

# Social Psychiatry and Psychiatric Epidemiology

## The Association Between Social Support Through Contacts with Accredited Social Health Activists (ASHAs) and Antenatal Anxiety among Women in Mysore, India: A Cross-Sectional Study

--Manuscript Draft--

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<b>Abstract:</b>	<p><b>Purpose</b></p> <p>In India, antenatal anxiety prevalence estimates range from 6% to 48%. Social support is strongly associated with mental wellbeing, yet most studies have examined the impact of support from partners and family members rather than peers, community members, or health care providers. This study explores the supportive role of Accredited Social Health Activists (ASHA) contacts for antenatal anxiety.</p> <p><b>Methods</b></p> <p>Data were analyzed from the Saving Children, Improving Lives project, a quasi-experimental study conducted among rural, pregnant women in India. Regression</p>	

models were used to estimate adjusted prevalence ratios (aPRs) and 95% confidence intervals for the relationship frequency of ASHA contacts and antenatal anxiety. Antenatal anxiety was measured using a subscale of the Edinburgh Postnatal Depression Scale.

#### Results

The sample consisted of 480 pregnant women. Reported antenatal anxiety prevalence was 27% (95% CI: 23%, 31%). Participants who were more frequently visited by ASHAs at home (aPR: 0.90; 95% CI: 0.76, 0.98) and more frequently accompanied by ASHAs to their antenatal care visits (aPR: 0.86, 95% CI: 0.78, 0.95) were less likely to report antenatal anxiety. ASHA home visits were protective for the most vulnerable women (primigravida and those experiencing domestic violence) and ASHA accompaniment to antenatal care visits was equally protective for all women.

#### Conclusions

ASHAs are valued for their contribution towards maternal health education and linking women of reproductive age to healthcare services. Our findings additionally suggest the important role ASHAs play in providing social support to pregnant women, particularly those who are most vulnerable to experiencing antenatal anxiety.

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## ABSTRACT

**Purpose:** In India, antenatal anxiety prevalence estimates range from 6% to 48%. Social support is strongly associated with mental wellbeing, yet most studies have examined the impact of support from partners and family members rather than peers, community members, or health care providers. This study explores the supportive role of Accredited Social Health Activists (ASHA) contacts for antenatal anxiety.

**Methods:** Data were analyzed from the Saving Children, Improving Lives project, a quasi-experimental study conducted among rural, pregnant women in India. Regression models were used to estimate adjusted prevalence ratios (aPRs) and 95% confidence intervals for the relationship frequency of ASHA contacts and antenatal anxiety. Antenatal anxiety was measured using a subscale of the Edinburgh Postnatal Depression Scale.

**Results:** The sample consisted of 480 pregnant women. Reported antenatal anxiety prevalence was 27% (95% CI: 23%, 31%). Participants who were more frequently visited by ASHAs at home (aPR: 0.90; 95% CI: 0.76, 0.98) and more frequently accompanied by ASHAs to their antenatal care visits (aPR: 0.86, 95% CI: 0.78, 0.95) were less likely to report antenatal anxiety. ASHA home visits were protective for the most vulnerable women (primigravida and those experiencing domestic violence) and ASHA accompaniment to antenatal care visits was equally protective for all women.

**Conclusions:** ASHAs are valued for their contribution towards maternal health education and linking women of reproductive age to healthcare services. Our findings additionally suggest the important role ASHAs play in providing social support to pregnant women, particularly those who are most vulnerable to experiencing antenatal anxiety.

**KEYWORDS:** antenatal anxiety, social support, community health workers

## INTRODUCTION

Pregnancy is a time of immense physiological and psychosocial change for women, increasing their vulnerability for the onset or relapse of mental health issues.<sup>1</sup> Some women may experience their first depressive or anxious episode during the antenatal period, while those with a history of depression or anxiety are at increased risk for recurrence, continuation, or intensification.<sup>2,3</sup> Depression and anxiety during pregnancy have been linked with a number of adverse outcomes for both women and their children. Among women, antenatal depression and anxiety been associated with maternal malnutrition, increased substance abuse, and low uptake of antenatal care.<sup>4-7</sup> Children of women with antenatal depression and anxiety are at a higher risk of premature birth, low birthweight, impaired cognitive growth, and development of depression in later life.<sup>8,9</sup> Antenatal depression and anxiety have also been recognized as strong predictors of postnatal depression, one the causes of infant failure to thrive.<sup>1,10-12</sup> Taken together, this evidence points to the importance of developing preventive and therapeutic mental health interventions for women during pregnancy.

The importance of antenatal mental health interventions may have even greater relevance in low- and middle-income countries (LMICs) compared to high-income countries (HICs) given the gap between the burden of mental health issues and available evidence-based services in LMICs.<sup>13-15</sup> Recent systematic reviews and meta-analyses have found that the prevalence of antenatal depression and anxiety can range from 7% to 15% in HICs and from 19% to 25% in LMICs.<sup>13,14,16</sup> While one out of five persons with depression receive care in HICs, only one out of 27 receive any care in LMICs, often due to a lack of funding, human resources, medication, and stigma relating to mental health care.<sup>15,17-21</sup> This is particularly the case in India where antenatal depression and anxiety prevalence estimates range from 6% to 48% and a recent national mental health survey reported a treatment gap of 85% across the country for common mental disorders.<sup>22-29</sup> Among studies from India, few have specifically focused on antenatal anxiety and its associated risk factors. Between the two existing studies, risk factors for antenatal anxiety include economic deprivation, low education, younger age, primigravida, male infant gender preference, intimate partner violence (IPV), domestic violence (DV).<sup>30,31</sup>

