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Factors that influence career choice in primary care among medical students starting social service in Honduras

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ABSTRACT

Objective. *To 1) describe patterns of specialty choice; 2) investigate relationships between career selection and selected demographic indicators; and 3) identify salary perception, factors that influence career choice in primary care, and factors that influence desired location of future medical practice.*

Methods. *The study used a mixed-methods approach that included a cross-sectional questionnaire survey applied to 234 last-year medical students in Honduras (September 2014), and semi-structured interviews with eight key informants (October 2014). Statistical analysis included chi-square and factor analysis. An alpha level of 0.05 was used to determine significance.*

Results. *In the qualitative analysis, several codes were associated with each other, and five major themes emerged. Primary care careers were the preferred choice for 8.1% of students, who preferred urban settings for future practice location. The perceived salary of specialties other than primary care was significantly higher than those of general practitioners, family practitioners, and pediatricians (*P *< 0.001). Participants considered "making a difference," income, teaching, prestige, and challenging work the most important factors influencing career choice. Practice in ambulatory settings was significantly associated with a preference for primary care specialties (*P *= < 0.05). Logistic regression analysis found that factors related to patient-based care were statistically significant for selecting primary care (*P *= 0.006). The qualitative analysis further endorsed the survey findings, identifying additional factors that influence career choice (future work option; availability of residency positions; and social factors, including violence). Rationales behind preference of a specialty appeared to be based on a combination of ambition and prestige, and on personal and altruistic considerations.*

Conclusions. *Most factors that influence primary care career choice are similar to those found in the literature. There are several factors distinctive to medical students in Honduras—most of them barriers to primary care career choice.*

Key words Students, health occupations; primary health care; career choice; human resources; Honduras; Americas.

Health staff shortages, unequal distribution of health personnel, and migration are current problems in various regions of the world. In the United States, there was a shortage of 7 500 primary care physicians in 2010, and the projected shortage of primary care practitioners in 2020 is 20 400 physicians (1). The proportion of general practitioners (GPs) among specialists in Chile declined from 8 out of 10 in 1996 to 6 out of 10 in 2004 (2). The lack of physicians affects access to health care in urban settings, but worse damage occurs in rural areas in developing countries. The density of doctors per 10 000 population was 7.7 in Lima, Peru, and less than 2.0 in some rural departments in the Andean and Amazon regions. In Mexico and other Latin American countries, the problem could be related to the low quality of care provided by university-trained physicians rather than the lack of physicians (3).

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In middle- and low-income countries, the shortage of trained health personnel was exacerbated by the migration to high-income countries: Peru lost 3 284 physicians between 1994–2008; Bolivia lost 363 doctors in the same period; and Ecuador lost 226 between 1995–2010 (4).

Medical students prefer hospital-related specialties. The proportion of Canadian graduates who made family medicine their first option dropped from 40% in 1982 to 28% in 2005 (5), and only one-third of students were interested in entering a family medicine program (6). Peru opened 332 residency positions in family medicine in 2013, but there were only 179 applicants, although there was a shortage of 606 family practitioners (FPs). There are several barriers that explain this phenomenon, including 1) the low income of a primary care career relative to specialties (7–10); 2) the low prestige of a primary care career (11, 12); and 3) various aspects of medical training, such as the weak coverage of primary care in curricula, lack of exposure to FPs, negative perceptions of FPs, and prevailing negative cultural attitude toward primary care (13). A systematic review in high-, middle-, and low-income countries (14) found several factors that influence career choice common to all countries, including 1) exposure to rural location, and role models and working conditions (facilitators), and 2) low income, prestige, and medical school environment (barriers). Some factors were specific to middle- and low-income countries, such as understanding of rural needs and intellectual challenge. Other factors were specific to high-income countries, such as attitudes toward social problems, and voluntary work; influence of family; and length of residency.

Little is known about factors that influence medical students in Honduras to choose primary care careers. Therefore, this research aimed to 1) describe patterns of specialty choice; 2) investigate relationships between career selection and selected demographic indicators; and 3) identify salary perception, factors that influence career choice in primary care, and factors that influence desired location of future medical practice.

