AGA KHAN FOUNDATION
(Pakistan)

RAF
Working Towards Millennium Development Goals
Research & Advocacy Fund

Role of Community Based Savings Groups (CBSGs) in enabling greater utilisation of Community Midwives in Chitral District of Pakistan

Aga Khan Foundation, Pakistan
September 2013

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A research study funded by
The Maternal and Newborn Health Programme -
Research and Advocacy Fund (RAF) and
conducted by Aga Khan Foundation (Pakistan)

Aga Khan Foundation, Pakistan
September 2013

"Role of Community Based Savings Groups (CBSGs) in enabling greater utilisation of Community Midwives in Chitral District of Pakistan" is a study funded by the Maternal and Newborn Health Programme – Research and Advocacy Fund (RAF), and is implemented by Aga Khan Foundation Pakistan.

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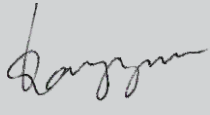
Declaration

We have read the report titled: "Role of Community Based Savings Groups (CBSGs) in enabling greater utilisation of Community Midwives in Chitral District of Pakistan" and acknowledge and agree with the information, data and findings contained.



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Acknowledgments

The Aga Khan Foundation, Pakistan would like to express their gratitude to the Research and Advocacy Fund (RAF) for funding the study and providing technical assistance.

We appreciate the support of the Maternity, Newborn and Child Health (MNCH) coordinators in Chitral district of Khyber Pakhtunkhwa (KPK), and that of the Pakistan Nursing Council. This report would not have been possible without the coordinated efforts of the Aga Khan Health Services Pakistan (AKHSP), the Aga Khan Rural Support Programme (AKRSP) and the MNCH team in Chitral. Data collectors in 24 remote areas, their supervisors, and the data management officers worked as a team, making data collection possible in very challenging conditions.

We are also indebted to all the Community Based Savings Groups (CBSGs) the Community Midwives (CMW) , their families, and all the community based respondents for making themselves available for discussions and interviews. Their participation has made it possible for us to present reliable and relevant information in the report.

We hope that the findings of this study will help the MNCH programmes in KPK to improve the provision of services by the CMWs to the women living in the remote rural areas of the province.

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List of Abbreviations

AKDN	Aga Khan Development Network
AKFP	Aga Khan Foundation, Pakistan
AKHSP	Aga Khan Health Service, Pakistan
AKRSP	Aga Khan Rural Support Program
ANC	Antenatal care
BCC	Behaviour Change Communication
BEmONC	Basic Emergency Obstetric and Neonatal Care
BISP	Benazir Income Support Program
BPACR	Birth preparedness and complication Readiness
CBSG	Community Based Savings Groups
CCSP	Chitral Child Survival Program
CEmONC	Comprehensive Emergency Obstetric and Neonatal Care
CHD	Community Health Directorate
CMW	Community Midwife
CHW	Community Health Worker
DHS	District Health System
DHQ	District Headquarters Hospital
DMO	District Medical Officer
EmOC	Emergency Obstetric Care
EmONC	Emergency Obstetric and Neonatal Care
FGD	Focus Group Discussion
FLHCF	First Level Health Care Facility
GIS	Geographical Information System
GoP	Government of Pakistan
HMIS	Health Management Information System
KII	Key Informant Interview
KPK	Khyber-Pakhtunkhwa
LHV	Lady Health Visitor
LHW	Lady Health Worker
MDG	Millennium Development Goal
M&E	Monitoring and Evaluation
MIS	Management Information System
MNCH	Maternal, Newborn, and Child Health
NMNCHP	National Maternal, Neonatal, and Child Health Program
OOP	Out-of-pocket (payments); or, OOPE represents 'out-of-pocket expenditures'
PNC	Postnatal care
PNC	Pakistan Nursing Council
SBA	Skilled Birth Attendant
SLHCF	Secondary Level Health Care Facility
SPSS	Statistical Package for Social Sciences
TBA	Traditional Birth Attendant
TT	Tetanus Toxoid
WRA	Women of Reproductive Age
VHC	Village Health Committee

Executive Summary

Like many remote rural communities in Pakistan, Chitral district of Khyber-Pakhtunkhwa (KPK) has high levels of maternal and infant morbidity and mortality. This is primarily due to communities having limited access to Skilled Birth Attendants (SBAs). [1] According to baseline survey, 85% of deliveries occur at home and less than 1% women completed the necessary continuum of care during their last pregnancy. Global experience shows that low levels of receiving health care are related to inadequate knowledge, logistical and financial constraints, gender inequitable health policies and programs, gaps in health service provision and coverage, and inadequate family and community support.

