

ORIGINAL RESEARCH ARTICLE

Professional Pragmatism and Abortion Stigma: Assessing the Performance of the Stigmatizing Attitudes, Beliefs and Actions Scale (SABAS) among Ethiopian Midwives

DOI: 10.29063/ajrh2018/v22i2.3

Sarah Jane Holcombe^{*1}, Sahai Burrowes², Dawit Hailu³, Ryan Scott² and Aster Berhe⁴

Bixby Center for Population, Health, and Sustainability, University of California, Berkeley, USA¹; Public Health Program, Touro University California, USA²; Ethiopian Midwives Association (EMWA), Addis Ababa, Ethiopia³; UNFPA, Addis Ababa, Ethiopia⁴

***For Correspondence:** Email: sjholcombe@berkeley.edu; Phone: +1 510 642 6915

Abstract

This study assessed the applicability to medical professionals in Ethiopia of an abortion stigma assessment tool developed for community members, and examined the relationship between stigma and willingness to provide safe abortion care (SAC). The Stigmatizing Attitudes, Beliefs and Actions Scale (SABAS) was fielded to a convenience sample of 397 Ethiopian midwives. Scale reliability and validity were assessed, and associations were examined using multivariate linear and logistic regression. Levels of stigma were low compared to those reported elsewhere, and 49% of midwives were willing to provide SAC. The revised SABAS was reliable ($\alpha = 0.82$), but items did not group into SABAS' conceptual categories, and some had limited face validity. SABAS scores had a small but significant negative association with willingness to provide SAC ($OR=0.95$, $p < 0.05$), with negative stereotyping subscale items most predictive. SABAS' limitations found here suggest the need for an adapted scale for medical professionals. (*Afr J Reprod Health* 2018; 22[2]: 26-39).

Keywords: Ethiopia; midwives; abortion; abortion stigma; stigma measurement; scales

Résumé

Cette étude a évalué l'applicabilité aux professionnels de la santé en Éthiopie d'un outil d'évaluation de la stigmatisation de l'avortement développé pour les membres de la communauté et examiné la relation entre la stigmatisation et la volonté de fournir des soins d'avortement sans risque (SASR). Les attitudes stigmatisantes, les croyances et l'échelle des actions (ASCEA) ont été envoyées à un échantillon de commodité de 397 sages-femmes éthiopiennes. La fiabilité et la validité de l'échelle ont été évaluées et les associations ont été examinées en utilisant une régression linéaire et logistique multivariée. Les niveaux de stigmatisation étaient faibles comparés à ceux rapportés ailleurs, et 49% des sages-femmes étaient disposées à fournir des SASR. Les ASCEA révisées étaient fiables ($\alpha = 0,82$), mais les items ne se regroupaient pas dans les catégories conceptuelles des ASCEA, et certains avaient une validité apparente limitée. Les scores ASCEA présentaient une association négative faible mais significative avec la volonté de fournir un SASR ($OR = 0,95$, $p < 0,05$), avec des items de sous-échelle stéréotypés négatifs les plus prédictifs. Les limites des ASCEA trouvées ici suggèrent la nécessité d'une échelle adaptée pour les professionnels médicaux. (*Afr J Reprod Health* 2018; 22[2]: 26-39).

Mots-clés: Éthiopie, sages-femmes, avortement, stigmatisation de l'avortement, mesure de la stigmatisation, échelles

Introduction

Unsafe abortion harms both women's health and their ability to lead independent and productive lives. This problem is particularly acute in sub-Saharan Africa, including in Ethiopia, where

unsafe abortion is one of the three leading causes of maternal mortality¹⁻³. Ethiopia has proactively sought to reduce its high levels of maternal mortality, including that due to unsafe abortion, by expanding the midwifery profession, liberalizing its Penal Code with respect to abortion, and

broadening midwives' scope of practice to include provision of abortion care⁴. These and other efforts have begun to yield success, with maternal mortality dropping from 673 to 420 per 100,000 live births over the past decade, and the proportion of abortion care services being provided in facilities rising from 27% to 53% between 2008 and 2014⁵⁻⁷. Despite this substantial increase in the proportion of abortion services that are safe, much remains to be done. Almost half (47%) of induced abortions in Ethiopia still occur outside of facilities and are thus likely unsafe⁵. Another concern is the willingness of health care workers to continue providing this life-saving service. Historically, medical professionals in Ethiopia have almost uniformly viewed unsafe abortion as a significant public health threat^{8,9}, and in one study, identified public health concerns as underpinning their willingness to provide SAC⁴. However, as maternal mortality decreases, there are questions of whether a rationale for providing SAC based on an understanding of its potential to reduce maternal mortality will be eroded. The concern is that, paradoxically, Ethiopia's recent progress in reducing maternal mortality may lead to declining willingness to provide safe abortion care among providers.

This study examines one potential contributing factor to willingness to provide SAC: abortion stigma among medical professionals, specifically midwives. Little is known about midwives' views of their role as providers of SAC, or about what kind of training is needed to equip them to deliver respectful, responsive care. A concern is that some midwives may have stigmatizing attitudes toward abortion, and may provide care compromised by this stigma, or may be unwilling to provide care at all. This concern is reinforced not only by the global prevalence of stigma surrounding abortion, but also by evidence of some medical professionals' refusal to provide legal, safe abortion care services⁹⁻¹¹.

Stigma occurs when a particular condition or behavior is identified and characterized as abnormal and immoral and is then applied to individuals, leaving them with diminished social

standing in relationships and potentially reduced life opportunities^{9,12-14}. Medical providers and others performing socially censured work can suffer loss of status, discrimination, and psychological distress due to such stigma^{12,15}. Abortion care is a stigmatized medical service, both in low-income and more affluent countries¹⁶⁻¹⁸. Medical professionals who provide abortion services can have both their professional and technical competencies questioned, as well as their personal or financial motivations¹⁸⁻²¹.

