

Supplementary File 3:

Characteristics of Included Studies

Table 1: Included intervention-based studies										
No.	First author	Year	Study Design	Setting	Participants	Sample size	Aim	Type of Intervention	Outcome being measured post intervention	Intervention Delivered by
Counseling Interventions										
1	Ali, B. S	2003	RCT	Semi-urban community in Karachi city	Women aged 18 to 50 years, screened for anxiety and/or depression	Experiment: n= 70 Control: n= 91	Assess if counseling sessions reduce anxiety and/or depression	Mental Health Counseling (one on one)	Reduction in the mean anxiety and depression scores	Briefly trained women counselors of community
2	Khan, M. N.	2017	Cluster RCT	Swat rural district	Women aged 18 or more years affected by conflict	Experiment: n= 59 Control: n= 60	Evaluate the feasibility and acceptability of a group psychotherapeutic interventions, based upon cognitive behavioral approach, to reduce anxiety and depression	Mental Health Counseling (in group)	Decline in psychological distress, measured by levels of anxiety and depression, post-traumatic stress disorder (PTSD), and assessment of general psychological profile and levels of functioning	Briefly trained female non-specialists and LHWs
3	Rahman, A	2019	Cluster RCT	Two rural union councils of Swat city (Odigram and Ghalegay)	Women aged 18–60 years affected by conflict	Experiment: n= 288 Control: n= 290	Effectiveness of a group psychological intervention to improve mental health	Mental Health Counseling (group session)	Reductions in symptoms of anxiety, depression, PTSD, and functional impairment, improved social support, and reduced prevalence of depressive disorders 3 months after the intervention	Briefly trained female non-specialists and LHWs
4	Ali, N. S	2010	Non-randomized quasi-experiment	Qayoomabad and Manzoor Colony of Karachi city	Mothers (with children 0-30 months) screened for postnatal depression	Experiment: n= 62 Control: n= 12	Assess the benefits of counseling on reducing postnatal depression	Mental Health Counseling (one on one)	Reduction in the mean anxiety and depression scores	Women from the community
5	Sikander, S.	2019	Cluster RCT	40 village clusters in Rawalpindi	Pregnant women	Experiment: n= 283 Control: n= 287	Aimed to reduce perinatal depression	Mental Health Counseling (one on one and group)	Severity of depressive symptoms and the prevalence of remission 6 months after childbirth	Volunteer peers and LHWs

6	Rahman, A.	2008	RCT	40 Union Council clusters in rural Rawalpindi city	Pregnant women	Experiment: n= 463 Control: n= 440	Provide a CBT intervention for mothers with depression	Mental Health Counseling (group session)	Infant weight and height at 6 months and 12 months and prevalence of maternal depression	Trained LHWs
7	Hameed, W	2016	Non-inferiority trial without randomisation	Twenty-two (16 rural- and 6 urban-based) franchised reproductive healthcare facilities in district Chakwal	Married women using long-acting reversible contraceptive	Experiment: n= 1,246 Control: none	Compare the effectiveness of active (doorstep and telephonic) and passive (needs-based response) follow-up (counseling) in sustaining the use of long-acting reversible contraceptive (LARC)	Family Planning Counseling (one on one)	Sustaining the use of long-acting reversible contraceptive	Female Health Educators
8	Sikander, S.	2015	RCT	40 Union Councils in Manshera city	Pregnant women	Experiment: n= 210 Control: n= 211	Assess the effectiveness of cognitive-behavioral counseling on the rate and duration of exclusive breastfeeding (EBF) during the first 6 months of an infant's life	Family Planning Counseling (one on one)	Increase in exclusive breastfeeding and decline in use prelacteal feeds	LHWs
Health Education and Awareness Interventions										
1	Jokhio, A. H	2005	Cluster RCT	7 subdistricts Larkana city, Sindh province	Pregnant women	Experiment: n= 10,093 Control: n= 9,432	Provide training and other support to TBAs to reduce perinatal and maternal mortality and reduce complications of pregnancy	Health education and awareness	Decline in perinatal death and maternal mortality	TBAS, LHWs and Obstetricians
2	Omer, K.	2008	Cluster RCT	10 underdeveloped areas from three cities in Sindh (Karachi West, Karachi South and Hyderabad)	Pregnant women	Experiment: n= 529 Control: n= 541	Assess the impact of developing community-based communication tools to promote favorable maternal health practices	Health education and awareness	Improvement in prenatal checkups, care during pregnancy, feeding baby colostrum and maintaining exclusive breastfeeding	LHWs
3	Kumar, R.	2020	Non-randomized quasi-experiment	Two Union Councils (UCs) of Tarparkar district, Sindh	Pregnant women with children up to 6 months of age	Experiment: n= 100 Control: n= 100	Effectiveness of a health education intervention for the prevention of malaria in pregnant women with children up to 6 months of age	Health education and awareness	Knowledge of malaria prevention & use of long-lasting insecticide treated bed nets	LHWs

