

## **Table S1 Obstetric danger signs identified by only few participants**

Danger signs mentioned by only few females' and male participants during maternal care in rural, Jimma Ethiopia

<b>Danger signs</b>	<b>Male</b>	<b>Percentage</b>	<b>Female</b>	<b>Percentage</b>
Severe abdominal pain	23	12.6%	40	13.2%
Back pain	9	4.9%	23	7.6%
Abnormal presentation	57	31.3%	84	27.8%
Abnormal position	10	5.4%	25	8.3%
Fetal distress and death	5	2.7%	19	6.3%
Fetus return back to uterus	33	18.1%	23	7.6%
Vaginal tear	15	8.2%	36	11.9%
Weakness	17	9.3%	25	8.2%
Pre-rupture of membrane and no rupture	13	7.1%	27	8.9%

## **Bivariate regression analysis**

### **Bivariate analysis of danger sign knowledge and its determinants during pregnancy.**

The study found that both women 956(63.1%) and men 784(56.5%) aged 26-35 have shown good danger signs knowledge. They were 1.33 and 1.22 times more likely to mention at least two danger signs during pregnancy respectively. Moreover, as the male participants' educational levels rise, the majority of them become more knowledgeable about danger signs; males are more likely than women to recognize at least two danger sign. Women's educational status, however, did not significantly associate with danger signs knowledge. Besides to this, the study revealed that occupation has significantly associated with danger sign knowledge. Women in farming and government employee were more likely to know at least two danger signs than being the house wives, whereas men's being merchant were more likely to know at least two danger signs. Both genders showed good knowledge of danger signs, with annual household income being a significant factor. The study showed that an increased annual income by one or two folds the odds of knowing danger signs increased by COR=2.33 for women and COR=1.22 for men. However, when income was increased by three or more folds, the odds of knowing danger sign decreased by 28% for women and 35% for men. Women who didn't have their own mobile phone were more knowledgeable than the rest of participants. Men had a statistically significant association with having their own mobile phone, making them 1.54 times more likely to know at least two danger signs. Both men and women with better literacy levels, daily radio listening, and positive evaluation of maternal health facilities have a significant relationship with danger sign knowledge during pregnancy.

### **Bivariate analysis of danger sign knowledge and its determinants during labor and delivery.**

The study found that a higher proportion of women and men identified at least two obstetric danger signs knowledge, but age did not significantly affect this knowledge during labor and delivery. Factors such as education, occupation, household income, and mobile ownership found to be significant associations with danger signs knowledge. In both men and women an increased

educational status increased the odds of identifying at least two danger signs. Men became merchant had higher odds (1.27) of good danger signs knowledge. Women with farming, merchant, and government employee were more likely to know at least two danger signs. Men with the annual income between 20,000-30,000 EHB had higher odds of danger sign knowledge. As well as, an increased women's annual income by one or two folds increased their odds of knowing at least two danger signs by 1.30 times and 2.06 times, respectively. However, increasing income by three folds decreased the odds by 31%. Men with own mobile phones had higher odds of knowing danger signs by 1.27 times, while women had no significant association with mobile phone ownership. Both men and women with better literacy levels, daily radio listening, and positive evaluation of maternal health facilities have a significant relationship with danger sign knowledge during pregnancy.

### **Bivariate analysis of danger sign knowledge and its determinants during post-natal**

A significant number of men and women participants had poor danger signs knowledge during the postnatal period. Majority was found between the ages of 26-35. However, in both men and women, age did not significantly influence obstetric danger signs knowledge. Factors such as education, occupation, annual household income, and mobile ownership were found to be significant association to know at least two danger signs. Men who had primary, secondary, and higher education had higher odds of knowing more than two obstetric danger signs, while women who had education in primary and higher education had higher odds of knowing danger signs. The study showed that no significant association between men's occupation and danger sign knowledge, but women who became farmers, merchants, and government employees had higher odds of good danger signs knowledge. Income did not show a significant association with danger sign knowledge among men. However, women's whose income became higher increased the odds of danger signs knowing, while men with mobile phones had higher odds of knowing obstetric danger signs. However, which was no significant association with women's danger signs knowledge in the postnatal period. The findings suggest that increased income can significantly influence knowledge of danger signs. Women and men with partial reading, perceived a short travel times to reach the health facilities, and an increased radio listening significantly influence their knowledge of danger signs during post-natal periods.