Aga Khan Foundation, Pakistan (AKFP), along with the Aga Khan Health Service, Pakistan (AKHSP) and the Aga Khan Rural Support Program, Pakistan (AKRSP), has implemented the Chitral Child Survival Program (CCSP), a five-year (2008-2013) USAID-funded program, in partnership with the national and provincial Maternal, Neonatal and Child Health (MNCH) programmes. Under CCSP, AKHSP has trained and deployed 24 Community Midwives (CMWs) in remote areas of Chitral. These CMWs are currently serving a population of 55,013 with low-cost, reliable, and easily accessible antenatal, delivery and post-partum care. CCSP has also established Community Based Savings Groups (CBSGs), which are composed of approximately 10 to 30 self-selected women who make deposits, pool their savings, and then lend to others in the group at a pre-defined, mutually agreed upon interest rate. CBSGs are a simple, transparent, cost-effective and sustainable means of providing entry level financial services and a forum to interact, educate and positively influence women's health seeking behaviour and birth preparation plan.
The research hypothesis tested by this study was: Is membership in CBSGs by women and their family members (exposure variable) associated with greater utilisation of MNCH services provided by skilled providers particularly CMWs?.

This cross sectional study interviewed 908 women in the target population who had delivered during the last month of the study. The sample size was calculated with an assumption of at least a 10% increase in the number of deliveries conducted by SBA, female population associated with the CBSGs at ratio of 1:3, and 5% level of significance at the power of 80%. Focus Group Discussions (FGDs) were held in four selected communities representing the geographical, ethnic, religious and economic diversities of Chitral. In each area, the FGD interviewed women and their husbands, regardless of whether or not they were members of a CBSG. Data quality was assured by trained supervisors who completed both quantitative and qualitative data collection, recording, analysis and report preparation.

The results show that almost one-fourth of the respondents belonged to households that had incomes below the poverty line. Only 16% of the respondent's had husbands who had studied till grade 10 or above and were holding small jobs or were doing unskilled labour work. 65% of the respondents were illiterate and only one-fifth had completed grade 10 or above. One-third of the respondents were associated with a CBSG either directly or through an immediate family member, and about 38% of the respondents contacted CMWs for health care. The data collected shows that women, who were younger, better educated and with fewer children were more likely to be associated with a CBSG.

The data also indicates that seventy-two percent of births occurred at home and local birth attendants were most often used because they were easily available and charged low fees. More

1. Lack of knowledge, transportation, distance cost and travel time between women's homes and available health facilities and social barriers (what are these?) are the major obstacles to health care.

importantly, however, women accessing/completing the continuum of care (minimum one antenatal care (ANC), delivery and postnatal care (PNC) within 2 days of delivery) from a skilled provider increased to 23%, compared to 1% at baseline. Twenty-three percent of women accessing ANC were referred to a Comprehensive Emergency Obstetric and Newborn Care (CEmONC) facility for ANC and delivery. 13 % of all deliveries required highly skilled clinical assistance (including vaginal deliveries, episiotomy and caesarean section.) The results indicate that women associated with CBSGs had four times more often completed the continuum of care from a CMW and other skilled health care providers. CBSG membership and mother-in-law as decision maker to visit health care provider were found to be factors associated with completing continuum of care by CMWs.

The responses of the respondents and their husbands indicate that CBSG membership afforded them a certain level of financial autonomy and enhanced their ability to consult healthcare providers in a timely manner. The CBSG at the community level provided an enabling working environment to the CMWs to interact, educate and influence health seeking practices around birth preparation. Communities were appreciative of the CMWs as it helped them to overcome the constraints of harsh weather, long distances and lack of transport.

The results indicate that deploying CMWs and simultaneously establishing CBSGs proved to be effective in increasing utilisation of MNCH services from skilled service providers. Comprehensive Behaviour Changing Communication (BCC) awareness campaigns made communities (or women of fertile age) aware of the importance of birth preparation, accessing skilled health care, identifying high risk pregnancies and timely referrals to the next level health facility.

This experience can be replicated widely in KPK province, and at the national level, in vitalising the health committees with due representation of both male and female members of each village to support and sustain the role of CMWs.