No studies in India have examined the association between antenatal anxiety and social support, despite considerable evidence in other contexts of its protective value.<sup>7,32-34</sup> Social support is the provision of emotional, instrumental, or informational assistance leading one to

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4 believe that they are cared for, loved, esteemed, and a member of a network of mutual  
5 obligations.<sup>35</sup> Social support may directly protect against anxiety or function by buffering the  
6 impact of stressful life circumstances that lead to anxiety.<sup>35-38</sup> For example, experience of IPV is  
7 a risk factor for antenatal anxiety and its effect has shown to be buffered by social support.<sup>7,36,39</sup>  
8 Studies examining antenatal anxiety have often only measured husband or husband's family  
9 based social support rather than social support from peers, community members, or health care  
10 providers.<sup>7,32,33</sup> In India, Accredited Social Health Activists (ASHA) are a cadre of community  
11 health volunteers who receive performance-based incentives for promoting universal  
12 immunization, referral and escort services for reproductive and child health and other healthcare  
13 programs in their villages.<sup>40</sup> They have the potential to provide a unique source of social support  
14 given that they are often trusted women who are invested in improving the wellbeing of their  
15 fellow community members, and serve as a link to the local health system. Understanding the  
16 role of non-family member social support in this context, specifically from ASHAs, has the  
17 potential to inform the development of future evidence-based interventions for the prevention  
18 and treatment of antenatal anxiety.

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The first aim of this analysis was to examine whether the frequency of contact with ASHAs, serving as a proxy for social support, was associated with antenatal anxiety among a sample of pregnant women in rural India. The second aim of this analysis was to assess the extent to which frequency of contact with ASHAs was protective for women most vulnerable to antenatal anxiety by investigating whether IPV, DV, and gravidity were moderators of the association between ASHA contact and antenatal anxiety.

## **METHODS**

### *Parent Study Context and Design*

Data for this analysis come from the Saving Children, Improving Lives (SCIL) project, a quasi-experimental study conducted among rural, pregnant women in Mysore district of Karnataka, India from 2011 to 2014. Mysore district has a mostly rural (58%) population of three million, half of whom are female.<sup>41</sup> The SCIL project used a combination of community education efforts, mobile medical clinics, and social mobilization via self-help groups to increase uptake of antenatal care and HIV testing pregnant women. Additional details on the design and results of the SCIL project have been published previously.<sup>42,43</sup>

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6 *Parent Study Recruitment, Data Collection, and Ethics Approval*  
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8         The SCIL project included 40 villages out of 209 total villages in Mysore district.  
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10        Villages were randomly selected using probability proportional to size sampling from a  
11        sampling frame defined by the following criteria: located 10 kilometers outside of Mysore city  
12        boundaries, a population size between 1,500-3000 individuals, and no existing public medical  
13        facility. Community education meetings were first conducted in each selected village to  
14        emphasize the importance of antenatal care and HIV testing and to inform members about the  
15        SCIL project. Mobile clinics then visited each village. Pregnant women who came to access  
16        health services at the mobile clinic were informed about the study, consented, and enrolled, if  
17        interested and eligible. Eligibility criteria included being currently pregnant, older than 18 years  
18        of age, and residing in a study village for more than six months.  
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26         Behavioral survey data and clinical data were collected from participants across three  
27        waves of the SCIL project. This analysis used behavioral survey data from the first wave of data  
28        collection, spanning April 2011 to March 2012. Surveys were administered by trained  
29        interviewers in *Kannada*, the local language, using structured questionnaires. The behavioral  
30        survey contained questions about demographics, socio-economic status, knowledge and attitudes  
31        about antenatal care, past and current care-seeking behaviors, interactions with healthcare  
32        workers, and psychosocial symptoms. Following the mobile clinic visit, survey data were entered  
33        into a Microsoft Access database by trained data entry staff (Microsoft Corporation, Redmond,  
34        WA).  
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43         The SCIL project received approval from the Institutional Review Board of the Public  
44        Health Research Institute of India (protocol number 2011-03-26-10) and Florida International  
45        University. Voluntary written informed consent was obtained from all participating women.  
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50 *Measures*  
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52         Outcome: Antenatal anxiety symptoms were evaluated using a three-item sub-scale of  
53        the Edinburgh Postnatal Depression Scale (EPDS) known as EPDS-3A.<sup>44</sup> The original EPDS is a  
54        10-item instrument designed to identify symptoms of depression among women who are  
55        pregnant or postpartum.<sup>45-47</sup> EPDS-10, which includes EPDS-3A items, has been previously  
56        translated, back-translated, and validated in *Kannada* among antenatal women in rural  
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4 Karnataka.<sup>48</sup> EPDS-3A has been found to be a valid tool for screening for anxiety in pregnant  
5 women and reliably able to distinguish between anxiety and depression symptoms. The three  
6 items in the EPDS-3A each included a choice of four answers that reflected how the participant  
7 was feeling over the past seven days. Individual item scores are recorded as zero, one, two, or  
8 three according to symptom severity. Total scores ranged from zero to nine and a cutoff score of  
9 six was utilized for detecting antenatal anxiety.<sup>49</sup>

15 Exposures: Frequency of contact with ASHAs served as a proxy measure for social  
16 support in this analysis using two categorical items. Item one measured the frequency at which  
17 ASHAs visited the participant at home. Item two measured the frequency at which ASHAs  
18 accompanied the participant to antenatal care visits. Responses to both items included never,  
19 rarely (every three months), occasionally (every two months), and regularly (once a month).