**Table S2 Bivariate regression analysis**

**Bivariate regression analysis of danger signs**

Gender variables	category	Danger sign knowledge during pregnancy		COR(95% CI)P-value	Danger sign knowledge during labour and delivery		COR(95% CI)P-value	Danger sign knowledge during first 48 hours of post natal		COR(95% CI)P-value
		poor	good		poor	good		poor	good	
Men age	15-25	133	129	1	196	66	1	189	73	1
	26-35	604	784	1.33(1.02-1.74)*.031	959	429	1.32(0.98-1.79)	973	415	1.10(0.82-1.48)
	36-45	515	609	1.22(0.93-1.59)	792	333	1.24(0.91-1.69)	841	284	0.87(0.64-1.18)
	>=46	189	210	1.14(0.83-1.56)	273	126	1.37(0.96-1.94)	274	125	1.18(0.83-1.66)
Women age	15-25	529	747	1	881	395	1	898	378	1
	26-35	558	956	1.21(1.04-1.41)**.013	995	519	1.16(0.99-1.36)	1037	477	1.09(0.92-1.28)
	36-49	123	222	1.25(0.98-1.60)	237	113	1.06(0.82-1.37)	240	110	1.08(0.84-1.40)
Men education	No education	691	722	1	1039	374	1	1082	331	1
	Primary	680	866	1.21(1.05-1.40)***.007	1051	495	1.30(1.11-1.53)***.001	1091	455	1.36(1.15-1.60)***.000
	Secondary	84	146	1.66(1.24-2.21)***.001	143	87	1.69(1.26-2.26)***.000	138	92	2.17(1.62-2.91)***.000
	higher	10	36	3.44(1.69-6.99)***.001	24	22	2.54(1.41-4.59)***.000	22	24	3.56(1.97-6.44)***.000
Women education	No education	719	1080	1	1261	539	1	1279	521	1
	Primary	484	795	1.09(0.94-1.26)	826	453	1.28(1.10-1.49)***.001	862	417	1.18(1.01-1.38)*.030
	Secondary	47	87	1.23(0.85-1.77)	79	55	1.62(1.13-2.33)***.008	92	42	1.12(0.76-1.63)
	higher	6	15	1.77(0.69-4.55)	11	11	2.34(1.00-5.42)***.048	11	11	2.45(1.05-5.69)*0.037
Men occupation	Farmer	1268	1481	1	1939	810	1	1983	766	1
	trader	185	268	1.24(1.01-1.51)*.036	296	157	1.27(1.10-1.56)*.026	323	130	1.02(0.83-1.29)
	Gover't	12	21	1.49(0.73-3.05)	22	11	1.19(0.57-2.48)	27	6	0.57(0.23-1.39)
women occupation	house wife	1031	1505	1	1773	763	1	1807	729	1
	Farmer	153	330	1.47(1.20-1.81)***.000	278	205	1.71(1.40-2.09)***.000	314	169	1.33(1.08-1.63)**.006
	trader	68	125	1.25(0.92-1.70)	115	78	1.57(1.16-2.12)**.003	113	80	1.75(1.30-2.36)***.000
	gover't	4	19	3.25(1.10-9.59)*.032	11	12	2.53(1.11-5.77)*.027	10	13	3.22(1.40-7.38)**.006
Men HH Annual income	<=10,000	1043	1223	1	1591	675	1	1645	621	1
	10,001-20,000	242	348	1.22(1.02-1.47)*.029	399	191	1.12(0.92-1.37)	411	179	1.15(0.94-1.40)
	20,001-30,000	33	86	2.22(1.47-3.34)***.000	71	48	1.59(1.09-2.32)*.015	79	40	1.34(0.90-1.98)
