

Title: Evaluating Emergency Medicine Physicians' Knowledge, Attitudes and Experiences of FARC Ex-combatants: a pilot study of Colombia's emergency medicine teaching hospitals

Running Title: Colombian EM Physician Experiences with FARC

Authors:

Mr. Christopher W. Reynolds*, BS, University of Michigan, 1500 E Medical Center Dr., Ann Arbor, MI 48109, USA, chriswreynolds18@gmail.com, 302-377-9925

Dr. Leonar G. Aguiar*, MD, Pontificia Universidad Javeriana, Hospital Universitario San Ignacio, Cra. 7 #No. 40 - 62, Bogotá, Colombia, lgaguiar@husi.org.co

Dr. Katelyn Moretti, MD, Brown Emergency Medicine, 125 Whipple St #3rd, Providence, RI 02908, katelyn_moretti@brown.edu

Dr. Andres Duarte, MD, Pontificia Universidad Javeriana, Cra. 7 #No. 40 - 62, Bogotá, Colombia, aduarte@javeriana.edu.co

Dr. Fabián Andrés Rosas Romero, MD, Fundación Santa Fe de Bogotá, Carrera 7 No. 117 – 15, andresrosasmd@gmail.com

Dr. Andres Patiño, MD, Emory University School of Medicine, 550 Peachtree St. NE, Atlanta, GA 30308, USA, andresptn1@gmail.com

Ms. Adrienne Fricke, JD, Harvard Humanitarian Initiative, 14 Story Street, Cambridge, MA 02138, USA, africke@hsph.harvard.edu

Dr. Virginia Zarama, MD, Fundación Valle de Lili, Carrera 98 # 18-49, Cali, Valle del Cauca, Colombia, vzarama@icesi.edu.co

Dr. Atilio Moreno, MD, Pontificia Universidad Javeriana, Hospital Universitario San Ignacio, Cra. 7 #40-62, Bogotá, Colombia, atilio.moreno@javeriana.edu.co

Dr. Heidycarranza, MD, Pontificia Universidad Javeriana, Cra. 7 #No. 40 - 62, Bogotá, Colombia, heidycarranza97@gmail.com

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Dr. Christian Arbelaez, MD, MPH, Brown Emergency Medicine, 125 Whipple St #3rd,
Providence, RI 02908, USA, christian_arbelaez@brown.edu, 617-816-0310

*co-first authorship, these authors contributed equally to the manuscript.

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ABSTRACT

Objectives: In the 2016 Peace Accord with the *Fuerzas Armadas Revolucionarias de Colombia* (FARC), Colombia promised to reincorporate 14,000 ex-combatants into the healthcare system. However, FARC ex-combatants have faced significant challenges in receiving healthcare, and little is known about physicians' abilities to address this population's healthcare needs.

Methods: An electronic questionnaire sent to the Colombian Emergency Medicine professional society and teaching hospitals assessed physicians' knowledge, attitudes, and experiences with the FARC ex-combatant reincorporation process.

Results: Among 53 participants, most were male (60.4%), and approximately a quarter were affected by the FARC conflict (22.6%). Overall knowledge of FARC reincorporation was low, with nearly two-thirds of participants (61.6%) scoring in the lowest category. Attitudes around ex-combatants showed low bias. Few providers received training about reincorporation (7.5%), but 83% indicated they would like such training. Twenty-two participants (41.5%) had identified a patient as an ex-combatant in the healthcare setting. Higher knowledge scores were significantly correlated with training about reincorporation ($r = 0.354$, $N = 53$, $p = 0.015$), and experience identifying patients as ex-combatants ($r = 0.356$, $N = 47$, $p = 0.014$).

Conclusion: Findings suggested high interest in training and low knowledge of the reincorporation process. Most physicians had low bias, frequent experiences with ex-combatants, and cared for these patients when they self-identify. The emergency department serves as an entrance into healthcare for this population and a potential setting for interventions to improve care delivery, especially those related to mental healthcare. Future studies could evaluate effects of care delivery following training on ex-combatant healthcare reintegration.

KEYWORDS

Global health; public health; armed conflict; bias, health knowledge, attitudes and practices.