24 Moderators: Our moderators of interest were IPV, DV, and gravidity. Husband  
25 perpetrated IPV and husband's family perpetrated DV were measured using the three-item Abuse  
26 Assessment Screen.<sup>50,51</sup> Participants were asked whether they had ever been "*kicked, hit,*  
27 *slapped, or otherwise physically hurt*", "*forced into sexual activity against your wish*", or  
28 "*humiliated or emotionally abused*" by their husband or by their husband's family. Ever  
29 experience of husband perpetrated IPV was recorded as positive if the participant answered yes  
30 to any of the three husband referent items and null if the participant answered no to all of the  
31 three husband referent items. Ever experience of husband's family perpetrated DV was recorded  
32 as positive if the participant answered yes to any of the three husband's family referent items and  
33 null if the participant answered no to all of the three husband's family referent items. Gravidity  
34 was a dichotomous item measuring whether the participant was primigravida versus having been  
35 multigravida (previously pregnant).

46 Covariates: Our covariates of interest included age (in continuous single years), primary  
47 school completion (standard 8), monthly income (in continuous Indian rupees), trimester, and  
48 number of living children. These variables have been shown to be associated with antenatal  
49 mental health among pregnant women in India.<sup>52</sup>

### 55 *Data Analysis*

57 We first calculated the number and proportion of participants who had each socio-  
58 demographic characteristic as well as the number and proportion who experienced pregnancy,  
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4 childbirth, IPV, and DV. We then used chi-square tests to compare characteristics and  
5 experiences across participants with antenatal anxiety symptoms and participants without  
6 antenatal anxiety symptoms. Where cells were less than five, Fisher's Exact tests were used  
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8 (Table 1).  
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11 Second, we used a generalized linear model with a log link and binomial distribution to  
12 estimate prevalence ratios and corresponding 95% confidence intervals for the relationship  
13 between ASHA support and antenatal anxiety. We ran unadjusted and covariate adjusted models.  
14 The covariate adjusted models included age in years, primary school completion, monthly  
15 income, trimester, gravidity, and ever experience of IPV or DV (husband and husband's family  
16 perpetrated). To explore our effect modification hypothesis, we refit our covariate adjusted  
17 model with interaction terms between the two types of ASHA support and gravida as well as the  
18 two types of ASHA support and having ever experienced IPV or DV (husband and husband's  
19 family perpetrated). We then performed Wald-type F-tests to assess the joint statistical  
20 significance of the interaction terms. All analyses were conducted using StataSE, version 14.2  
21 (College Station, TX).  
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## 32 33 **RESULTS**

### 34 35 *Population Characteristics*

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37 The sample consisted of 480 pregnant women who were predominantly primigravida  
38 (65%) and were in their second trimester (52%). Median age was 21 years (interquartile range  
39 18-23 years). The majority of participants had completed primary education (57%) and did not  
40 have living children (55%). Median monthly income 5000 INR (interquartile range 3000-8000  
41 INR) and most participants had a monthly income less than 5000 INR per month (56%).  
42 Participants reported ever experiencing husband perpetrated physical (13%), sexual (11%), and  
43 emotional (13%) violence, as well as ever experiencing husband's family perpetrated physical  
44 (3%), sexual (0.01%), and emotional (15%) violence (Table 1).  
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### 54 55 *Population Characteristics and Antenatal Anxiety Prevalence*

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57 Prevalence of reported antenatal anxiety was 26.8% (95% CI: 0.23, 0.31). Participants  
58 with antenatal anxiety differed from participants without antenatal anxiety across most  
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4 sociodemographic characteristics, experiences of pregnancy, and experiences of IPV. Compared  
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6 to participants without anxiety, participants with anxiety were younger (median age 19 vs. 21,  $p$   
7 = 0.032), a lower proportion had completed primary school (50% vs. 60%,  $p = 0.045$ ), and  
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9 higher proportion lived in households with monthly incomes less than 5000 INR (62% vs. 53%,  
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11  $p = 0.048$ ).  
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#### 14 15 *ASHA Support and Antenatal Anxiety*

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17 Both types of ASHA support were negatively associated with prevalence of antenatal  
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19 anxiety. Participants who were more frequently visited by ASHAs at home (adjusted prevalence  
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21 ratio (aPR): 0.90; 95% CI: 0.76, 0.98) and participants who were more frequently accompanied  
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23 by ASHAs to their ANC visits (aPR: 0.86, 95% CI: 0.78, 0.95) were less likely to have antenatal  
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25 anxiety (Table 2 and Table 3).  
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#### 28 29 *ASHA Support, Antenatal Anxiety, and Gravidity*

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31 Primigravida were more likely to have antenatal anxiety in the ASHA home visit adjusted  
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33 model (aRR: 1.19, 95% CI: 1.03, 1.67) as well as the ASHA ANC visit adjusted model (aRR:  
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35 1.17, 95% CI: 1.08, 1.93). Gravidity was a modifier of ASHA home visits (Interaction Beta: -  
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37 0.13, 95% CI: -0.29, -0.06) but not for ASHA ANC visits (Interaction Beta: -0.43, 95% CI: -  
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39 0.79, 0.07) (Table 2 and Table 3). Our effect modification results suggest that ASHA home visits  
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41 were only protective for primigravida and ASHA ANC visits were protective for all women,  
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43 regardless of gravidity (Figure 1a-1b).  
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#### 45 46 *ASHA Support and Antenatal Anxiety Stratified by Husband Perpetrated IPV*