Women annual income	>=30,001	147	113	0.65(0.50-0.84)***.001	196	64	0.77(0.57-1.03)	198	62	0.82(0.61-1.11)
	<=10,000	941	1325	1	1551	715	1	1586	680	1
	10,001-20,000	160	430	1.90(1.56-2.33)***.000	368	222	1.30(1.08-1.58)**.005	379	211	1.28(1.07-1.57)**.007
	20,001-30,000	26	93	2.54(1.63-3.95)***.000	61	58	2.06(1.42-2.98)***.000	71	48	1.57(1.08-2.29)*.018
Men Own mobile	>=30,001	129	131	0.72(-.55-0.93)*.013	197	63	0.69(0.51-0.93)*.016	208	52	0.58(0.42-0.80)***.001
	No	743	768	1	1095	416	1	1134	377	1
	Yes	722	1002	1.34(1.16-1.54)***.000	1162	562	1.27(1.09-1.48)**.002	1199	525	1.31(1.12-1.53)***.001
Women own mobile	No	1175	1876	1	2050	1001	1	2112	939	1
	Yes	81	103	0.79(0.59-1.07)	127	57	0.91(0.66-1.26)	132	52	0.88(0.63-1.23)
literacy level men	no	723	784	1	1093	414	1	1151	356	1
	part	256	355	1.26(1.05-1.50)*.010	398	213	1.21(1.02-1.43)*.028	443	168	1.65(1.39-1.96)***.000
	all	486	631	1.11(0.89-1.39)	766	351	1.41(1.15-1.72)**.001	739	378	1.22(0.99-1.51)
literacy level women	no	861	1273	1	1488	646	1	1516	618	1
	part	146	241	1.19(1.02-1.39)*.023	238	149	1.34(1.12-1.60)**.001	273	114	1.39(1.16-1.67)***.000
	all	249	465	1.27(1.05-1.54)*.011	451	263	1.44(1.15-1.80)**.001	455	259	1.02(.80-1.29)
time taken to health facility men	<=30min	1129	1367	1	1740	756	1	1771	725	1
	>=31min	277	328	0.97(0.81-1.16)	425	180	0.97(0.80-1.18)	457	148	0.79(0.64-0.97)*.025
time taken to reach to health facility women	<=30min	929	1538	1	1646	821	1	1658	809	1
	>=31min	250	383	0.92(0.77-1.10)	437	196	0.89(0.74-1.08)	478	155	0.66(0.54-0.81)***.000
listen radio men	not	393	514	1	658	249	1	672	235	1
	one	326	591	1.38(1.14-1.67)**.001	579	338	1.54(1.26-1.88)***.000	601	316	1.50(1.22-1.83)***.000
	more	536	874	1.24(1.05-1.47)*.011	939	471	1.32(1.10-1.59)**.003	970	440	1.29(1.07-1.56)***.006
listen radio women	not	642	805	1	1059	388	1	1041	406	1
	one	288	590	1.63(1.37-1.94)***.000	546	332	1.66(1.38-1.98)***.000	558	320	1.47(1.22-1.75)***.000
	more	326	584	1.42(1.20-1.69)***.000	572	338	1.61(1.35-1.97)***.000	645	265	1.05(0.87-1.26)
health facility evaluative men	not good	1090	1241	1	1646	685	1	1670	661	1
	good	316	454	1.26(1.07-1.48)**.006	519	251	1.16(0.97-1.38)*	558	212	0.96(0.80-1.15)
health facility evaluative women	not good	1013	1498	1	1746	765	1	1738	773	1
	good	166	423	1.72(1.41-2.09)***.000	337	252	1.70(1.42-2.05)***.000	398	191	1.07(0.89-1.30)

\*P<.05, \*\*P<.02, \*\*\*P<.01