METHODS AND MATERIALS

Design and sample

The study used a mixed-methods approach that included a cross-sectional questionnaire survey applied to 234 last-year medical students from Universidad Nacional Autónoma de Honduras (UNAH) (Tegucigalpa); Universidad Católica de Honduras (officially the Universidad Católica de Honduras Nuestra Señora Reina de la Paz or "UNICAH") (Tegucigalpa); and Escuela Latinoamericana de Medicina (ELAM) (Havana)[3] during September 2014, and semi-structured interviews with eight key informants during October 2014. Subjects were identified during their training prior to the beginning of social service, a one-year rural practice required for graduation.

Study setting

Honduras is among the five countries with the lowest density of human resources in health in the Americas region (15). In 2008 there were 6 792 physicians (8.8 per 10 000 population) and only five FPs (0.073% of the total workforce) (16). In 2012 the Secretary of Health reported a GP-to-specialist ratio of 1:0.8.[4] This trend could change if the current annual growth in specialists continues (4.5% versus 2.9% for GPs) (17). Undergraduate medical education encompasses eight years, including social service.

Survey questionnaire

The questionnaire was adapted from a survey developed by the University of Alberta (Edmonton, Alberta, Canada) and translated into Spanish. It addressed four areas: 1) demographic information, 2) preferred specialties, 3) perceptions of salaries, and 4) factors influencing specialty choice. Students rated each of 26 factors using a modified Likert scale ranging from 1 ("very unimportant") to 5 ("very important"). The list of medical career choices was adapted from the list used by the Canadian Resident Matching Service (CaRMS) (Ottawa, Ontario); the developers of the FutureDocs Forecasting Tool[5]; and the Colegio Médico de Honduras (CMH) (Tegucigalpa). The survey was conducted at the School of Medicine at UNAH. The investigators obtained written consent, and all questionnaires were anonymous.

[3] Honduran students returning to their country after completing medical training at ELAM.

[4] FPs are considered specialists; GPs are not.

[5] Workforce model (https://www2.shepscenter.unc.edu/workforce/index.php) developed by The Physicians Foundation (Columbia, SC) and the Cecil G. Sheps Center for Health Services Research at The University of North Carolina–Chapel Hill.

Interviews

The sample included eight key informants: a national authority on human resources for health (HRH), a dean of a medical school, a faculty member, two medical students, a family physician, a pediatrician, and a clinical specialist. The topics included 1) patterns of specialty choice, 2) factors that influence career choice, and 3) location of future medical practice, distributed in 10 open-ended questions. Subjects were contacted in person or by phone to request their participation. Interviews lasted 20–25 minutes. The principal investigator (EBP) obtained written consent at the time of the face-to-face interviews. Interviews were audiotaped and transcribed verbatim in Spanish and later converted into English. The interview data were cleaned and uploaded into ATLAS.ti 1.0.50 (ATLAS.ti Scientific Software Development GmbH, Berlin, Germany). To maintain confidentiality, each subject was given a numeric identifier.

Approval for the study was obtained through the institutional review board (IRB) at the University of North Carolina at Chapel Hill, and through the IRB at UNAH.

Data analysis

Frequency distributions and percentages were calculated; the statistical analysis included a chi-square test to assess relationships between two categorical variables belonging to a nominal or ordinal scale. An alpha level of 0.05 was used to determine statistical significance. Because many of these characteristics were correlated, the investigators conducted factor analysis to aggregate the effects into domains that influence career choice. Statistical analysis was performed using SPSS® Statistics version 19 (IBM Corp., Armonk, New York, United States). For the interviews, 30 different codes were used to classify the data during the first analysis. During the second review, several codes were associated with each other and five major themes emerged. The researchers used a concurrent triangulation strategy, collecting quantitative and qualitative data concurrently and then comparing the two databases to confirm, disconfirm, cross-validate, or corroborate the information (18).

RESULTS

The number of completed surveys was 234, which represented 84.5% of the total number of applicants for social service for that period, and 93.9% of those present at the time of the survey. More than half of the participants were older than 25 years (139, 59.4%). The number of female participants (148) was almost twice that of male participants (80). Most of the respondents considered themselves to be of mestizo origin (205, 87.6%) and this trend did not differ between males and females. Most of the students were single (190, 81.2%), with no children (196, 84%). The majority of those surveyed came from urban areas (214, 92%), and 35 (15%) had a parent who was a medical doctor—in most cases (26, 74%), the father.

The semi-structured interviews were conducted with a total of eight individuals with diverse backgrounds (national and academic authorities, faculty members, medical students, primary care physicians, and specialists). Five major themes emerged: 1) extrinsic and intrinsic factors affecting career choice; 2) promotion of primary care practice; 3) future practice location; 4) perception of specialties the country needs; 5) specialties medical students are prone to choose.

