenburg ME, Palacios J, Heinze G. Preferencias de especialidad médica entre los estudiantes de pregrado de la Facultad de Medicina de la UNAM: ¿En qué lugar se ubica la Psiquiatría? *Salud Ment*. diciembre de 2012;35(6):465-73.
26. Brotherton SE, Etzel SI. Graduate medical education, 2011-2012. *Jama*. 2012;308(21):2264-2279.
27. Daily JA. Divorce Among Physicians and Medical Trainees. *J Am Coll Cardiol*. 5 de febrero de 2019;73(4):521-4.
28. Shanafelt TD, Boone SL, Dyrbye LN, Oreskovich MR, Tan L, West CP, et al. The medical marriage: a national survey of the spouses/partners of US physicians. *Mayo Clin Proc*. marzo de 2013;88(3):216-25.
29. Shanafelt TD, Balch CM, Bechamps G, Russell T, Dyrbye L, Satele D, et al. Burnout and medical errors among American surgeons. *Ann Surg*. junio de 2010;251(6):995-1000.
30. Shanafelt TD, Raymond M, Kosty M, Satele D, Horn L, Phippen J, et al. Satisfaction with work-life balance and the career and retirement plans of US oncologists. *J Clin Oncol Off J Am Soc Clin Oncol*. 10 de abril de 2014;32(11):1127-35.