Introduction & Background

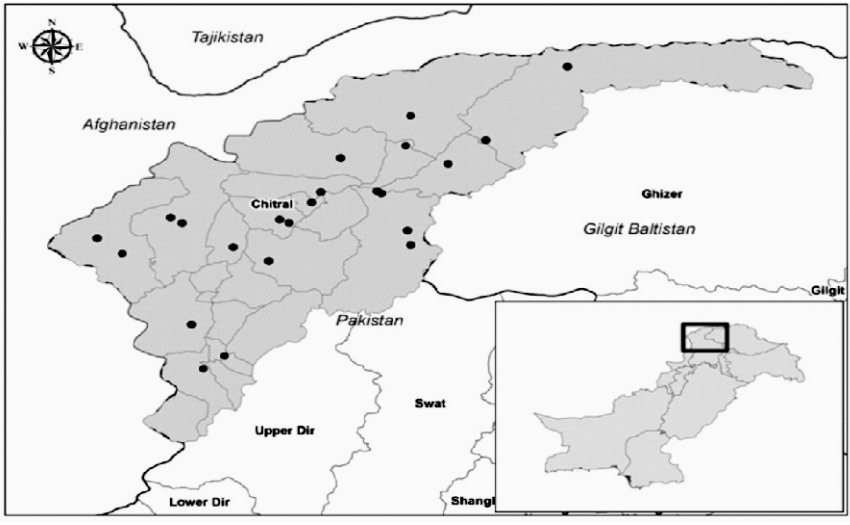
The Chitral Child Survival Program (CCSP) is a programme implemented by the Aga Khan Foundation, Pakistan (AKFP), in partnership with the Aga Khan Health Services, Pakistan (AKHSP) and the Aga Khan Rural Support Program Pakistan (AKRSP). The CCSP is a 5 year (2008-2013) donor-funded programme which operates in conjunction with Pakistan's national and provincial MNCH Programmes.

CCSP-trained CMWs provide low-cost, reliable, and easily accessible sources of Skilled Birth Attendance (SBA). CCSP has also established Community-Based Savings Groups (CBSGs), which are composed of approximately 10 to 30 self-selected women who deposit and pool their savings, which are then loaned out internally to fellow members at pre-defined, mutually agreed on interest rates. CBSGs provide a simple, transparent, cost-effective and sustainable means of providing entry-level financial services. They also operate as a forum within which women can interact, educate and positively influence and encourage each other's health-seeking behaviours, birth preparedness plans, and access to and use of SBAs such as the CMWs.

This research project, funded by the Research and Advocacy Fund (RAF), sought out to test the hypothesis, “whether membership with CBSGs of women or of their family members is associated with greater utilisation of MNCH services provided by skilled providers particularly CMWs”. The link between CBSGs and utilisation of MNCH services is not known. This study will assess how membership is CBSGs contributes to utilisation of MNH services in the community in the community specifically those offered by CMWs.

In order to test this hypothesis, and explore the wide ranging factors which influence women's use or non-use of CMWs, the research involved a cross-sectional study in which 908 women from the target population, and who had delivered within the month prior to the study, were interviewed using quantitative survey and qualitative Focus Group Discussion (FGD) methods. The sample size was calculated with the assumption of at least a 10% increase in the number of deliveries conducted by SBA, population associated with the CBSGs at 1:3, 5% level of significance at the power of 80%. In turn, qualitative FGDs were held in 4 selected communities in order to capture and account for the role played by Chitral's geographical, ethnic, religious and economic diversity in women CBSG members' and non-members' use of CMWs services. In each selected community, 4 FGDs were conducted to interview women and their husband with and without CBSG membership.

Figure 1: Map Showing Chitral District and 24 study locations



Introduction to Community Midwives (CMWS) and Community Based Saving Groups (CBSGs)

Pakistan has made slow progress in achieving the Millennium Development Goals (MDGs) 4 and 5. Although the national maternal mortality ratio has dropped from 550 deaths per 100,000 live births in the 1990s to 276 per 100,000 births in 2006[2], the government's late start and slow overall progress introducing the services and health sector reforms supportive of the necessary health transitions, has led to widespread recognition that Pakistan is not on-track to meet these goals. One of the proxy indicators utilised in order to assess Pakistan's progress towards decreasing the national maternal mortality rate is the percentage of deliveries conducted by SBAs. The number of SBA handled deliveries has risen from 20% in 2000 to the current rate of 40%, but it remains far less than the MDG target of 90% safe delivery coverage.[3] Infant mortality rate of Pakistan at 70 per 1000 live birth remains on the higher side when compared with the other countries in the region. Similarly, the neonatal mortality rate is 42 per 1000 live births. The newborn deaths are significantly contributing to infant mortality rate, largely due to lack of access to skilled care during delivery and post natal period.

The province of Khyber-Pakhtunkhwa (KPK) has higher levels of maternal and infant morbidity and mortality in Pakistan, where an estimated 30,000 women die annually due to pregnancy and childbirth-related causes. 85% of deliveries occur at home in KP while the national average remains at 65%.[4,5] This shows increased risk of expectant mothers in the province.