Preferred specialties

The most likely specialties identified by the survey participants were gynecology/obstetrics (23, 9.8%); surgery (21, 9%); psychiatry (20, 8.5%); internal medicine (19, 8.1%); and pediatrics (16, 6.8%). Two participants (0.9%) selected family medicine as their most likely specialty (one chose public health (0.4%), and one chose tropical and infectious diseases (0.4%)). None of those surveyed selected general practice as their preferred choice. Only 20.5% students said they considered the preferred choice they cited in the survey as their final choice. Specialties were recoded into four categories: 1) primary care; 2) emergency medicine; 3) surgery; and 4) medical. Primary care specialties included family medicine, general practice, pediatrics, and public health. Of the 234 respondents, 19 (8.1%) selected primary care specialties (Figure 1).

The researchers applied chi-square to test for homogeneity and independence of variables. The relationship between sex and specialty categories was statistically significant ($P = 0.011$) as well as the relationship between setting background (location/area where student lived prior to university) and specialty categories ($P = 0.042$) (Table 1).

Men showed more preference for surgical (42.5%) and primary care specialties (8.8%). More respondents from urban backgrounds preferred medical (62.6%) and primary care specialties (7.9%), while participants from rural backgrounds preferred surgical specialties (42.1%). Only 1.3% of respondents who chose primary care specialties were completely sure of their choice, compared to 19.2% of participants who selected other specialties.

Most of the interviewees said the country needed primary care physicians, including FPs. For the medical students interviewed, family medicine was not a priority. Informants emphasized the importance of a family medicine program as an essential requisite to promote primary care. When asked about the specialties that medical students were inclined to choose, all key informants mentioned at least three of the four basic categories.

Salary perception

The mean annual-expected income among survey participants was US$ 34 857 (median, US$ 33 882). The median annual-expected income of primary care specialties (US$ 28 236) was almost 17% lower than the median expected income of other specialties. A total of 40% of female respondents thought the salary of a GP was less than US$ 1 400, compared to 19.5% of male respondents. The perceived monthly salary of specialties other than primary care was significantly higher than those of GPs, FPs, and pediatricians ($P < 0.001$). Most of the interviewees said they thought clinical and surgical specialists had a higher income than public health or primary care physicians.

Factors influencing preferred career choice

Participants considered "making a positive difference in people's lives" (43, 23.5%), income potential (24, 13.1%), opportunity to teach (12, 6.6%), perceived prestige (10, 5.5%), and opportunity to work on highly challenging cases

FIGURE 1. Preferred career choice of medical students in social service, by specialty category (primary care (PC), emergency medicine, surgery, and medical), Honduras, September 2014