The literature on stigma and healthcare also reveals negative implications for service delivery. Research on stigmatized conditions has shown that providers' stigmatizing attitudes toward substance abuse, mental health, HIV/AIDS, and cancer are all associated with poorer quality care²²⁻²⁶. Stigma from abortion has been found to reduce physicians' willingness to obtain related training in Ghana^{19,27,28}. In the United States, stigma has been linked with lower job satisfaction and exhaustion among mental health providers²⁹, and with burnout and compassion fatigue among abortion care providers¹⁶. Negative attitudes related to abortion have discouraged trained providers from offering stigmatized but life-saving care across multiple countries^{16,18,26,27,30-34}.

Such conscientious refusal to providing stigmatized reproductive health services, particularly abortion, is present globally¹⁰. Of allied concern is the finding that providers with less formal training may be less supportive of abortion and less willing to provide services than providers with more extensive training^{8,9,34-36}. This runs counter to the increasing global recognition of the appropriateness of midwives and similar cadres of health professionals in providing abortion care services⁶. While medical professionals' reluctance or refusal to provide services can be made on religious or philosophical grounds or may be due to stigma and concern about the reaction of others, the outcome is the same – decreased or more difficult access to (quality) services for women. Examining the drivers of this reluctance and refusal to provide

care, including stigma is, therefore, crucial for maintaining women's reproductive health, as well as their right to care.

Abortion stigmatization occurs at the individual, community, organizational, and governmental levels as well as at the level of public discussion/discourse or of mass or popular culture¹⁸. Validated scales can provide an efficient and consistent way to measure abortion-related stigma in these different populations and contexts and can facilitate comparison. Scales can also help policy and program managers to better gauge the prevalence, drivers, and impacts of abortion stigma, and to design and assess interventions to counter them.

Most existing scales measuring health-related stigma (e.g., those for leprosy, mental health, and HIV/AIDS) focus on the beliefs and experiences of patients rather than of medical professionals^{24,37,38}. Unfortunately, our understanding of abortion-related stigma among providers in low-income countries, and of how such stigma relates to willingness to provide stigmatized services and quality of care, is limited. Recent scholarship has produced abortion stigma scales for community members^{39,40,42}, and for U.S. medical professionals providing abortion care⁴¹. However, we found no published studies evaluating abortion stigma scales for medical professionals practicing in low-income countries.

To address this gap, we tested whether an existing abortion stigma scale developed for community members is applicable for providers. We used the Stigmatizing Attitudes, Beliefs and Actions Scale (SABAS), developed by Shellenberg et al. with community members in Ghana and Zambia³⁹. This 18-item scale measures community-level abortion stigma on three dimensions (subscales):

1. "negative stereotypes about men and women who are associated with abortion" (8 items),
2. "discrimination/exclusion of women who have abortions" (7 items), and
3. "fear of contagion as a result of coming in contact with a woman who has had an abortion" (3 items).

SABAS item response categories are on a five-point Likert scale ranging from "strongly disagree" to "strongly agree," with each response assigned a value from 1 to 5. Overall scores are obtained by adding individual responses, with higher overall scores representing more stigmatizing attitudes.

The goal of this study is to make preliminary assessments of both the applicability of SABAS to midwives in Ethiopia, and of the relationship between abortion stigma, as measured by SABAS scores, and midwives' willingness to provide abortion care services. The study examines the stigma scale's performance in a low-income country where prohibitions on abortion have been relaxed for an expansive range of circumstances, due to Ethiopia's 2005 reform of its Penal Code. Some previous research suggests that restrictive laws are associated with decreased willingness to provide abortion care and increased abortion-related stigma^{10,18,34,43}. This study contributes to establishing a baseline for provider abortion-related stigma for future studies.

Methods

Ethical approval for this study was obtained from the Debre Markos University Ethical Review Committee and the Touro University California IRB (#PH-1315). Written informed consent was obtained from participants before interviews and survey administration.

The research proceeded in three phases. In the first phase, an extensive literature review was conducted, and stigma researchers and Ethiopian medical professionals were consulted to develop an 86-item survey instrument. The instrument incorporated SABAS; questions on the respondents' socio-economic and training background; an adapted scale on enacted stigma; and questions from previous Ethiopian surveys on provider knowledge of, and attitudes towards, SAC⁴. In the second phase, the survey was translated into Amharic and pre-tested; and cognitive interviews with a convenience sample of 54 nurses, health officers, midwives, and midwifery and nursing students in Debre Markos and Addis Ababa, Ethiopia were performed.

During the pre-testing and consultation with local experts, it was observed that the last three SABAS questions, comprising the 'fear of potential contagion' subscale, contained concepts Ethiopian health care professionals judged to lack face validity and relevance. This subscale was, therefore, dropped from the final survey instrument.

In the third phase of the project, we fielded the self-administered survey, including the shortened SABAS, in English- and Amharic-language versions at the Ethiopian Midwives Association (EMwA) Annual General Assembly meeting in October 2016 to a convenience sample of 397 midwives in attendance from throughout the country.

The distribution of responses to questions were examined to find scale items with little variation in response, that might therefore, not be useful in helping to distinguish between those with and without stigmatizing attitudes. Tests of internal reliability of SABAS and its subscales were conducted using Cronbach's alpha. An alpha greater than 0.70 was considered to indicate good reliability. Principal components analysis with oblique (promax) rotation was then carried out to identify any underlying factors in the scales. We chose oblique rotation as we expected the stigma factors to be correlated with one another as indicated by the scale creators^{39,44}. Factors with Eigen values greater than 1 were extracted, and their presence confirmed by examining scree plots of consecutive Eigen values (points at which the plots leveled out signify when additional factors would not improve understanding of the relationship between items). We also examined the amount of variance explained by each factor, and the magnitude of factor loadings. Scale items with factor loadings greater than 0.40 were retained in the factor and reported in the study.