INTRODUCTION

As more countries exit periods of complex conflict, the application of effective models to maintain peace are increasingly important, including successfully proven practices to reintegrate ex-combatant populations.¹ Many countries, including Sierra Leone, Afghanistan, Peru and Liberia have demonstrated that successful reintegration of ex-combatants depends heavily on their healthcare access.¹ Consequently, the United Nations has prioritized access to healthcare for ex-combatants as an essential component in the implementation of plans for Disarmament, Demobilization, and Reintegration.¹ In November 2016, Colombia and the FARC (*Fuerzas Armadas Revolucionarias de Colombia*) signed a peace agreement, ending a 53-year conflict, and promising to reincorporate approximately 14,000 FARC ex-combatants.²

Through the peace agreement, FARC ex-combatants were guaranteed access to healthcare through a government subsidized health insurance provider, and the establishment of temporary health centers in rural communities.^{3,4} According to their health insurance provider, 1,499 emergency department (ED) visits were made by affiliated FARC ex-combatants in 2017, making the ED the second most common healthcare access point and an important setting for FARC reincorporation in healthcare.⁵ However, only one-fourth of FARC ex-combatants accessed the healthcare system in 2017,⁵ despite estimates that this population would have specialized healthcare needs, alongside high rates of chronic conditions, mental health needs, and pregnancy following demobilization.⁶ There is a lack of research examining the potential healthcare barriers that prevent FARC ex-combatants from accessing healthcare services, and none have evaluated aspects of FARC ex-combatant reincorporation from the perspective of the providers caring for them. There are isolated examples of physician bias hindering healthcare access for FARC,⁷ and substantial research

has demonstrated that health professionals' biases can negatively affect healthcare outcomes for vulnerable populations.⁸

Because the emergency department is a common entry point for ex-combatants into the healthcare system, understanding EM physicians' knowledge, biases, and experiences with FARC can be helpful in evaluating potential provider barriers. This study aimed to determine Colombian EM physicians': i) knowledge of FARC healthcare reincorporation, ii) biases towards FARC ex-combatants, and iii) experiences with ex-combatant populations in the ED.

METHODS

Study Design and Validation

To determine Colombian physicians' knowledge, attitudes, and experiences regarding the FARC reincorporation process, a 51-item, cross-sectional, mixed-methods questionnaire was developed and validated. At first, a literature review of validated surveys was conducted to create a question bank of 120 items. A panel of context experts, consisting of 4 Colombian and US Emergency Medicine (EM) physicians, a post-conflict researcher, and a Colombian medical student, reduced the questionnaire to 72 questions. Six focus groups of 3-5 Colombian EM physicians clarified content, language, and flow to correlate with the study's objectives. Following these focus groups and a pilot test, the final questionnaire consisted of 51 multiple choice items, with optional sections for write-in qualitative responses to expand on certain quantitative answers. The survey was collected and managed using REDCap electronic data capture tools hosted at [Pontificia Universidad Javeriana, Bogotá]. The final version was written in Spanish and included 5 questions designed to test internal reliability.

Survey characteristics

The questionnaire contained four sections: demographics, knowledge, attitudes, and experiences. The knowledge section consisted of 9 multiple choice questions with 3-5

response options. One question was a write-in response. A 12-point knowledge scale was developed to compute each participant's overall knowledge score. A correct response to a multiple-choice question was assigned 1 point. An incorrect and lack of response was assigned 0 points. The write-in responses could earn up to three points. The attitudes section contained 13 questions which used a 5-measure Likert scale. Questions included attitudes towards FARC, from personal, patient, and colleague perspectives, and overall impressions of the Colombian health system. The experiences section contained 18 questions determining physicians' experiences with FARC reincorporation, identifying patients as FARC while delivering care, and directing FARC ex-combatants to social services. Most questions when answered affirmatively asked follow-ups using skip logic to solicit more details (Appendix 1).

Setting, Participants, and Data Collection

The Institutional Review Board at Pontificia Universidad Javeriana, Bogotá approved this project. The study participants were Emergency Medicine residents, specialists, and other physicians working in the 8 urban EM teaching hospitals in Colombia. These institutions were selected as study sites due to the high concentration of EM specialists at these hospitals, compared with the rest of the country. The survey was electronically distributed to the 246-physician member listserv of the *Asociación Colombiana de Especialistas en Medicina de Urgencias y Emergencias* (ACEM), the Colombian EM professional society. Electronic consent was obtained prior to survey access. The survey was sent on January 21, 2019 and was active for 3 months until April 1, 2019.