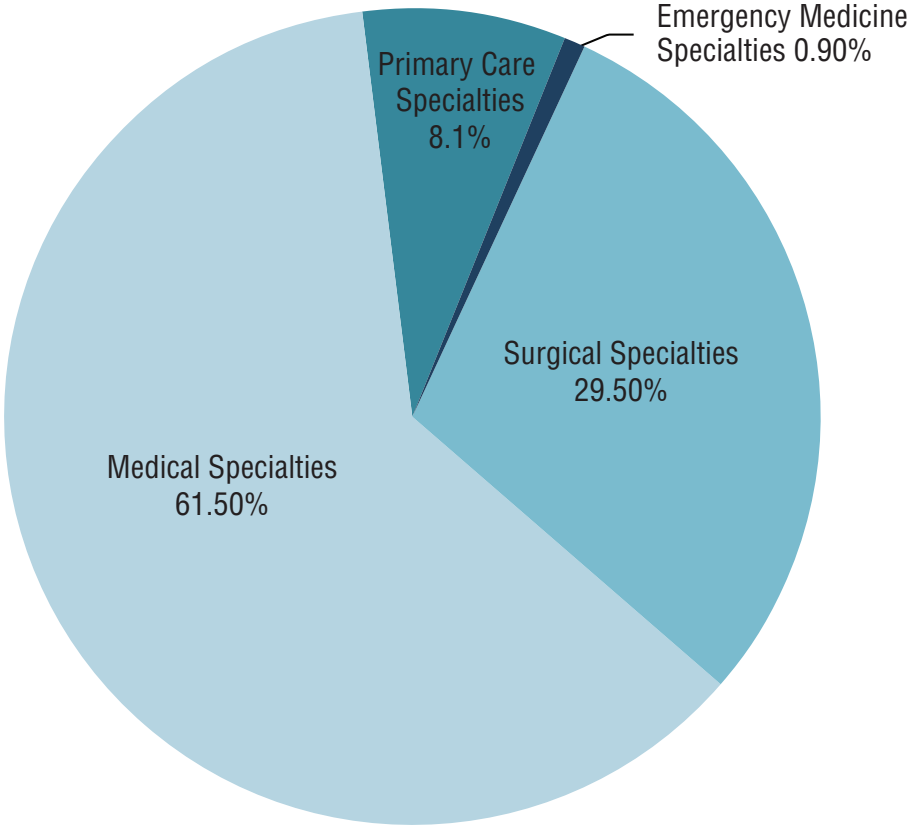


TABLE 1. Characteristics of respondents in study of factors influencing medical students' career choice, by preferred specialty category, Honduras, September 2014

Characteristic	Specialty category				
	Primary care No. (%) (*n* = 19)	Emergency medicine No. (%) (*n* = 2)	Surgery No. (%) (*n* = 69)	Medical No. (%) (*n* = 144)	Total No. (%) (*n* = 234)
Age (years)					
≤ 25	7 (7.4)	1 (1.1)	29 (30.5)	58 (61.5)	95 (100.0)
> 25	12 (8.6)	1 (0.7)	40 (28.8)	86 (61.9)	139 (100.0)
Total	19 (8.1)	2 (0.9)	69 (29.5)	144 (61.5)	234 (100.0)
Sex[a]					
Male	7 (8.8)	0 (0.0)	34 (42.5)	39 (48.8)	80 (100.0)
Female	11 (7.4)	2 (1.4)	34 (23.0)	101 (68.2)	148 (100.0)
No answer	1 (16.7)	0 (0.0)	1 (16.7)	4 (66.7)	6 (100.0)
Total	19 (8.1)	2 (0.9)	69 (29.5)	144 (61.5)	234 (100.0)
Race					
White	2 (8.0)	0 (0.0)	6 (24.0)	17 (68.0)	25 (100.0)
Mestizo	16 (7.8)	2 (1.0)	62 (30.2)	125 (61.0)	205 (100.0)
Afro-descendant	1 (50.0)	0 (0.0)	0 (0.0)	1 (50.0)	2 (100.0)
Indigenous group	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (100.0)
Other	0 (0.0)	0 (0.0)	1 (50.0)	1 (50.0)	2 (100.0)
Total	19 (8.1)	2 (0.9)	69 (29.5)	144 (61.5)	234 (100.0)
Marital status					
Single	17 (8.9)	2 (1.1)	55 (28.9)	116 (61.1)	190 (100.0)
Married/common law	2 (4.9)	0 (0.0)	13 (31.7)	26 (63.4)	41 (100.0)
Separated / divorced / widowed	0 (0.0)	0 (0.0)	1 (33.3)	2 (66.7)	3 (100.0)
Total	19 (8.1)	2 (0.9)	69 (29.5)	144 (61.5)	234 (100.0)
Location / area where student lived prior to university[a]					
Urban	17 (7.9)	2 (0.9)	61 (28.5)	134 (62.6)	214 (100.0)
Rural	1 (5.3)	0 (0.0)	8 (42.1)	10 (52.6)	19 (100.0)
No answer	1 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (100.0)
Total	19 (8.1)	2 (0.9)	69 (29.5)	144 (61.5)	234 (100.0)
Parent works as physician					
Yes	2 (5.7)	0 (0.0)	10 (28.6)	23 (65.7)	35 (100.0)
No	17 (8.5)	2 (1.0)	59 (29.6)	121 (60.8)	199 (100.0)
Total	19 (8.1)	2 (0.9)	69 (29.5)	144 (61.5)	234 (100.0)

[a] Statistically significant ($P < 0.05$).

(10, 5.5%) the most important factors influencing career choice.