To examine the construct validity of SABAS, multivariate logistic regression was used to estimate the association between provider stigma as measured by SABAS and willingness to provide SAC, with stated willingness to provide SAC as the outcome. The socio-demographic

factors related to higher stigma levels (SABAS scores) were examined using multivariate ordinary least squares regression. All analyses were completed using Stata IC/13.

Results

Respondent characteristics

The survey response rate was 56% (397 midwives). Survey respondents were young and well educated (as typical of health professionals), 42% were male, and most were Ethiopian Orthodox Christian (65%). The majority was currently in clinical practice as bachelor's degree midwives, but only 27% had ever provided SAC services and slightly less than half stated that they were willing to provide these services (Table 1 below). There was no significant difference between survey respondents and EMwA General Assembly attendees by gender, ethnicity, or workplace. We were not able to compare differences on other demographic characteristics between attendees and respondents. The survey sample differed significantly from the overall population of midwives in Ethiopia in that it was more male and educated, and less likely to be from Oromia Region.

Level of stigma

Reported stigma was low. The mean SABAS score in our sample was 28 points (of a possible high, stigmatizing score of 75) for the two subscales we fielded. Scale responses were normally distributed with few outliers. Only one SABAS item had more than 50% of respondents reporting "high" stigma: the statement "A woman who has an abortion is committing a sin" (Table 2 below). Stigmatizing responses were also relatively high for statements regarding whether a woman seeking an abortion would make it a habit (38% agree or strongly agree); would encourage others to also have an abortion (39% agree or strongly agree); and whether abortion permanently damaged the health of a woman (43% agree or strongly agree). A relatively large proportion of respondents also disagreed (59%) with the statement that women

Table 1: Ethiopian Midwives (n=397)

Characteristic	(n)	%
Age group		
Less than 25 years	167	47%
26-40 years	179	50%
Older than 41 years	13	4%
Male gender	163	42%
Marital status		
Married	173	45%
Never Married	199	51%
Widowed/Divorced/Separated	17	4%
Father's education		
Primary or less	102	30%
Secondary or higher	213	64%
Don't know	21	6%
Ethnicity		
Amhara	132	45%
Tigray	29	10%
Oromo	55	19%
Other	76	26%
Religion		
Ethiopian Orthodox	256	65%
Muslim	59	15%
Evangelical Christian or Protestant	70	18%
Other	6	2%
Attendance at religious services		
More frequent (daily or more than weekly)	194	50%
Less frequent (less than weekly)	191	50%
Have had children	113	30%
Type of midwife		
Diploma	103	27%
Bachelor's Degree	216	58%
Master's Degree	51	13%
Other	4	1%
Currently providing clinical care	278	83%
Have provided Safe Abortion Care	102	27%
Willing to provide Safe Abortion Care	162	49%

Note: percents may add up to more than 100% due to rounding

seeking an abortion should be “treated the same as everyone else;” however, this unexpectedly high level of stigma is likely an artifact of the survey question’s reverse scale format. Overall, questions belonging to SABAS’s negative stereotyping subscale had a higher proportion of stigmatizing responses and higher response variation than did the exclusion and discrimination subscale items, all but two of which each had under 9% reporting stigmatizing responses.

Internal consistency

The modified (two subscale) SABAS displayed good internal consistency, as did each of the two subscales that were fielded. The Cronbach’s alpha was 0.82 for the entire modified scale; 0.82 for the negative stereotyping subscale; and 0.72 for the exclusion and discrimination subscale. Scale items were all significantly correlated, with correlation coefficients above 0.30.

Factor analysis

There were approximately 24 respondents per scale item, well above the 10:1 ratio common in the literature for scale validation⁴⁴. An examination of the Eigen values, factor loadings (Table 2 above), and a scree plot (Figure 1 below) suggested that scale items grouped into three factors, rather than the two “negative stereotyping” and “discrimination and exclusion” subscales described by the scale’s creators. The three factors had Eigen values greater than 1.0, and the scree plot displayed a marked leveling off after three factors.

Most of the “discrimination and exclusion” subscale items loaded cleanly on a single factor. This finding was consistent regardless of whether oblique or orthogonal rotation was used to extract factors. However, the negative stereotyping subscale items were split between two factors. The first three items on this subscale tended to cluster together based on factor loadings, with the first item (whether abortion is a sin), displaying particularly high uniqueness. This finding held regardless of model specification. There was also a relatively consistent second factor containing statements that a woman who has sought an abortion was a bad mother, that she shamed her community, and that she should be prohibited from attending religious services. However, there were two statements that displayed high uniqueness but that failed to load on any factor (the health of a woman who has had an

Table 2: SABAS Item Response Frequencies, Factors, and Associations with Willingness to Provide SAC

Item	Scale Responses		Factor Loadings [†]				Association with Willingness ^{††}	
	% Higher Stigma (Unsure, Agree or Strongly Agree)	% Lower Stigma (Disagree or Strongly Disagree)	Factor 1	Factor 2	Factor 3	Uniqueness	Odds Ratios	Standard Errors
Both Subscales							0.952**	-0.019
Negative Stereotyping							0.914**	(0.027)
A woman who has an abortion is committing a sin.	60%	40%			0.44	0.66	0.675***	-0.079
Once a woman starts an intentional abortion, she will make it a habit.	38%	62%			0.66	0.43	0.735*	-0.095
A woman who has had an intentional abortion cannot be trusted.	22%	78%			0.54	0.32	0.956	-0.14
A woman who has an intentional abortion brings shame to her family.	21%	79%		0.45	0.44	0.25	0.762	-0.12
A woman who has had an intentional abortion might encourage other women to get abortions.	39%	61%			0.66	0.36	0.708*	-0.124
The health of a woman who has an intentional abortion is never as good as it was before the abortion.	43%	57%				0.47	0.907	-0.121
A woman who has an intentional abortion is a bad mother.	17%	83%		0.77		0.22	0.708*	-0.0953
A woman who has an intentional abortion brings shame to her community.	17%	83%		0.72		0.19	0.781	-0.131
Discrimination & Exclusion							0.977	-0.0323
A woman who has had an intentional abortion should be prohibited from going to religious services.	14%	86%		0.84		0.31	0.874	-0.136
I would tease a woman who has had an abortion so that she will be ashamed about her decision.	8%	92%		0.77		0.22	0.792	-0.138
I would try to disgrace a woman in my community if I found out she'd had an abortion.	7%	93%	0.79			0.04	0.791	-0.153
A man should not marry a woman who has had an abortion because she may not be able to bear children.	7%	93%	0.94			0.18	1.025	-0.218
I would stop being friends with someone if I found out that she had an abortion.	7%	93%	0.9			0.15	1.07	-0.209
I would point my fingers at a woman who had an abortion so that other people would know what she has done.	7%	93%	0.9			0.1	0.769	-0.135
A woman who has an abortion should be treated the same as everyone else. [REVERSED]	41%	59%	0.87			0.85	1.008	-0.0954
Eigen Values			6.67	2.65	1.1			