Analysis

Data was collected in REDCap [Pontificia Universidad Javeriana, Bogotá], translated from Spanish to English, cleaned in Excel, and analyzed in SPSS Statistics 25 with institutional permission. Total knowledge scores were categorized as low (0-3), medium (4-8), or high (9-

12), with a maximum score of 12. Likert scale questions determining attitudes were analyzed for frequency, and explicit bias scores were calculated from 4 of the Likert scale questions.

Figure 2 shows the 4 attitude questions which contributed to explicit bias scores, indicated by bolding and a star. Responses to these questions were assigned values of +1 (agree/disagree) or +2 (strongly agree/strongly disagree) for negative bias, and 0 for neutral or positive bias. Bias scores were divided into 4 categories: no bias (0), low (1-3), medium (4-6), and high (7-8), which served to sort bias according to frequency (number of biased responses) and absolute value of biased responses (how often strongly agree/strongly disagree was selected). As appropriate, the point biserial test, Pearson's chi-squared or two-sided Fisher's Exact Test determined correlations between experiences with knowledge and explicit bias scores, with a P value of less than 0.05 considered significant.

RESULTS

Demographics

Of the 246 eligible members, 61 participated in the study for a response rate of 24.8%. Of the 61, 8 were excluded for being incomplete defined as less than 50% of the questions answered. Of the 53 study participants, the average age was 35 years (SD=7.28), with an average 11.1 years of experience practicing medicine (Table 1). Two-thirds of participants practiced medicine in the capital of Bogotá, but 11 different cities across 9 departments were represented. All participants practiced medicine in an urban setting. Nearly every hospital was reported as "high-level," referring to a tertiary center (98.1%). Almost every respondent (92.5%) participated in the rural year of service (*Servicio Social*) following graduation from medical school, and more than half (56.6%) had been placed in a conflict zone. Older physicians were significantly more likely to report completing the *Servicio Social* in a conflict zone ($r = 0.332, n = 49, p = 0.02$). Approximately one-quarter (22.6%) reported

being directly affected by the FARC conflict either physically (n=1), psychologically (n=9), or morally including in ethical decision making (n=6). This number doubled when asking about family or friends affected by the conflict (49.1%). Participants reported having received threats (30.2%) from urban gangs, FARC, and paramilitaries; as well as personal or familial displacement due to illegal armed groups, at 13.2% and 35.8%, respectively.

Knowledge

The majority of participants (61.6%) displayed low knowledge, with 15% (n=7) answering 0 questions correctly. The overall sample average score was 3, which was considered low knowledge (Figure 1). Only 2 respondents displayed high knowledge, and none achieved the maximum knowledge score. Only one-third (34%) of participants knew how to refer ex-combatants for mental healthcare, and 64% did not know how to explain to an ex-combatant how to use their health insurance, nor did they know anyone at their institution who could. Having received medical or psychosocial training about ex-combatant reincorporation was significantly correlated with knowledge that the FARC health insurance regiment was government subsidized ($p = 0.035$, $n = 4$, FET) and where to direct an ex-combatant with psychological needs ($p = 0.035$, $n = 4$, FET). Having identified a patient as an ex-combatant was significantly correlated with the knowledge of ex-combatant health insurance plans, $X^2(1, N = 47) = 6.01$, $p = 0.014$, and percentage of chronic medical problems of this population ($p = 0.05$, $n = 3$, FET).

Attitudes

Low explicit bias scores were calculated, with two-thirds of participants registering no explicit bias, two respondents registering medium bias, and zero participants categorized as high bias.

Participant attitudes distinguished between FARC ex-combatants as patients in need of care, and the actions of the armed guerrilla group. For example, 96% affirmed that FARC have the

same right to healthcare as other Colombian citizens, and 91% would like to care for an ex-combatant in their institution. However, 70% expressed negative opinions towards FARC guerrillas during the conflict, referring to them as “terrorists,” “abusers of human rights,” and “the worst nightmare for Colombia.” Having been kidnapped was the only demographic variable that was strongly correlated with explicit bias ($r = 0.459, n = 45, p = 0.002$). While only 13.3% cited the overall Colombian health system as resource sufficient for this population, almost half (42.2%) reported that their institution has sufficient resources to care for ex-combatants (Figure 2). Only 2 respondents agreed that it is easy for them to identify a patient as an ex-combatant, but one-fourth (24.4%) believed doing so was important for their healthcare delivery. Participants who indicated a willingness to participate in medical brigades for ex-combatants were significantly more likely to desire caring for this population in their hospital ($U = 75.00, p < 0.001$), and to attend a workshop on ex-combatant healthcare ($U = 88.50, p = 0.003$).