One factor was significantly associated with a preference for primary care specialties compared to all other specialties combined: emphasis on practice in ambulatory settings (88.9% versus 63.3%, $P = < 0.05$). When all categories were compared, preference for working in a rural community (52.6%, $P = 0.008$); opportunity for research (89.5%, $P = 0.016$); ability to master a small set of skills and be the "expert" (84.2%, $P = 0.046$); emphasis on practice in ambulatory settings (88.9%, $P = 0.044$); and development of long-term relationships with patients (94.7%, $P = 0.05$) were significantly associated with the decision to go into primary care specialties (Table 2).

The investigators applied factor analysis using the principal component method, and analyzed the factors that were used for the bivariate logistic regression analysis. Logistic regression analysis found that factors related to patient-based care were statistically significant for selecting primary care ($P = 0.006$), with an odds ratio of 1.88.

There was a generalized perception that medical training prioritizes hospital care, and that it influences a non–primary care career choice. One informant associated the problem with "the curricula, the faculty, and the health care provider orientation—all of them promoting a curative approach." Another factor was the type of experiences medical students had during their training. As most of the experiences were related to hospital care, students were inclined to choose clinical or surgical specialties. Having an early exposure to a specialty also influenced career decision. The lack of role models and primary care physicians among the faculty limited the possibilities of exposure to primary care.

Most of the interviewees said there was an economic factor involved in specialty choice, and a materialistic approach to making a career decision. They also said that the majority of students enter medical school "to improve their social status or their economic position." According to the interviewees, when faced with specialty choice, students ask themselves, "In which [specialty] will I

TABLE 2. Factors influencing medical students' career choice, by specialty category, Honduras, September 2014

Factor	Specialty category						
	Primary care No. (%) (*n* = 19)	Emergency medicine No. (%) (*n* = 2)	Surgery No. (%) (*n* = 69)	Medical No. (%) (*n* = 144)	All specialties combined No. (%) (*n* = 215)	All specialties compared (*P*)	Primary care specialties compared with all other specialties combined (*P*)
Income potential	14 (73.7)	2 (100.0)	51 (73.9)	103 (71.5)	156 (72.6)	0.823	0.916
Perceived prestige	14 (73.7)	1 (50.0)	55 (79.7)	103 (71.5)	159 (74.0)	0.528	0.980
Opportunity to teach	16 (84.2)	1 (50.0)	51 (73.9)	116 (80.6)	168 (78.1)	0.465	0.536
Preference for working in rural community	10 (52.6)	1 (50.0)	13 (18.8)	56 (38.9)	70 (32.6)	0.008[a]	0.077
Preference for working in urban center	12 (63.2)	1 (50.0)	46 (67.6)	102 (70.8)	149 (69.6)	0.819	0.559
Influence of family, friends, community	9 (47.4)	0 (0.0)	22 (31.9)	59 (41.5)	81 (38.0)	0.296	0.423
"Making a positive difference in people's lives"	17 (89.5)	2 (100.0)	61 (88.4)	136 (95.1)	199 (93.0)	0.314	0.572
Perceived intellectual content of discipline	17 (89.5)	1 (50.0)	63 (91.3)	133 (92.4)	197 (91.6)	0.200	0.747
Opportunity for research	17 (89.5)	0 (0.0)	55 (79.7)	120 (83.3)	175 (81.4)	0.016[a]	0.379
Opportunity to work on challenging cases	18 (94.7)	2 (100.0)	62 (89.9)	131 (91.6)	195 (91.1)	0.879	0.590
Opportunity to work on acute medical problems	18 (94.7)	2 (100.0)	59 (85.5)	132 (91.7)	193 (89.8)	0.437	0.486
Emphasis on continuity of care	17 (89.5)	2 (100.0)	61 (88.4)	135 (94.4)	198 (92.5)	0.434	0.633
Opportunity to deal with a variety of medical problems	17 (89.5)	1 (50.0)	61 (88.4)	131 (91.0)	193 (89.8)	0.283	0.968
Early exposure to the discipline	15 (78.9)	1 (50.0)	56 (82.4)	117 (81.3)	174 (81.3)	0.707	0.801
Opportunity to work with people with limited access to health care	15 (83.3)	1 (50.0)	50 (72.5)	124 (86.1)	175 (81.4)	0.068	0.839
Length of residency	11 (57.9)	1 (50.0)	41 (60.3)	82 (57.3)	124 (58.2)	0.974	0.978
Ability to use a wide range of skills and knowledge in patient care	19 (100.0)	2 (100.0)	68 (98.6)	127 (89.4)	197 (92.5)	0.052	0.216
Ability to master a small set of skills and be the "expert"	16 (84.2)	0 (0.0)	51 (73.9)	94 (65.7)	145 (67.8)	0.046[a]	0.137
Positive interaction with a clinician/teacher of this specialty	17 (89.5)	1 (50.0)	57 (83.8)	116 (81.1)	174 (81.7)	0.503	0.394
Current debt load to study medicine	9 (47.4)	1 (50.0)	17 (25.0)	51 (35.4)	69 (32.2)	0.228	0.181
More leisure time	5 (26.3)	0 (0.0)	10 (14.5)	21 (14.6)	31 (14.4)	0.528	0.168
Opportunities to practice with professional independence	17 (89.5)	1 (50.0)	60 (87.0)	123 (85.4)	184 (85.6)	0.490	0.640
Emphasizes practice in ambulatory settings	16 (88.9)	1 (50.0)	38 (55.1)	97 (67.4)	136 (63.3)	0.044[a]	0.028[a]
Predictable work hours	12 (63.2)	0 (0.0)	39 (56.5)	104 (72.2)	143 (66.5)	0.026[a]	0.767
Provides an opportunity to enjoy life outside of work	10 (52.6)	1 (50.0)	45 (66.2)	110 (76.4)	156 (72.9)	0.095	0.061
Development of long-term relationships with patients	18 (94.7)	1 (50.0)	50 (72.5)	121 (84.0)	172 (80.0)	0.05[a]	0.115