[†]Results of polychoric principal components analysis followed by promax rotation. Factors less than 0.40 are not shown.

^{††}Multivariate logistic regressions. All models contain the covariates included in Table 3. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

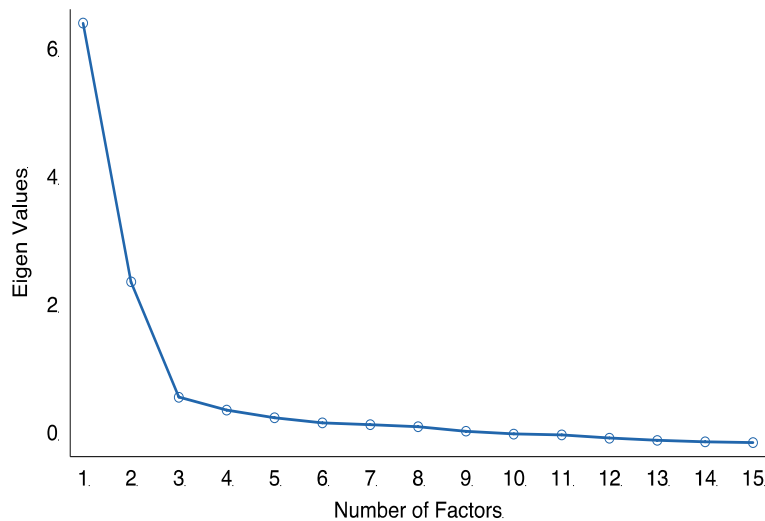


Figure 1: Factor Analysis of Modified SABAS: Scree Plot of Eigen Values

abortion is never the same, and the reversed scale item on whether women who have had abortions should be treated like everyone else).

There are issues with both of the last two items mentioned above. The health statement has weak construct validity, as affirmative and negative responses could each be objectively correct, and thus responses may not reveal stigma. While abortion care provided by a trained medical professional is extremely safe, and midwives can provide first trimester abortion care as safely as physicians^{6,45,46}, it is also true that abortion services by untrained or poorly trained providers in unsafe conditions can and do permanently harm women's health. In addition, as noted previously, the reversed scale item could have been misunderstood, with some respondents assuming they were indicating that women who have had abortions should be treated the same as any others. We cannot rule out, however, that these items are capturing different concepts in the Ethiopian context than elsewhere.

In sum, we found that the hypothesized factor structure of the SABAS did not apply well in this sample of Ethiopian midwives. Three factors emerged out of the scale items instead of two, some items did not load with other questions at all, and overall the model did a poor job of explaining stigma.

Factors associated with SABAS scores

Multivariate ordinary least squares (OLS) regression was used to explore the demographic and professional characteristics associated with higher SABAS scores (higher stigma). Having had a child was the strongest predictor of higher SABAS scores. Midwives with higher levels of religious observance also reported significantly higher levels of abortion stigma. As expected, self-reported Evangelical Christians were more likely to have higher stigma than Ethiopian Orthodox Christians, although this was only significant at the 10% level. Being a member of the "Other" religious grouping was estimated to increase reported stigma by almost nine points (although the standard error around this estimate was wide). Older respondents report less stigma than the youngest age group although, once again, this was only significant at the 10% level. Surprisingly, having provided SAC in the past was not significantly associated with SABAS scores in multivariate models, nor was having been trained to provide SAC (not shown).

Relationship between SABAS and willingness to provide SAC

To further assess the predictive validity and applicability of SABAS, we estimated its impact

Table 3: Factors Associated with SABAS Scores (*multivariate linear regression*)

	Coefficients	Standard Errors (robust)
Age		
Under 25 Years of Age	base	
26-40 Years Old	-1.896	(1.220)
Older than 41 Years of Age	-3.470 [^]	(2.075)
Male gender	0.166	(1.096)
Marital status		
Married	base	
Never Married	1.403	(1.233)
Widowed/Divorced/Separated	-0.364	(2.708)
Have had children	3.974 ^{**}	(1.317)
Religious affiliation		
Ethiopian Orthodox	base	
Muslim	1.925	(1.44)
Evangelical Christian or Protestant	2.563 [^]	(1.457)
Other	8.691 [*]	(4.260)
Less frequent religious attendance	-2.654 [*]	(1.100)
Currently providing clinical care	-0.591	(1.458)
Have provided Safe Abortion Care	-1.505	(1.175)
<i>Observations</i>	277	
<i>R²</i>	0.105	
[^] <i>p</i> < 0.10, [*] <i>p</i> < 0.05, ^{**} <i>p</i> < 0.01, ^{***} <i>p</i> < 0.001		

on reported willingness to provide SAC using multivariate logistic regression (see Table 2). The SABAS has a small but significant negative association with willingness to provide SAC (Odds Ratio=0.95, $p < 0.01$). Examining each scale item individually, we found that items from the negative stereotyping subscale were more predictive of willingness to provide care than exclusion and discrimination items, none of which displayed significant associations. Relatedly, overall negative stereotype subscale scores, but not exclusion subscale scores, were significantly predictive of willingness to provide SAC (Odds Ratio=0.91, $p < 0.001$). When the subscale was restricted to only contain the items in the new Factor 3, it was associated with a 20% decrease in the odds of being willing to provide SAC.