Experiences

More than half of respondents (54.7%) had medically treated a member of a guerrilla or paramilitary group during the conflict, and doing so was significantly correlated with completing the *Servicio Social* in a conflict zone, $X^2(1, N = 49) = 16.51, p < 0.001$. Forty-two percent of respondents had experience identifying an ex-combatant while administering medical care, but only one had identified their patient’s psycho-social needs, and directed them to available resources (Table 2). Few physicians had participated in medical brigades to care for FARC ex-combatants (9.4%), but approximately half (45.3%) said they would be interested in doing so. Those who indicated they did not want to participate in a brigade cited a lack of time and interest, and safety fears for themselves or their families. Few had received training regarding medical or psychosocial reincorporation of FARC ex-combatants ($n=4$),

but approximately 80% said they would be interested in receiving clinical (n=44) or psychosocial training (n=42).

LIMITATIONS

This study had several limitations. The sample size was small and response rate was low, limiting generalizability of the results. However, a response rate of 25% in an international setting on a highly controversial topic is comparable to other studies surveying physicians.⁹ Several reasons for a low response rate include time, length of survey, survey topic, and that the nature of this study can be sensitive for many Colombians. Another limitation to generalizability was the sample's geographic homogeneity, with most participants working in Bogotá. Third, while explicit bias was measured, implicit bias may also affect care delivery. Finally, the knowledge and explicit bias scale measurements were not standardized beyond our study's pilot test.

DISCUSSION

Our study suggests that among Colombian EM physicians, there is high interest in training and low knowledge of the reincorporation process, low explicit bias, and frequent experiences with FARC ex-combatants.

Knowledge of FARC Ex-combatant Reincorporation and Healthcare

Our findings indicate that, while there was low knowledge of the reincorporation process, there was high interest in receiving training among the EM workforce in Colombia. Those who had received training regarding FARC ex-combatants demonstrated significantly higher knowledge of different types of health insurance regiments and where to direct patients with psychological needs. There are gaps in physician knowledge of issues that are especially important in ex-combatant healthcare, including mental health referrals, how to

navigate health insurance barriers, and available resources that are specific to ex-combatants. Here, there is an opportunity to train emergency physicians in these themes so that they have the necessary knowledge to provide more appropriate care for this patient population.

Attitudes towards FARC Ex-combatants

Despite being personally affected by the conflict, there was low explicit bias towards FARC ex-combatants. This may be due to common healthcare perspectives on treating patients regardless of political or ideological affiliation, and an ability to focus on the physician-patient relationship to separate the former FARC illegal armed group from the individual seeking healthcare. This finding was especially important, since it was shown that physicians are able to identify patients as ex-combatants and therefore, the presence of bias could potentially affect healthcare delivery. Qualitative responses indicated low confidence in the Colombian health system to manage FARC patients, and revealed these providers' preoccupations regarding caring for this special population with little formal training.

Experiences related to FARC Reincorporation in Healthcare

Our findings suggested that participants who had prior experience with the FARC had higher understanding of their needs and were likely better able to provide patient care. Data showed those who had more experience with the FARC had a higher knowledge score, and overall, participants desired opportunities to continue work with FARC ex-combatants including through special medical brigades. There was a lack of professional opportunities to learn about FARC reincorporation or receive training for how to care for this population, despite strong interest. A surprising number of respondents (41.5%) had identified a patient as an ex-combatant, though almost no participants agreed that doing so is easy (4.4%).