				Province						
Social and Psychosocial Interventions										
1	Hirani, S. S.	2018	RCT	Low socioeconomic areas of Karachi city	Young adult women, 20–45 years	Experiment: n= 60 Control: n= 60	Provide a social support intervention to enhance resilience and quality of life	Social, psychosocial or preventive <i>Social- group sessions</i>	Improvement in resilience and quality of life	CHWs
2	Maselko, J	2020	RCT	40 village clusters in Kallar Syedan, a rural subdistrict of Rawalpindi city	Pregnant women	Experiment: n= 206 Control: n= 683	Assess the effectiveness of psychosocial intervention on maternal depression and child development (group session)	Social, psychosocial or preventive <i>Psychosocial- group sessions</i>	Decline in maternal depression symptoms and remission	Non-specialists peers (lay married women who lived in the same community as that of the women with depression and volunteered their time)
Combination Interventions										
1	Azmat, S. K.	2013	Non-randomized quasi-experiment	Rural and under-served communities of (i) Badin and Dadu-Sindh province, and (ii) Jhang and Khanewal-Punjab province	Married women reproductive age	Experiment: n= 2,483 Control: n= 2,509	Evaluate the effectiveness of a social franchise programme along with a free voucher scheme to promote awareness and use of modern long term contraceptive	Combination	Assess improvement in contraceptive awareness and long-term contraception use	Female health visitors, midwives and nurses at their respective private clinics
2	Azmat, S. K.	2016	Non-randomized quasi-experiment	Eight districts of Sindh, Punjab and KPK	Married women reproductive age	Experiment: n= 1,817 Control: n= 1,075	Provide accessible and affordable long term family planning services through marketing, branding and introducing a voucher scheme	Combination	Increasing awareness about FP methods and use of contraception	Trained facilitators and CMWs
3	Ali, M	2020	Non-randomized quasi-experiment	Faisalabad (urban) & Toba Tek Singh (rural),	Married women of reproductive age	Experiment: n= 1,276 Control: n= 1,276	Assess the effectiveness of a subsidized, multipurpose voucher intervention to enhance the client-provider interaction for improved	Combination	Increase in modern contraception use, knowledge of contraceptives, receiving ANC, and delivery at health	Vouchers and awareness outreach through service providers and distributing

				Punjab			contraceptive counseling, modern contraception methods uptake, continued use, and its impact on equity through better targeting, while increasing uptake of postnatal care and child immunization among women from the lowest two wealth quintiles.		facilities (also child vaccination rates for BCG, DPT, HBV, and measles)	agencies
4	Midhet, F	2010	RCT	32 village clusters in Khuzdar, a rural district of Baluchistan province	Pregnant women	Experiment: n= 1,539 Control: n= 1,022	Assess the impact of education sessions for safe motherhood practices, TBA training, and emergency transport system on maternal and neonatal health indicators	Combination	Reduction of delays in seeking medical care for obstetric complications and reduction in perinatal and neonatal mortality	Local women with secondary school education or above, & TBAs
5	Qureshi, R. N	2020	RCT	Matiari and Hyderabad districts, Sindh Province	Pregnant women screened for preeclampsia	Experiment: n= 20,264 Control: n= 19,182	Assess the impact of combined interventions for pre-eclampsia (Mobile health assessment; referral; doorstep visits; and educational sessions) to reduce all-cause maternal and perinatal mortality and major morbidity	Combination	Reduction in stillbirths, maternal death or morbidity, early or late neonatal deaths and neonatal morbidity	LHWs