Discussion

This study assessed the performance of the SABAS among a sample of Ethiopian midwives and examined the relationship between their stigma (as measured by SABAS) and their willingness to provide SAC. Four key findings were observed.

Low stigma

Our primary finding was that levels of abortion-related stigma were very low; and, in fact, substantially lower than what has been reported for populations of community members and even medical professionals elsewhere in sub-Saharan Africa (see Table 4 below), other than those already providing post abortion care in Western

Table 4: Stigmatizing Attitudes, Beliefs, and Actions Scale (SABAS) Average Scores among Community Members and Medical Professionals in Six Countries in sub-Saharan Africa

	SABAS Subscales			Overall SABAS score	Score for 1st & 2nd subscales	n
	Negative stereotypes	Discrimination and exclusion	Fear of contagion			
<i>Total Possible Score</i>	35	40	15	90	75	-
Ethiopia (midwives), 2016	17	11	-	-	28	397
Kenya (PAC providers), 2018 ⁴⁷	16	10	4	30	26	
Rwanda (medical professionals), 2016 ⁴⁸	22	14	5	41	36	146
Ghana (community members), 2013 ³⁹	25	16	6	47	41	250
Zambia (community members), 2013 ³⁹	26	16	9	51	42	280
Kenya (community members), 2013 ⁴⁹	30	19	7	54	48	1262
Uganda (community members), 2017 ⁵⁰	30	20	9	59	50	380

Kenya⁴⁷. This may be the result of Ethiopia's more liberal legal context, the government expectation that midwives and other medical professionals will offer SAC, and the regular provision of SAC at the Primary Health Care Unit (PHCU) level. This topic merits further study.

As in previous studies, the intensity of religious observance and affiliation with Evangelical Protestant churches were associated with higher abortion stigma. Of note is the finding that older providers were less likely to report stigmatizing behavior than were younger respondents. This suggests greater need to emphasize respectful and non-stigmatizing care in the pre-service training of the growing cohort of new midwives entering the profession, as well as the need for more research to explore the underlying explanations for this attitudinal difference by age. The greater experience that older providers have with the harm of unsafe abortion as well as with abortion service provision may lead them to have less stigmatizing attitudes. Further, the greater religiosity observed among younger Ethiopians may contribute to young midwife professionals having more stigmatizing attitudes.

Reported stigma was particularly low for SABAS's "exclusion and discrimination" subscale items. Respondents rejected these statements out of hand and displayed very little variation in responses, with over 90% of respondents disagreeing or strongly disagreeing to stigmatizing statements in the subscale. The low scores were in keeping with statements made during the pre-

testing cognitive interviews in which respondents said that these questions were disrespectful and in conflict with their professional training. Due to this lack of variation and low scores, the exclusion and discrimination subscale items exhibited little power to predict midwives' stated willingness to provide SAC. Together, the performance of these items suggests that this subscale could be omitted in future studies of stigma among medical professionals in Ethiopia, and that further work is needed on a stigma scale for providers.

Evidence of negative stereotyping

The second finding was that negative stereotyping was somewhat prevalent, but that it may manifest differently among Ethiopian providers than in other populations and geographic settings. In this study, negative stereotyping subscale items had the highest levels of reported stigma and were responsible for most of the variation in midwives' responses to the SABAS. Almost two-thirds (60%) of midwives agreed with the statement that abortion was a sin, and almost two-fifths agreed with statements that women seeking an abortion would make this a habit; would encourage others to also have an abortion; or would permanently damage their health by receiving SAC. Several of the negative stereotyping subscale items, particularly the item regarding sin, were, on their own, significantly predictive of willingness to provide SAC. The distribution of responses to these questions gives clear pointers for future training as they highlight areas of weakness and possible misunderstanding.

Alternative factor structure

The third finding was that although the original negative stereotyping subscale (and the SABAS overall) displayed good internal reliability as measured by the Cronbach's alpha, it did not perform as expected during factor analysis. Notably, two factors emerge from this subscale rather than one, with cross loadings between some items and some overlap with the discrimination and exclusion subscale items (see Table 2). The items from Factor 3 appear to capture paternalistic judgments about women's spiritual and physical health as a result of abortion. The items in Factor 2 seem to connote support for broad social shaming, sparked by perceptions that women who have an abortion are violating communal and moral obligations, and perhaps suggesting a fear of moral contagion.

The split factor loadings for this subscale suggest that the conceptual categories that the items were originally designed to measure may not hold in the Ethiopian context. In substitution, it might be more useful to have a shorter subscale focusing on the religious, negative stereotyping items that were the most predictive of willingness to provide SAC (Factor 3 alluded to above) to identify individuals and institutions that could benefit from training interventions, and to assess the impact of such interventions. This would be in keeping with the scale created from a national abortion study among community members in Mexico that confirmed a religious dimension from items measuring stereotyping and discrimination⁴². Further, it may also be worthwhile to assess the utility of questions on the perceived professional obligations of providers related to abortion. Overall, our findings suggest that further work is needed to develop questions and a scale suited for medical professionals in Ethiopia.

Weakening willingness to provide SAC

The fourth key finding was that willingness to provide abortion care among Ethiopian midwives, although relatively high compared to many other national contexts^{10,51}, may be softening. The rates reported here (49%) were lower than those

reported in previous studies of health professionals (e.g., 56% in 2013⁴). This finding, coupled with the finding that stigma was higher among younger midwives, suggests the need for continued vigilance in training about abortion as willingness to provide SAC may be declining over time as health care workers see fewer patients with complications resulting from unsafe abortions. The concern about weakening willingness to provide SAC may be even more warranted because the sample was disproportionately male, (42% male compared to the 29% national average for Ethiopia's midwives)⁵², and drawn heavily from urban Addis Ababa and adjoining areas. Thus, our findings may be biased toward greater willingness to provide SAC than is actually the case, as men have been shown to be more willing to provide SAC than women in Ethiopia and other low-income country settings⁴.