This pilot study is an important first step to evaluate the knowledge, attitudes, and experiences of Colombian emergency physicians regarding FARC ex-combatants. Eliciting knowledge, attitudes, and experiences together was an effective approach to understand the

relationships between these factors in FARC healthcare, and to gain preliminary understanding of barriers and potential interventions to improve FARC emergency care delivery. For example, physicians with experiences caring for ex-combatants had higher knowledge of their reincorporation and healthcare needs. We hypothesize that these individuals would be better suited to deliver specific and culturally appropriate care given their increased knowledge and experience. Similarly, EM physicians' attitude self-assessment of feeling unprepared to care for ex-combatants, when combined with low knowledge levels, further supports the need for training these providers about FARC ex-combatant healthcare. Additionally, though experiences from our sample shows that ex-combatants can be identified in the emergency department, low explicit bias attitudes from these physicians suggests that provider stigma affecting care delivery may be less of a concern in addressing FARC healthcare barriers.

Emergency Medicine's Role in FARC Reincorporation

The emergency department serves as an entry point for vulnerable populations to the healthcare setting in Colombia. However, several aspects of FARC reincorporation are not being addressed in the emergency department. This reality exists despite the Statutory Health Law 1751,¹⁰ and The *Plan Decenal de Salud Pública 2012-2021*,¹¹ which cement the social determinants of health as an essential part of healthcare delivery and name them as necessary to reduce healthcare inequality. Our data shows that Emergency Medicine in Colombia is uniquely positioned to play an important role in addressing this disparity through several feasible interventions. First, administering trainings to educate the EM workforce on available psychosocial and mental health resources, including mental health screening tools for FARC ex-combatants, as well as the overall process of FARC reincorporation. Increased knowledge could enable physicians to deliver more holistic quality care to this population by directing FARC ex-combatants towards appropriate social services. These trainings would be

acceptable to Colombian EM providers, and should focus on mental health service referrals, strategies to empower patients to navigate health insurance barriers, and special resources afforded to reincorporating FARC. Second, the creation of a country-wide database of government and non-profit resources available to FARC ex-combatants would help providers navigate FARC patient referrals to these services. Third, providing EM specialists and trainees opportunities for medical care encounters with FARC ex-combatants could increase provider knowledge of this population, and position EM to take an active role in the FARC peace process. This could start as early as the student or trainee level, as non-health programs have demonstrated successes in facilitating encounters between students and reincorporating FARC,¹² and the mandatory year of service (*Servicio Social*) provides an avenue for these encounters with medical brigades in heavily FARC and former conflict areas. ACEM (*Asociación Colombiana de Especialistas en Medicina de Urgencias y Emergencias*) has an opportunity as the Colombian Emergency Medicine professional network to actualize such interventions, such that EM providers have the opportunities and feel better prepared to care for FARC ex-combatants and other vulnerable populations.

Ex-combatant Healthcare Reintegration

These results add to the growing literature on ex-combatant reintegration,¹³ and proposes an important yet understudied aspect of healthcare access for ex-combatant populations: physician engagement. In the early 2000s, Colombian healthcare staff did not receive proper training or resources for the reintegration of paramilitary populations, and only half of these ex-combatants received appropriate healthcare.¹⁴ Research on reintegration in Liberia has highlighted the need for ex-combatant mental health screenings,¹⁵ and work with other guerrilla groups in Colombia shows that early referral to social cognitive training can reduce aggression and other maladaptive behaviors in ex-combatants.¹⁶ Similar findings have led to the development of instruments to screen for Posttraumatic Stress Disorder among ex-

combatants in Somalia, which could be adapted in emergency settings.¹⁷ Many other studies have shown the feasibility and effectiveness of implementing mental health screening tools in the emergency department for improved patient care,¹⁸ which could be used in ex-combatant populated areas. Equipped with the proper mental health screening tools and knowledge to identify these needs, EM physicians could better direct ex-combatant patients towards appropriate services.

Using case studies from Indonesia, Liberia, Sri Lanka, and Kosovo, the United Nations emphasizes that successful reintegration plans incorporate the training of healthcare workers to be knowledgeable about and sensitized to the healthcare needs of ex-combatant populations, especially in mental healthcare.¹⁹ This includes capacitating healthcare workers to establish and utilize referral systems for psychosocial support for ex-combatants, and contributes to the strengthening of local healthcare systems.¹⁹ A program supporting healthcare providers caring for ex-combatants in Cambodia showed increased treatment for HIV and other infectious diseases, while also increasing these providers' technical capacity.²⁰ In Indonesia, and Bosnia and Herzegovina, properly capacitating emergency healthcare workers to manage mental health and trauma stress among ex-combatant populations resulted in increased care access for these populations, and the strengthening of a referral system in the public health sector.²⁰ This further supports the need for knowledge training and care opportunities among Colombian EM physicians to support FARC reincorporation. Finally, this is the first study to examine ability to care for an ex-combatant population from the health provider perspective. The methodology, lessons learned, and survey instrument could be adapted as helpful tools for similar research with healthcare workers in other post-conflict areas undergoing reintegration.