[a] Statistically significant ($P < 0.05$).

invest less time and receive more benefits?" One informant did not consider salary an important factor because salaries for employed physicians were established by norms and regulations, and the difference in income between employed primary care physicians and clinical and surgical specialists was minimal.

Students were prone to choosing the specialty that offers more options to get a job in the future. One informant pointed out the problem of unemployment among physicians in Honduras, and how it affected career decision, resulting in graduates' focus on finding a job wherever work was available: "Medical students choose to go where there is work; it does not matter if it is in an urban or in a rural setting."

Specialty availability was also considered a factor that influenced career choice. Interviewees said that students choose a career depending on the availability of positions, even if the specialty is not their first choice. The resources needed for a specialty

could be an influential factor, as some specialties require sophisticated equipment and complex facilities, while others can be practiced anywhere with some basic equipment and facilities. Most of the informants said the prestige of a specialty was also an important factor. Some said medical students consider a primary care practice a demotion ("…[I]t is like being downgraded as health professionals"). Only one key informant included debt as a factor that influenced specialty choice in Honduras. Violence could be a barrier when choosing a specialty that implied community-related work. Students were afraid to practice in certain locations for fear of violence.

Factors influencing desired location of future medical practice

Interviewees were unanimous in their assertion that medical students in Honduras preferred urban settings for their future practice location. Reasons cited for this preference included better access to basic services, including health care; opportunities to grow; economic benefit; better education for their children; cultural activities; and comfort. Some key informants cited the lack of incentives to practice in remote areas, including the fact that physicians earned the same whether they practiced in rural or urban settings, as a barrier. Interviewees agreed that there should be "… special economic incentives for professionals who want to practice primary care in rural areas."

DISCUSSION

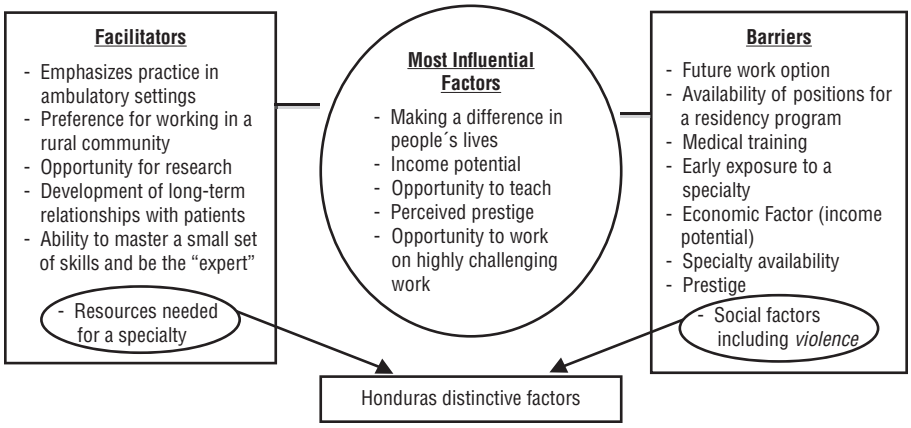
Primary care careers do not attract attention as first choice of specialty. Interest in primary care careers among those surveyed in this study (8.1%) was lower than what has been reported in studies conducted elsewhere (2, 19–23). Final choice of a primary care specialty could be even lower, as only 1.3% of respondents who cited a primary care career as a possibility were completely sure they would make that choice. This uncertainty leaves room for actions to be taken to motivate students toward primary care careers. The study reaffirms known trends governing student career choice in primary care. It also contradicts previous findings about the importance of some factors, such as the opportunity for research, and the ability to master a small set of skills and be the expert (24–26), which were, in this study, considered more relevant to medical and surgical specialties. There are several factors distinctive to medical students in Honduras (most of them barriers to primary care career choice), including: future work option, availability of positions for a residency program, and violence. One facilitator for the selection of a primary care specialty in Honduras is the lower level of resources needed to practice it (Figure 2). Although this study found that men preferred primary care, most previous studies found a female predominance in primary care careers as preferred choice (11, 20, 24, 27–30).