Pragmatic professionalism may drive willingness to provide SAC

Finally, the differences in responses to the two subscales and the still relatively solid willingness to provide SAC are noted. The distribution of answers to scale items suggest that abortion-related stigma among Ethiopian midwives manifests as holding negative stereotypes about patients seeking abortion services, but that relatively few midwives think that these women should be shunned or punished in their communities or families. There was clear evidence of a moral tension around abortion care: most midwives viewed abortion as a sin. Nonetheless, a plurality of midwives was willing to provide SAC despite their misgivings, and our findings suggest that most did not believe that women seeking services should be treated poorly or differently than other patients. Respondents appeared to interpret the SABAS discrimination and exclusion questions as asking them about how *they themselves* would treat patients and it could be that professional norms were preventing the translation of negative views into practice. In short, some midwives' religious misgivings seemed to be tempered by their pragmatic professionalism.

This finding is in keeping with results from previous qualitative research in Ethiopia where midwives identified abortion as a sin, but remained willing to provide SAC because they believed that if they did not, women would seek abortion in unsafe conditions elsewhere, resulting in morbidity and mortality^{4,9}. In this way, providers can reconcile the cognitive dissonance between personal beliefs and professional norms. Understanding the conditions under which this happens can assist in developing programs and policies that create a conducive environment for stigma reduction and the delivery of respectful care.

Limitations

This study has limitations. First, our sample was non-representative, limiting generalizability of findings to other Ethiopian midwives or health professionals. The small sample could potentially mean it is underpowered to detect associations or extract factors; although it is within the typical size range used by researchers constructing scales, as noted earlier. Our modest response rate (56%) may have also biased the findings if non-respondents differed significantly from respondents. However, we found no significant difference in demographic characteristics between respondents and the EMwA meeting attendees. More serious are the potential problems caused by survey format and non-randomization of scale items in the survey. There may be measurement error for the one reversed item at the end of the survey, which, in turn, may have affected factor loadings. Finally, there is the possibility of recall and social acceptability biases in survey responses. Through national policy and training, the Ethiopian government has established the expectation that addressing gynecologic problems, including provision of SAC, is a core competency for midwifery professionals in Ethiopia. Further, to avert maternal mortality, the government of Ethiopia has implemented a number of proven interventions such as providing basic emergency obstetric and newborn care (BEmONC), of which post-abortion care (PAC) is one of the signal

functions^{53,54}. These actions may decrease respondents' willingness to report discriminatory or exclusionary behavior.

Conclusions

This quantitative analysis of an abortion stigma scale found that, in contrast with results from other countries, a sample of Ethiopian midwives reported low levels of stigma, particularly as regards discrimination and exclusion of women seeking services. Further, almost half of midwives surveyed were willing to provide safe abortion care. Midwives' disinclination to discriminate and their apparent sense of responsibility to patients shown here is heartening.

The findings suggest that future abortion-related midwifery training and study in Ethiopia should focus on reducing or mitigating negative stereotyping of women seeking abortion care services. These attitudes seem to have more predictive power regarding midwives' willingness to provide SAC and are also more stigmatizing than are attitudes related to discriminating against women seeking safe abortion care services. Study results also indicate that professional norms regarding non-discrimination are mitigating underlying religious and moral concerns about the provision of abortion care and those who seek it. If this is indeed the case, then programs aiming to maintain access must reinforce these professional norms and highlight the implications of not providing services.

The development of SABAS to measure stigma among community members is a notable advance. However, we find that SABAS did not perform well among a sample of medical professionals in Ethiopia, particularly at measuring the stereotyping dimensions of stigma. A modified version of the SABAS, eliminating the discrimination and exclusion subscale and adapting the stereotyping subscale to focus on the religious and moral dimensions of stigma, may be more useful than the current scale. Findings here will inform the Ethiopian Midwives Association's nationally representative study of midwives' attitudes and practices regarding stigmatized

reproductive health services.

As Ethiopia continues work to strengthen the quality of health professionals' education, these results can inform design of Ethiopia's related in- and pre- service training, professional support activities, and media messaging, and thus reduce abortion stigma. Countries such as Ethiopia with more liberal laws on abortion are likely to see greater willingness by medical professionals to offer services. However, as we find that a sizeable proportion of Ethiopian midwives in the study is not willing to provide safe abortion care, we recommend further emphasis during pre-service training on clinical skills but also on the public health and rights-based rationales for providing safe abortion care services, and how they conform with professional ethics and respectful women-centred care. There is also clearly continued scope for medical associations, in Ethiopia and elsewhere in sub-Saharan Africa, to help train medical professionals for the full availability of abortion care services permitted under the law, and to advocate for expanding women's legal access to services.

Ethics Approval and Consent to Participate

Ethical approval was obtained from the Institutional Review Board of Debre Markos University and from Touro University California Institutional Review Board, Protocol # PH-1315. All survey respondents provided written informed consent prior to participation.

Competing Interests

The authors declare that they have no competing interests.

Acknowledgements

Our profound thanks to the busy midwives and other health professionals, advocates and policymakers who shared their time and perspectives. We appreciate Prof. Dube Jara at Debre Markos University, Ms. Meaza Semaw of

the Ethiopian Midwives Association, and Ms. Stephani Harrington of Touro University California who helped pretest the survey. Finally, we are grateful for the financial support of AmplifyChange and the seed grant from International Network for the Reduction of Abortion Discrimination and Stigma, without which this research would not have been possible. These institutions had no role in the design of the study; the collection, analysis, and interpretation of data; or the writing of the manuscript.