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48 Participants who had experienced any husband perpetrated IPV were more likely to have  
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50 antenatal anxiety in our ASHA home visit adjusted model (aRR: 1.58, 95% CI: 1.08, 2.30) as  
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52 well as our ASHA ANC visit adjusted model (aRR: 1.66, 95% CI: 1.14, 2.41). Husband  
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54 perpetrated IPV was a modifier of ASHA home visits (Interaction Beta: -0.55, 95% CI: -1.20, -  
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56 0.11) but not for ASHA ANC visits (Interaction Beta: -0.30, 95% CI: -0.78, 0.17) (Table 2 and  
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58 Table 3). Our effect modification results suggest that ASHA home visits were only protective for  
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60 participants who had experienced husband perpetrated IPV and ASHA ANC visits were  
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62 protective for all women, regardless of husband perpetrated IPV experience (Figure 2a-2b).  
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6 *ASHA Support and Antenatal Anxiety Stratified by Husband's Family Perpetrated DV*

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8 Participants who had experienced any husband's family perpetrated DV were more likely  
9 to have antenatal anxiety in our ASHA home visit adjusted model (aRR: 1.62, 95% CI: 1.09,  
10 2.40) as well as our ASHA ANC visit adjusted model (aRR: 1.61, 95% CI: 1.09, 2.39).  
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12 Husband's family perpetrated DV was a modifier of ASHA home visits (Interaction Beta: -0.19,  
13 95% CI: -0.78, -0.04) but not for ASHA ANC visits (Interaction Beta: -0.02, 95% CI: -0.48,  
14 0.52) (Table 2 and Table 3). Our effect modification results suggest that ASHA home visits were  
15 only protective for participants who have experienced husband's family perpetrated DV and  
16 ASHA ANC visits were protective for all women, regardless of husband's family perpetrated DV  
17 experience (Figure 3a-3b).  
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26 **DISCUSSION**

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28 To our knowledge, this study is one of the first to examine the association between ASHA  
29 contacts and antenatal mental health outcomes in India. More than a quarter of all study participants  
30 reported antenatal anxiety. Participants who were more frequently visited by ASHAs at home and  
31 participants who were more frequently accompanied by ASHAs to their antenatal care visits were less  
32 likely to report antenatal anxiety. In addition, ASHA home visits were protective for the most vulnerable  
33 women (primigravida and those experiencing husband or husband's family perpetrated intimate partner  
34 violence) and ASHA accompaniment to antenatal care visits was equally protective for all women.  
35 Taken together, our results suggest the potentially important role ASHAs play in providing contact-  
36 based social support to pregnant women, particularly those who are most vulnerable to experiencing  
37 antenatal anxiety.  
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46 The linkage between poor partner and family social support and antenatal depression has  
47 been well documented in India but non-family member social support is largely  
48 unexamined.<sup>23,54-57</sup> Non-family member social support might be especially salient given the  
49 marital and household structure across many parts of the country. Women often leave their  
50 parental homes after marriage and join the multigenerational household of their spouse, exposing  
51 them to the norms and fertility preferences of their new family members. Pressure to conform to  
52 in-law expectations and to produce male children also has been found to be isolating and  
53 associated with antenatal anxiety and depression.<sup>23,58-61</sup> Given this context, identifying non-  
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4 family members who provide social support and facilitating their efforts could be equally as  
5 important as improving partner and family social support for pregnant women. Our findings add  
6 to the existing literature by examining ASHA social support and suggest its potential for  
7 protection against poor mental health outcomes.  
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11 Psychosocial interventions delivered by non-specialists have been found to be beneficial  
12 for common perinatal mental disorders in low and middle income countries.<sup>62,63</sup> Many of these  
13 interventions have included a component of peer support provision by trained lay health workers  
14 or “mentor mothers”.<sup>62,64,65</sup> Lay peer support is built on the well documented effects of social  
15 support on health, as well as the recognition that people experiencing disease or other health  
16 challenges have a great deal to offer each other.<sup>38,66–69</sup> In addition to knowledge and experience  
17 of a certain health concern or stressor, peer supporters often share a similar demographic  
18 background and community network with support recipients, enhancing their ability to provide  
19 socially relevant care and assistance.<sup>70</sup> ASHAs are uniquely positioned to provide peer support  
20 given that they are trusted women who serve as a link between communities and health systems.  
21 Due to the observational nature of our study, we did not collect data on the characteristics of the  
22 ASHAs or the nature of their interactions with participants during home visits or accompaniment  
23 to ANC visits. Future research that documents shared characteristics and the type of support  
24 provided is essential for developing effective peer support components for antenatal anxiety and  
25 depression interventions.  
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39 Our antenatal anxiety prevalence results slightly differed from prior cross-sectional  
40 studies of antenatal anxiety in India. Beyond differences in population, all four studies used  
41 different tools to measure antenatal anxiety: the Pregnancy Related Thoughts Scale, the State  
42 Trait Anxiety Inventory, the Hospital Anxiety and Depression Scale, and the Pregnancy Related  
43 Anxiety Scale.<sup>26,31,71,72</sup> These tools differ from the EPDS-3A as they include more than three  
44 items, physical symptoms, and suggest cut-points to scale the severity of antenatal anxiety.  
45 Although the EPDS-3A has been validated among pregnant women in southern India, future  
46 work that explores the differences among antenatal anxiety scales in this population is  
47 necessary.<sup>48</sup>  
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55 Our study has a few limitations. First, with our cross-sectional data, we report the  
56 prevalence of reported antenatal anxiety, but cannot make causal inferences about how any of the  
57 considered variables affect incidence and duration of reported antenatal anxiety. Our data do not  
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4 show whether reported antenatal anxiety was incident during pregnancy or preceded the  
5 pregnancy. Second, we utilized contact with ASHAs as a proxy measure for social support which  
6 is a complex construct. Third, the EPDS, and the EPDS-3A subscale, are screening tools and do  
7 not diagnose antenatal anxiety or depression. While our cut-point of six was based on the  
8 validation study and demonstrated reasonable sensitivity and specificity, it is possible that some  
9 participants were falsely categorized as screening positive or negative for reported antenatal  
10 anxiety.<sup>44</sup> The cross-sectional nature of the study imposed a fourth limitation. Anxiety symptoms  
11 may vary over time during a woman's pregnancy but our assessment was restricted to a single  
12 point in time. Fifth, data were based on self-report which can be unreliable due to social  
13 desirability issues, perception, or memory challenges. Finally, our social support measures were  
14 derived from single items on the behavioral survey. Multidimensional scales may better capture  
15 these variables of interest more accurately.  
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## 27 **CONCLUSION**