CONCLUSION

In Colombia, there is growing interest in understanding FARC ex-combatant reincorporation following the 2016 Peace Agreement. This pilot study describes several important findings on Colombian emergency physician knowledge, attitudes and experiences with FARC ex-combatants. The main finding is that EM physicians desire and could benefit from more knowledge trainings and opportunities to care for FARC ex-combatants, and that there are feasible interventions that could lead to improved emergency care delivery, including: training on mental health screening and referrals, establishment of a country-wide FARC resource database, and creating opportunities for medical encounters between FARC and EM specialists and trainees. Future studies could focus on improvements in EM healthcare delivery following knowledge trainings, and effectiveness of mental health screens among ex-combatants in the ED.

DECLARATIONS

Ethics approval and consent to participate

This study received ethics approval from the Lifespan IRB and Pontificia Universidad Javeriana, Bogota ethics committee. All participants completed a consent form before entering the electronic survey.

Availability of data and material

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

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TABLES AND FIGURES

Table 1: Participant Demographic Factors

Table 1: Participant Demographic Factors		
	Frequency (n=53)	Percentage (%)
Age group		
20-29	12	22.6%
30-39	25	47.2%
40-49	14	26.8%
50-59	2	3.8%
Gender		
Male	32	60.4%
Female	21	39.6%
Years practicing medicine		
0-5	13	24.5%
6-10	14	26.4%
11-20	21	39.6%
More than 20	5	9.4%

Average years practicing medicine	Mean=11.1	SD=6.94
Type of physician		
Specialist	27	50.9%
Emergency medicine	25	47.2%
Internal medicine	2	3.8%
Intensive care	1	1.9%
Toxicology	1	1.9%
Epidemiology	1	1.9%
EM Resident	10	18.9%
General physician	16	30.2%
Occupational roles		
Clinical practice	47	88.7%
Administrative activities	11	20.8%
Teaching/faculty	9	17.0%
Other	5	9.4%
City of occupation		
Bogotá	36	67.9%
Medellín	5	9.4%

Cali	3	5.7%
Other	9	17.0%
Hospital care level		
High	52	98.1%
Low	1	1.9%
Participated in rural year of service		
Yes	49	92.5%
No	4	7.5%
Rural year of service in a conflict zone		
Yes	30	56.6%
No	18	34.0%
Don't know/no response	5	9.4%
Directly affected by the FARC conflict		
Physical	1	1.9%
Psychological	9	17.0%
Moral	6	11.3%
Other	3	5.7%
Family or friends affected by FARC conflict	26	49.1%