Authors' Contributions

SJH, SB, AB and DH conceived of the study. SJH, SB, DH and AB designed the survey instruments. DH and RS collected and managed the survey data. SB and SJH led the analysis and wrote the preliminary text of the paper. All authors reviewed and edited the text and approved the final manuscript.

References

1. Abdella A. Maternal Mortality Trend in Ethiopia. *Ethiop J Health Dev.* 2010;24(1):115–122.
2. Ahman E and Shah I. New Estimates and Trends Regarding Unsafe Abortion Mortality. *Int J Gynecol Obstet.* 2011; 115:121–126.
3. Central Statistical Agency-Ethiopia and ICF. Ethiopia Demographic and Health Survey 2011. Addis Ababa, Ethiopia and Calverton, Maryland, USA: CSA and ICF International; p. 452.
4. Holcombe SJ, Berhe A and Cherie A. Personal Beliefs and Professional Responsibilities: Ethiopian Midwives' Attitudes toward Providing Abortion Services after Legal Reform. *Stud Fam Plann.* 2015;46(1):73–95.
5. Moore AM, Gebrehiwot Y, Fetters T, Wado YD, Bankole A, Singh S, Gebreselassie H and Getachew Y. The Estimated Incidence of Induced Abortion in Ethiopia, 2014: Changes in the Provision of Services Since 2008. *Int Perspect Sex Reprod Health.* 2016;42(3):1-10.
6. World Health Organization, Health Worker Roles in Providing Safe Abortion Care and Post-Abortion Contraception. Geneva; 2015.
7. Central Statistical Agency-Ethiopia, ICF. Ethiopia Demographic and Health Survey 2016 [Internet]. Addis Ababa, Ethiopia, and Rockville, Maryland, USA: CSA and ICF; 2017.
8. Lakew Z, Asres Y, Gebre F and Abdella A. KAP Study On Abortion Among Ethiopian Health Workers.

- Addis Ababa: Ethiopian Society of Obstetricians & Gynecologists; 2002.
9. Abdi J and Gebremariam M. Health Providers' Perception towards Safe Abortion Service at Selected Health Facilities in Addis Ababa. *Afr J Reprod Health*. 2011;15(1):31–36.
 10. Chavkin W, Leitman L and Polin K. Conscientious Objection and Refusal to Provide Reproductive Healthcare: A White Paper Examining Prevalence, Health Consequences, and Policy Responses. *Int J Gynecol Obstet*. 2013;123(S3): S41–S56.
 11. Rehnström Loi U, Gemzell-Danielsson K, Faxelid E and Klingberg-Allvin M. Health Care Providers' Perceptions of and Attitudes towards Induced Abortions in Sub-Saharan Africa and Southeast Asia: A Systematic Literature Review of Qualitative and Quantitative Data. *BMC Public Health*. 2015;15(1):1–13.
 12. Goffman E. *Stigma: Notes on the Management of Spoiled Identity*. New York: Touchstone. 1986.
 13. Link B and Phelan J. Stigma and its Public Health Implications. *Lancet*. 2006; 367:528–529.
 14. Yang L, Kleinman A, Link B, Phelan J, Lee S and Good B. Culture and Stigma: Adding Moral Experience to Stigma Theory. *Soc Sci Med*. 2007; 64:1524–1535.
 15. Major B and O'Brien LT. The Social Psychology of Stigma. *Annu Rev Psychol*. 2005;56(1):393–421.
 16. Martin LA, Debbink M, Hassinger J, Youatt E and Harris LH. Abortion Providers, Stigma and Professional Quality of Life. *Contraception*. 2014;90(6):581–587.
 17. Webb D. Attitudes to 'Kaponya Mafumo': The Terminators Of Pregnancy in Urban Zambia. *Health Policy Plan*. 2000;15(2):186–193.
 18. Kumar A, Hessini L and Mitchell E. Conceptualising Abortion Stigma. *Cult Health Sex*. 2009;11(6):625–39.
 19. Harris LH, Martin L, Debbink M and Hassinger J. Physicians, Abortion Provision and the Legitimacy Paradox. *Contraception*. 2013;87(1):11–16.
 20. Hall RE. Abortion: Physician and Hospital Attitudes. *Am J Public Health*. 1971;61(3):517–519.
 21. Grimes DA. Clinicians Who Provide Abortions: the Thinning Ranks. *Obstet Gynecol*. 1992;80(4):719–23.
 22. van Boekel LC, Brouwers EPM, van Weeghel J and Garretsen HFL. Stigma Among Health Professionals towards Patients with Substance Use Disorders and its Consequences for Healthcare Delivery: Systematic Review. *Drug Alcohol Depend*. 2013;131(1–2):23–35.
 23. Rao H, Mahadevappa H and Pillay P. A Study of Stigmatized Attitudes towards People with Mental Health Problems Among Health Professionals. *J Psychiatr Ment Health Nurs*. 2009; 16:279–284.
 24. Peters RMH, Dadun Van Brakel W H, Zweekhorst M BM, Damayanti R, Bunders JFG and Irwanto. The Cultural Validation of Two Scales to Assess Social Stigma in Leprosy. *PLoS Neglected Tropical Diseases*, 2014; 8(11), e3274.
 25. Brown H, Dickson-Tetteh K, Jewkes R, Levin J and Rees H. *Epidemiology of Incomplete Abortion: South Africa 2000*. Johannesburg: Reproductive Health Research Unit; 2002.
 26. Harries J, Cooper D, Strebel A and Colvin CJ. Conscientious Objection and its Impact on Abortion Service Provision in South Africa: A Qualitative Study. *Reprod Health*. 2014;11(16):1–7.
 27. Aniteye P and Mayhew SH. Shaping Legal Abortion Provision in Ghana: Using Policy Theory to Understand Provider-Related Obstacles to Policy Implementation. *Health Res Policy Syst*. 2013;11(1):23.
 28. Lithur NO. Destigmatising Abortion: Expanding Community Awareness of Abortion as a Reproductive Health Issue in Ghana. *Afr J Reprod Health*. 2004;8(1):70.
 29. Verhaeghe M and Bracke P. Associative Stigma among Mental Health Professionals: Implications for Professional and Service User Well-Being. *J Health Soc Behav*. 2012;53(1):17–32.
 30. Dabash R, Koladycz R and Sanghvi R. Assessing IPPF/WHO Staff Perceptions and Experiences with Abortion in Latin America and the Caribbean. 132nd Annual Meeting (November 6–10, 2004) of APHA. 2004.
 31. Bandewar S. Abortion Services and Providers' Perceptions: Gender Dimensions. *Econ Polit Wkly*. 2003;38(21):2075–81.
 32. Major B and Gramzow R. Abortion as Stigma: Cognitive and Emotional Implications of Concealment. *J Pers Soc Psychol*. 1999;77(4):735–745.
 33. Norris A, Bessett D, Steinberg JR, Kavanaugh ML, De Zordo S and Becker D. Abortion Stigma. *Womens Health Issues*. 2011;21(3): S49–S54.
 34. Aniteye P, O'Brien B and Mayhew SH. Stigmatized by Association: Challenges for Abortion Service Providers in Ghana. *BMC Health Serv Res*. 2016 Sep;16(1):70.
 35. Hammarstedt M and Jacobsson L. Views of Midwives and Gynecologists on Legal Abortion. *Acta Obstet Gynecol Scand*. 2005; 84:58–64.
 36. Wheeler SB, Zullig LL, Reeve BB, Buga GA and Morroni C. Attitudes and Intentions Regarding Abortion Provision Among Medical School Students in South Africa. *Int Perspect Sex Reprod Health*. 2012;38(3):154–163.
 37. Pulerwitz J, Michaelis A, Weiss E, Brown L and Mahendra V. Reducing HIV-Related Stigma: Lessons Learned from Horizons Research and Programs. *Public Health Rep*. 2010;125(2):272–81.
 38. Corrigan PW and Wassel A. Understanding and Influencing the Stigma of Mental Illness. *J Psychosoc Nurs Ment Health Serv*. 2008;46(1):42–8.