Choice of medical specialty appears to be based on a combination of ambition and prestige on one hand, and on personal and altruistic considerations on the other. In Honduras, current social and economic conditions place income as a significant determinant in career and specialty choice. Perceived prestige of a specialty is an influential factor for medical students, who consider practicing primary care a demotion. This is consistent with evidence found elsewhere (12, 24, 31, 32). This determinant could be even more significant in an unequal society such as Honduras, where name, social position, and prestige play an important role in every aspect of life.

Qualitative data suggest that medical training and type of experiences during it are influential determinants of specialty choice. Debt is not an influential factor in Honduras, because applicants accepted in a residency program receive a state scholarship. Future work option is considered a factor, as unemployment or subemployment is high in Honduras. The small number of openings for residency programs in most specialties limits the possibilities of being accepted in the selected program, so medical students choose a career depending on the number and availability of positions. This is a barrier to selecting primary care careers, as Honduras does not offer a family medicine specialty, and positions for other primary care specialties are limited. For students in a poor country such as Honduras, resources needed to practice a specialty could facilitate the selection of primary care careers, because primary care does not require sophisticated equipment or complex facilities. However, this "simplicity" could discourage students who wish to pursue more technology-dependent work in medicine. Violence could be a barrier in a country with one of the highest rates of homicide in the world. Medical students are aware of the risks involved in working in certain communities or neighborhoods. Practicing in a hospital, where there are guards or some type of control at entry points, is safer; hospitals are located in urban areas, and physicians are not alone, as is often the case in a rural health post.

The survey respondents overestimated annual salaries for GPs and specialists early in their career in Honduras by almost twofold (US$ 28 236 versus US$ 16 128 and US$ 33 888 versus US$ 19 100 respectively). These findings are consistent with the interview data, which suggest that students aspire to become physicians to obtain economic benefits and climb the social scale. Most of the respondents said they believed that non–primary care doctors earn more than primary care physicians— results

FIGURE 2. Factors in medical students' choice of primary care as a career, Honduras, September 2014



that were supported by the opinions of the key informants. However, the income difference between specialists and GPs is only US$ 248 per month, almost half the amount perceived by the survey respondents. Honduras is a unique case in Latin America, where salaries for specialists are usually much higher. However, regardless of the reality, if students perceive salaries to be much higher for medical and surgical specialties compared to primary care careers, they will continue favoring those specialties.

The fact that the majority of participants come from urban settings reflects a trend in Honduras and most countries in the Americas region. The introduction of the admission test at UNAH could further decrease the number of medical students from rural areas admitted into medical school, given the poor education standards in those areas, which would exacerbate the shortage of physicians working in rural areas. Medical students prefer urban settings for future practice location because of better access to basic services. The lack of incentives, and social factors such as poverty and violence, also influence the decision. Urban hospitals are a desirable practice location because they have basic services and physicians have the support of other health care professionals. Practitioners receive a geographic location bonus equivalent to 25% of the monthly salary when they are required to work in rural or remote areas. However, this economic incentive is, apparently, not enough to motivate physicians to consider a future medical practice in these areas.