28 ASHAs are valued for their contribution towards maternal health education and linking  
29 women of reproductive age, and their children, to healthcare services. Our findings additionally  
30 suggest the important role ASHAs play in providing social support to pregnant women,  
31 particularly those who are most vulnerable to experiencing antenatal anxiety.  
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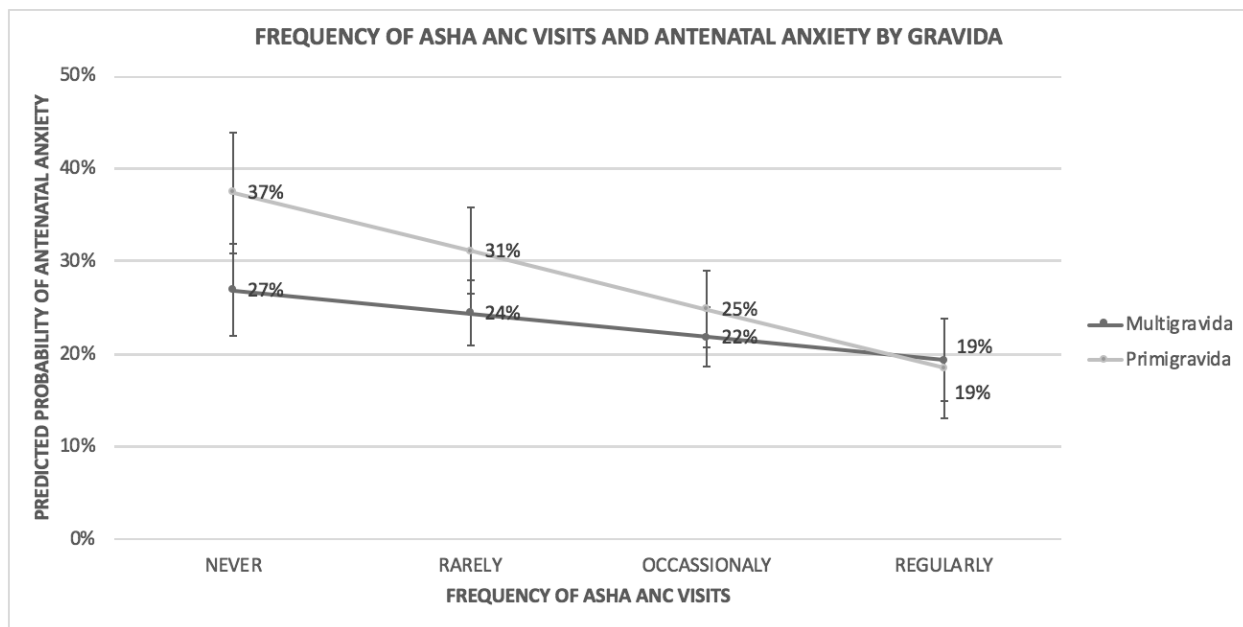
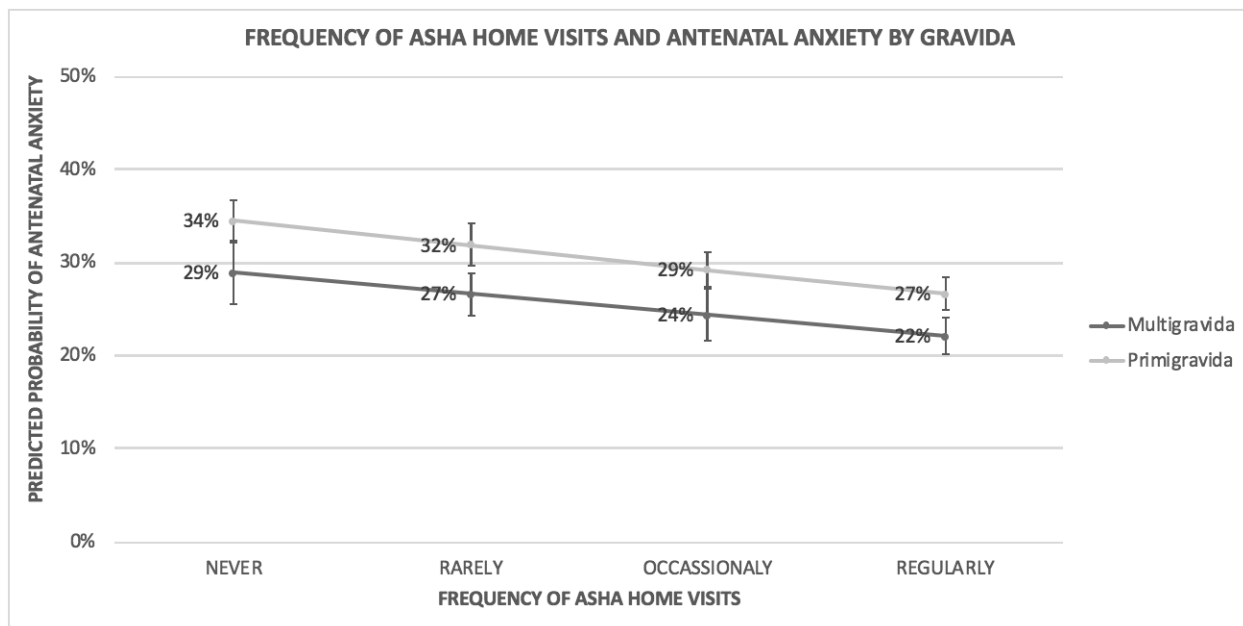
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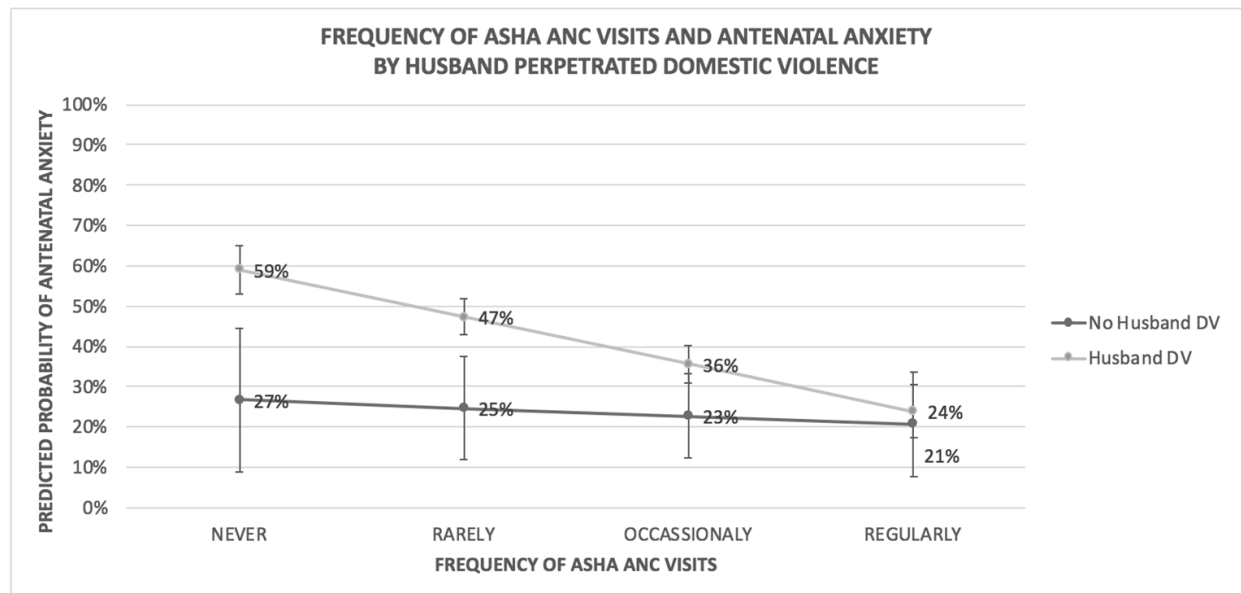