Physical	14	26.4%
Psychological	16	30.2%
Moral	8	15.1%
Other	6	11.3%

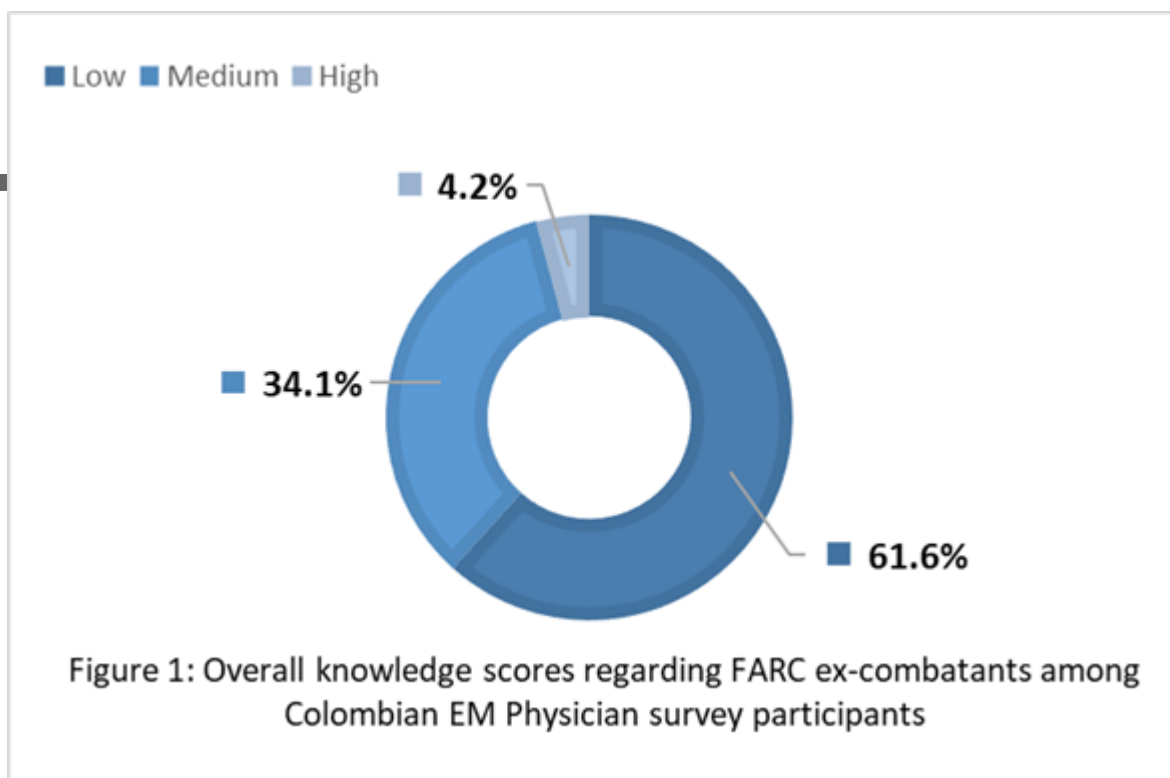


Figure 1: Overall knowledge scores regarding FARC ex-combatants among Colombian EM Physician survey participants