Limitations

This study had some limitations. First, the study findings might not be generalizable to all undergraduate students because 1) the study sample was limited to a specific group of students and 2) the survey was cross-sectional. In addition, the questionnaire measured students' "preferred" career choice rather than their "actual" choice. Second, the small number of respondents who said they preferred primary care and emergency medicine specialties limited the possibility of further analysis. Third, interviews were recorded in Spanish and translated into English, so some of the content could have lost some of its original meaning. Finally, the principal investigator (EBP) conducted all of the interviews, and bias might have been introduced into the results. However, the nature of the questions, the relatively short length of the interviews, and the immediate transcription of the results should have helped reduce any bias.

Future research

A follow-up study of the same cohort of students used in this study, who completed their social service in September 2015, could be carried out to confirm the findings of this research or identify different facilitators or barriers for primary care career choice. Researchers should follow any prospective cohort over their entire medical training and measure changes from initial career preferences to final selection of residency.

CONCLUSIONS

Most factors that influence primary care career choice are similar to those found in the literature. There are several factors distinctive to medical students in Honduras—most of them barriers to primary care choice. Medical schools need to incorporate a primary care approach in students' curricula, early on, emphasizing generalism, and providing opportunities for rural and ambulatory practice. The mandatory social service program gives students the opportunity to experience ambulatory settings, which could motivate some graduates to select primary care careers. A family medicine program would provide students with the opportunity to experience a specialty that is not yet available in the country. It would also provide a cohort of much-needed mentors and tutors to the UNAH School of Medicine. The government should re-orient its national scholarship program to include primary care careers, focusing on candidates from ethnic minorities and/or rural districts. The Secretary of Health should establish an innovative incentive system to promote hiring or relocation of primary care practitioners in rural areas. The incentives should include not only economic benefits but also options for personal and professional development. The Secretary of Health has the capacity to influence academic institutions to train primary care health professionals and thus can influence physician supply.

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RESUMEN

Factores que influyen en la elección de especialidades de atención primaria por los estudiantes de medicina que comienzan el servicio social en Honduras

Objetivo. El objetivo del estudio fue: 1) describir los modelos de elección del área de especialidad; 2) investigar las relaciones entre la elección de carrera y algunos indicadores demográficos seleccionados, y 3) establecer otros elementos como el sueldo esperado, factores que influyen en la elección de carrera en atención primaria y factores que influyen en la localización deseada para la práctica médica futura.

Métodos. En el estudio se utilizó un enfoque metodológico mixto que incluyó una encuesta transversal mediante un cuestionario que respondieron 234 estudiantes del último año de la carrera de medicina en Honduras (septiembre del 2014) y entrevistas semiestructuradas a ocho informantes clave (octubre del 2014). El análisis estadístico incluyó la prueba de ji cuadrada y el análisis factorial. Para determinar la significación estadística, se utilizó usó un nivel de alfa de 0,05.

Resultados. En el análisis cualitativo, varios códigos se asociaron entre sí y surgieron cinco temas principales. Las carreras de atención primaria fueron la elección preferida por el 8,1% de los estudiantes que preferían los entornos urbanos para su práctica futura. El sueldo esperado en las especialidades diferentes de la atención primaria fue significativamente mayor que el sueldo esperado en especialidades como médico general, médico de familia y pediatra ($P < 0,001$). Los participantes consideraron que los factores que más influían en su elección de carrera eran: "marcar la diferencia", los ingresos, la enseñanza, el prestigio y el trabajo estimulante. La práctica en entornos ambulatorios se asoció significativamente con la preferencia por las áreas de especialidad de la atención primaria ($P = < 0,05$). En el análisis de regresión logística se observó que los factores relacionados con la atención centrada en el paciente fueron estadísticamente significativos para la elección de la atención primaria ($P = 0,006$). El análisis cualitativo respaldó aún más los resultados de la encuesta y determinó otros factores que influyen en la elección de carrera (opciones de trabajo futuras, posibilidad de puestos de médico residente y factores sociales, incluida la violencia). Aparentemente, las razones para la preferencia de una especialidad se basaban en una combinación de ambición y prestigio, y en consideraciones personales y altruistas.

Conclusiones. La mayor parte de los factores que influyen en la elección de especialidades de atención primaria detectados son similares a los que figuran en la bibliografía. Hay varios factores distintivos en relación con los estudiantes de medicina hondureños, que en su mayor parte son obstáculos para la elección de especialidades de atención primaria.

Palabras clave Estudiantes del área de la salud; atención primaria de salud; selección de profesión; recursos humanos; Honduras; Américas.