39. Shellenberg KM, Hessini L and Levandowski BA. Developing a Scale to Measure Stigmatizing Attitudes and Beliefs About Women Who Have Abortions: Results from Ghana and Zambia. *Women Health*. 2014;54(7):599–616.
40. Cockrill K, Upadhyay UD and Turan J. The Stigma of Having an Abortion: Development of a Scale and Characteristics of Women Experiencing Abortion Stigma. *Perspect Sex Reprod Health*. 2013;45(2):79–88.
41. Martin LA, Debbink M, Hassinger J, Youatt E, Eagen-Torkko M and Harris LH. Measuring Stigma Among Abortion Providers: Assessing the Abortion Provider Stigma Survey Instrument. *Women Health*. 2014;54(7):641–661.
42. Sorhaindo AM, Karver TS, Karver JG and García SG. Constructing a validated scale to measure community-level abortion stigma in Mexico. *Contraception*. 2016;93(5):421–431.
43. Weisman CS, Nathanson CA, Teitelbaum MA, Chase GA and King TM. Abortion Attitudes and Performance Among Male and Female Obstetrician-Gynecologists. *Fam Plann Perspect*. 1986;18(2):67.
44. Costello AB and Osborne JW. Best Practices in Exploratory Factor Analysis: Four Recommendations for Getting the Most From Your Analysis. *Practical Assessment, Research & Evaluation*. 2005;10(7).
45. World Health Organization. *Safe Abortion: Technical And Policy Guidance for Health Systems*. Geneva: World Health Organization; 2012 [cited 2017 Sep 14] p. 132.
46. Warriner IK, Wang D, Huong NTM, Thapa K, Tamang A, Shah I, Baird DT and Meirik O. Can Midlevel Health-Care Providers Administer Early Medical Abortion as Safely and Effectively as Doctors? A Randomised Controlled Equivalence Trial in Nepal. *Lancet Lond Engl*. 2011;377(9772):1155–61.
47. Håkansson M, Oguttu M, Gemzell-Danielsson K and Makenzius M. Human Rights versus Societal Norms: A Mixed Methods Study among Healthcare Providers on Social Stigma Related to Adolescent Abortion and Contraceptive Use in Kisumu, Kenya. *BMJ Global Health*. 2018;3(2):e000608.
48. Prata N, Mukundwa A, Ngoga E, Nyirazinyoye L, Hodoglulil N and Khan A. Measuring Abortion Stigma Among Providers in Rwanda. Presentation to the Rwanda Ministry of Health; 2017; Kigali, Rwanda.
49. Kiprotich Yegon E, Mwaniki P, Echokah E and Osur J. Abortion Stigma Correlates: Comparing Two Kenyan Counties in High and Low incidence of Unsafe abortion. In: AMREF Health Africa International Conference, Nairobi, November 26, 2014. 2014. p. 1–17.
50. Shellenberg K, Manda M, Voetagbe G and Yegon E. Understanding Abortion Stigma in the African context: Findings from Ghana, Zambia, Kenya and Uganda. Manuscript in preparation. 2017.
51. Holcombe SJ. Ethiopia's Reform of its Law on Abortion: Agenda-Setting, Advocates, and Implementation [dissertation]. Chapter 3, p. 104-154 . [Berkeley, CA]: University of California, Berkeley; 2014.
52. Ethiopian Midwives Association and UNFPA. *State of Ethiopia's Midwifery 2012*. Addis Ababa, Ethiopia: Ethiopian Midwives Association; 2012
53. Federal Ministry of Health, Federal Democratic Republic of Ethiopia. *Standard of Midwifery Care Practice*. Addis Ababa, Ethiopia: Federal Democratic Republic of Ethiopia; 2013.
54. Ethiopian Midwives Association. *Professional Code of Ethics and Conduct for Midwives*. Addis Ababa, Ethiopia: Ethiopian Midwives Association; 2011 p. 1–34.