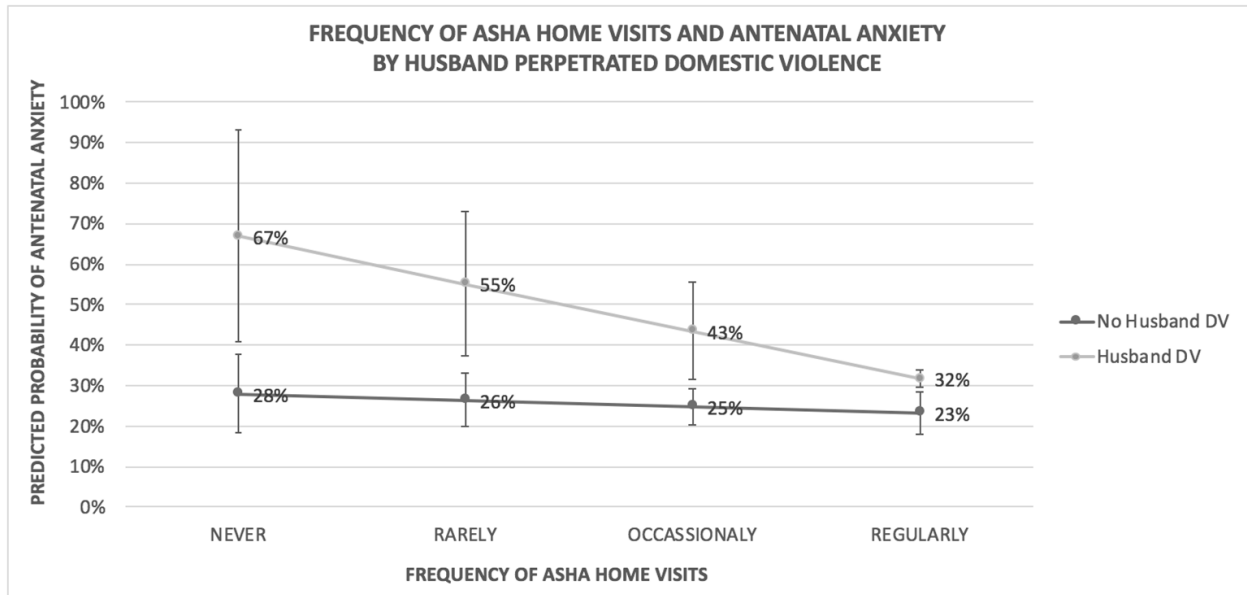
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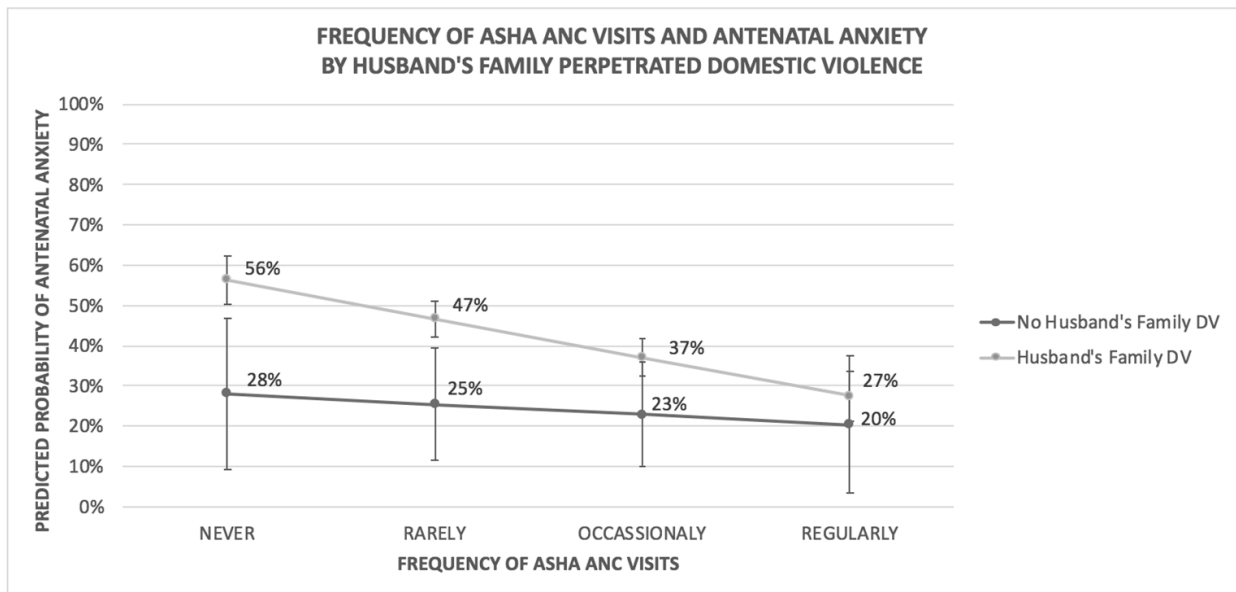
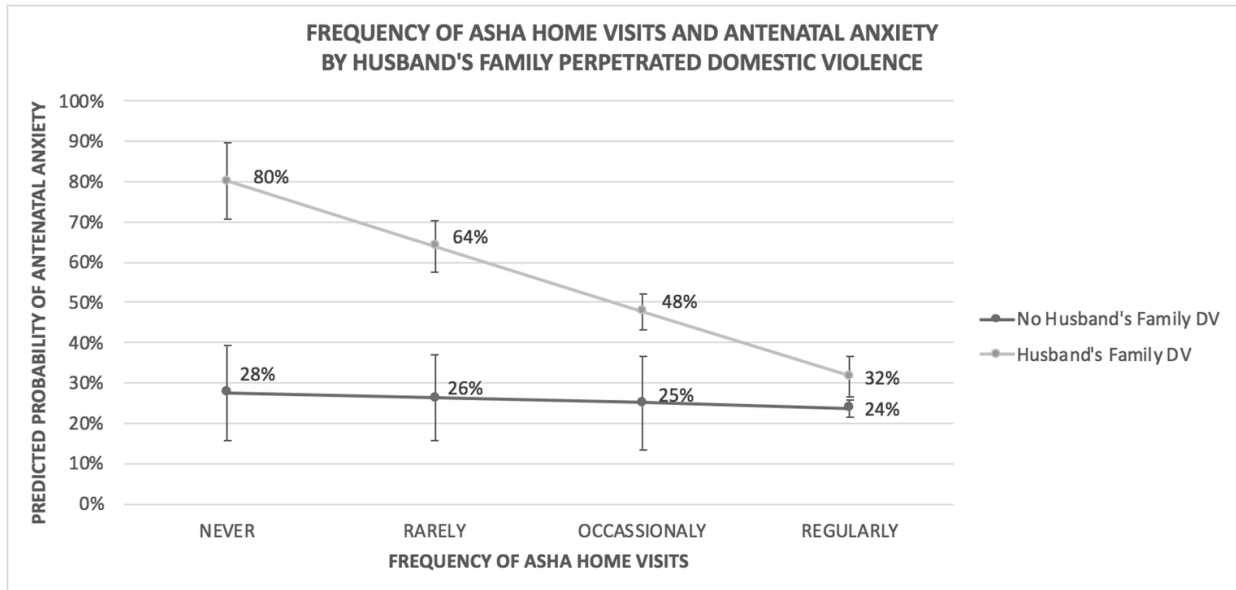
**Figure 1a-1b. ASHA Social Support and Antenatal Anxiety by Gravida**