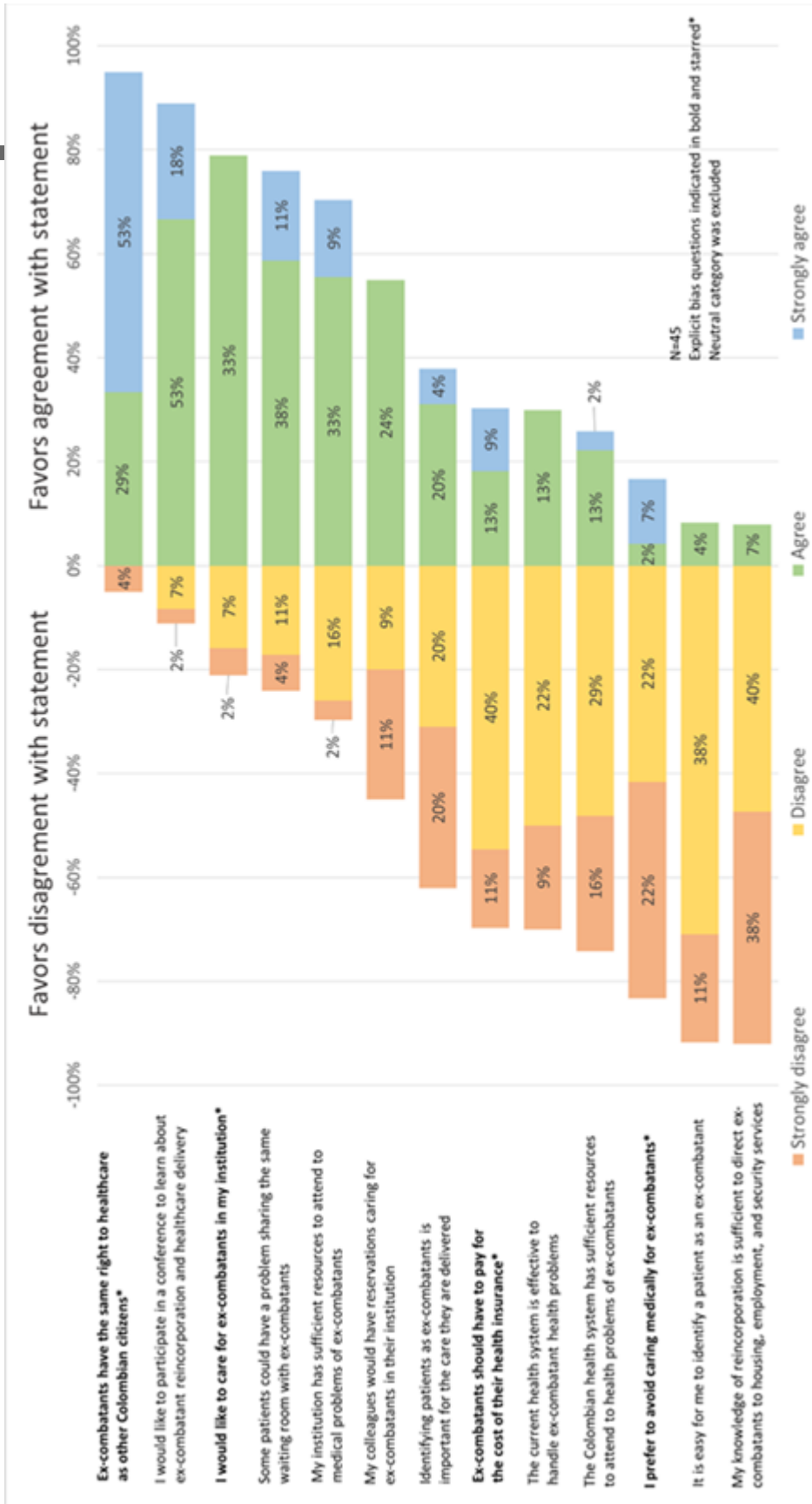


Figure 2: Attitudes and biases of Colombian Emergency Medicine physicians surrounding the healthcare reincorporation of ex-combatants of the FARC (Fuerzas Armada Revolucionarias de Colombia).

Table 2: Colombian EM Physician Experiences related to FARC Reincorporation in Healthcare

	Frequency (n=53)	Percentage (%)	Knowledge score correlation	Bias score correlation
Has cared medically for a member of a guerrilla or paramilitary group	29	54.7%	$r = 0.433$ $p = 0.002$	$r = 0.054$ $p = 0.724$
Attending to this person changed my perception of combatants	6	11.3%	$r = 0.212$ $p = 0.321$	$r = -0.302$ $p = 0.172$
Negative opinion of FARC during the conflict	37	69.8%	$r = -0.042$ $p = 0.778$	$r = -0.081$ $p = 0.596$
Received medical training specifically for ex-combatants	4	7.5%	$r = 0.354$ $p = 0.015$	$r = 0.81$ $p = 0.595$
Would like to receive additional clinical training to care for ex-combatants	44	83.0%	$r = 0.322$ $p = 0.027$	$r = -0.131$ $p = 0.392$
Would like to receive additional training surrounding psycho-social problems of reincorporating ex-combatants	42	79.2%	$r = 0.190$ $p = 0.200$	$r = -0.254$ $p = 0.093$
Participated in campaigns to deliver healthcare services to ex-combatants	5	9.4%	$r = 0.354$ $p = 0.015$	$r = -0.163$ $p = 0.286$

Would like to participate in a medical services for ex-combatants	24	45.3%	$r = 0.420$ $p = 0.003$	$r = -0.151$ $p = 0.323$
Has identified a patient as an ex-combatant	22	41.5%	$r = 0.356$ $p = 0.014$	$r = 0.112$ $p = 0.466$
During regular activities in my work institution	17	32.1%		
During an activity specifically designed for an ex-combatant population	2	3.8%		
Other	3	5.7%		
How did you recognize this patient as an ex-combatant?				
The patient self-identified	14	26.4%		
Information provided by the hospital	3	5.7%		
Appeared in media (television, newspapers)	2	3.8%		
Information delivered by community members/other patients	2	3.8%		
No response	1	1.9%		
Identified if an ex-combatant patient required other support (mental health,	3	5.6%		

social determinants of health such as housing and employment)				
Directed the patient towards support services	1	1.9%		
Abbreviations: EM (emergency medicine); FARC (<i>Fuerzas Armadas Revolucionarias de Colombia</i>)				



Au bio

Leonar G. Aguiar Martinez, MD, is an Assistant Professor at Pontificia Universidad Javeriana in Bogota, Colombia.