**Figure 2a-2b. ASHA Social Support and Antenatal Anxiety by Husband Perpetrated Domestic Violence**



**Figure 3a-3b. ASHA Social Support and Antenatal Anxiety by Husband's Family Perpetrated Domestic Violence**



**Table 1. Participant Characteristics and Experiences by Antenatal Anxiety (N = 480)**

	All Participants* (N = 480)		Anxious (N = 129)		Not Anxious (N = 351)		Chi-Square
	N	(%)	N	(%)	N	(%)	p-value
<u>Demographics</u>							
Age (years)							
18-22	336	70%	81	63%	255	73%	
23-42	144	30%	48	37%	96	27%	0.037
Education Attained							
Primary School Complete	274	57%	64	50%	210	60%	
Primary School Incomplete	206	43%	65	50%	141	40%	0.045
Monthly Income							
< 5000 INR	267	56%	80	62%	187	53%	
5000-10,000 INR	163	34%	36	28%	127	36%	
> 10,000 INR	50	10%	13	10%	37	11%	0.048
<u>Pregnancy and Children</u>							
Current Trimester							
First (1-13 Weeks)	58	12%	8	6%	50	14%	
Second (14-26 Weeks)	248	52%	74	57%	174	50%	
Third (26-42+ Weeks)	174	36%	47	36%	127	36%	0.046
Gravida							
Primigravida	311	65%	94	73%	217	62%	
Multigravida	169	35%	35	27%	134	38%	0.025
Number of Living Children							
0	260	54%	75	58%	185	53%	
>1	220	46%	54	42%	166	47%	0.290
<u>Violence Experience</u>							
Husband							
Physical	61	13%	28	22%	33	9%	p < 0.001
Sexual	54	11%	30	23%	24	7%	p < 0.001
Emotional	62	13%	29	22%	33	9%	p < 0.001
Husband's Family							
Physical	12	3%	10	8%	2	1%	p < 0.001
Sexual	1	0%	1	1%	0	0%	p < 0.001
Emotional	70	15%	34	26%	36	10%	p < 0.001

\*Columns do not add to total due to missing data

**Table 2. Association Between ASHA Home Visits and Antenatal Anxiety (N = 480)**

	Model 1				Model 2							
	$\beta$	95% CI		aRR	95% CI		$\beta$	95% CI		aRR	95% CI	
<b>Main Effects</b>												
ASHA Home Visits	-0.16*	(-0.35, -0.02)		0.90*	(0.76, 0.99)		-0.17*	(-0.53, -0.02)		0.90*	(0.73, 0.99)	
Age	0.04	(-0.03, 0.11)		1.03	(0.97, 1.10)		0.04	(-0.03, 0.11)		1.04	(0.97, 1.10)	
Primary Education Complete	-0.02	(-0.08, 0.04)		0.99	(0.95, 1.03)		-0.01	(-0.07, 0.05)		0.99	(0.95, 1.03)	
Monthly Income (INR)	-0.11	(-0.44, 0.22)		0.93	(0.74, 1.16)		-0.12	(-0.46, 0.21)		0.92	(0.74, 1.15)	
Trimester	0.19	(-0.14, 0.51)		1.15	(0.89, 1.49)		0.18	(-0.15, 0.51)		1.14	(0.88, 1.46)	
Primigravida	0.25*	(0.02, 0.99)		1.19*	(1.03, 1.67)		-0.05	(-1.12, 1.02)		0.97	(0.48, 1.96)	
Experienced Any DV (Husband)	0.69*	(0.10, 1.27)		1.58*	(1.08, 2.30)		1.20	(-0.34, 2.75)		2.13	(0.92, 4.90)	
Experienced Any DV (Husband's Family)	0.73*	(0.10, 1.36)		1.62*	(1.09, 2.40)		2.07*	(0.35, 3.81)		3.05*	(1.70, 5.49)	
<b>Interactions</b>												
ASHA Home Visits X Primigravida							-0.13*	(-0.29, -0.06)		0.91*	(0.74, 0.98)	
ASHA Home Visits X DV (Husband)							-0.55*	(-1.20, -0.11)		0.73*	(0.54, 0.99)	
ASHA Home Visits X DV (Husband's Family)							-0.19*	(-0.78, -0.04)		0.89*	(0.62, 0.99)	

\*p-value < 0.05

**Table 3. Association Between ASHA ANC Visits and Antenatal Anxiety (N = 480)**

	Model 1				Model 2							
	$\beta$	95% CI		aRR	95% CI		$\beta$	95% CI		aRR	95% CI	
<b>Main Effects</b>												
ASHA ANC Visits	-0.23*	(-0.40, -0.06)		0.86*	(0.78, 0.95)		-0.24*	(-0.57, -0.09)		0.89*	(0.70, 0.99)	
Age	0.04	(-0.03, 0.11)		1.04	(0.97, 1.11)		0.04	(-0.03, 0.11)		1.03	(0.97, 1.10)	
Primary Education Complete	-0.02	(-0.08, 0.04)		0.99	(0.95, 1.03)		-0.02	(-0.08, 0.04)		0.99	(0.95, 1.02)	
Monthly Income (INR)	-0.13	(-0.46, 0.20)		0.92	(0.73, 1.15)		-0.12	(-0.46, 0.21)		0.92	(0.74, 1.15)	
Trimester	0.15	(-0.18, 0.48)		1.12	(0.87, 1.44)		0.13	(-0.20, 0.47)		1.10	(0.86, 1.40)	
Primigravida	0.23*	(-0.76, -0.07)		1.17*	(1.08, 1.93)		0.79*	(0.08, 1.51)		1.72*	(1.04, 2.83)	
Experienced Any DV (Husband)	0.77*	(0.17, 1.37)		1.66*	(1.14, 2.41)		1.25*	(0.27, 2.23)		2.15*	(1.28, 3.62)	
Experienced Any DV (Husband's Family)	0.74*	(0.09, 1.38)		1.61*	(1.09, 2.39)		0.73*	(0.18, 1.76)		1.59*	(1.01, 2.94)	
<b>Interactions</b>												
ASHA ANC Visits X Primigravida							-0.43	(-0.79, 0.07)		0.77	(0.77, 1.01)	
ASHA ANC Visits X DV (Husband)							-0.30	(-0.78, 0.17)		0.82	(0.62, 1.10)	
ASHA ANC Visits X DV (Husband's Family)							-0.02	(-0.48, 0.52)		0.96	(0.73, 1.41)	

\*p-value < 0.05