Chitral district of KPK, is a high-altitude and geographically remote district situated in the northernmost part of the province. A princely state until 1969, Chitral is the largest district in the province with the lowest population density and covers an area of approximately 14,850 km². The district is comprised of two tehsils, Chitral and Mastuj, and is bordered on the west and north by Afghanistan, Gilgit-Baltistan on the east, and Upper Dir and Swat to the south. Chitral is a relatively remote area with poor living conditions.Due to the high altitude and shorter growing season, the summers are generally able to support only one-crop, thereby limiting residents' ability to grow the

2. Pakistan Demographic and Health Survey (PDHS): 2006-2007.
3. See http://www.dfid.gov.uk/Documents/publications/mdgs.pdf.
4. Pakistan Demographic and Health Survey (PDHS): 2006-2007.
5. See Jafarey, S.N. Maternal Mortality in Pakistan: An overview. Maternal and Prenatal Health. 1991. TWEL Publication Karachi: 21-31.

necessary foodstuffs for home consumption or sale. Located in the Pamir and Hindu Kush mountain ranges, Chitral supports a mountainous terrain. The highest peak in the Hindu Kush range, Tirich Mir (25,289 feet), is located in Mastuj Tehsil. Chitral is connected to the rest of Pakistan in summer by only two road routes; one goes south and over the Lowari Pass (10,230 ft.) to Dir and then Peshawar, while the other route is located along and over the Shandur Pass (altitude 12,200 feet) road which leads to Gilgit-Baltisitan.

In Chitral, maternal and infant mortality rates remain persistently high due to the barriers in accessing necessary medical services. The lack of transportation, significant distances and travel time between women's homes and available health facilities, particularly in more remote rural communities, and the high costs associated with reaching and using medical care constitute the primary obstacles to women's access to and use of medical services. According to a baseline survey in Chitral, the average distance to a first-level health facility (FLHCF) from a referral facility was 45 kilometres, while the average health expenditure per person per visit was found to be PKR 1,474 (US $14.74). In addition to the geographic and economic constraints, the majority of women in Chitral, especially in low-income families, are dependent on their husbands and in-lawsfor decision making regarding their health – a factor that places limitation on access to medical care.[6]

In turn, historically poor educational enrolment rates for girls in Chitral also contribute to women's inability to effectively understand and act on their or their children's health needs. A 2010 survey of the women members of the CBSG showed that only 41.2% of respondents had ever attended school and only 32.6% were literate.[7] Barriers to women's use of MNCH services are also associated with community impoverishment and an increase in the number of female-headed households due to male-out migration, whereby men seek employment outside of Chitral in Pakistan's urban centres.[8] Because rural Chitrali communities typically ascribe to conservative socio-religious dictates concerning women's social mobility, women in female-headed households are often unable to access MNCH services without a male relative to accompany them.

The impacts for Chitrali women's health from illiteracy, restricted social mobility, reduced personal autonomy and decision-making ability, and impoverishment are significant. The baseline survey of CCSP found that among women who had not sought ANCfor their last pregnancy, 21% had not done so due to a 'lack of knowledge', 27% due to 'cost', 36% due to the difficulties associated with travelling to health providers and facilities, and 16% because of their concerns for the quality of available services.[9]

CCSP baseline survey indicated that only one in three deliveries in Chitral was attended by an SBA, and that only 2.6% of surveyed women completed the necessary 'continuum of care' during their last pregnancy.[10,11]. The same survey reveals that 9.6% of the women access a skilled provider for at least one ANC visit, delivery and PNC visit within 48 hours, which is the definition of the continuum of care of the current study.

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6. Farid Midhet et. al. Maternal and Child Health Survey Chitral District: 2004 done by Aga Khan Foundation Pakistan.
7. Baseline survey of CBSG: 2010. Aga Khan Foundation Geneva.
8. Baseline survey of CBSG: 2010. Aga Khan Foundation Geneva.; It was found that 59% of their households had members who had migrated out of the district. Of these, 88.5% were men and 63.4% were adolescent boys, while 71.6% had migrated for the purposes of work and 27.9% to continue their studies.
9. National Institute of Population Studies (NIPS) Baseline household survey District Chitral for Chitral Child Survival Program (CCSP): 2009
10. For the purposes of this study, the continuum of care is defined by the fulfillment of necessary service provision and uptake, and characterized by women seeking a minimum of 4 antenatal cares (ANC) the presence of a skilled birth attendant (SBA) at delivery, and the provision of at least 1 post-natal care (PNC) within 48 hours following normal, complicated, and emergency childbirth cases. Similarly, USAID's Maternal and Child Health Initiative Indicator and the Critical Indicator for the Lancet's 'Lives Saved' analysis define the continuum of care as including a minimum of four (4) antenatal cares, the provision of at least 2 Tetanus Toxoid vaccinations to the expectant mothers, skilled birth attendance at delivery, and post-natal checks on new mothers and their newborns within 48 hours after delivery.
11. National Institute of Population Studies (NIPS) Baseline household survey District Chitral for Chitral Child Survival Program (CCSP): 2009

The barriers to women's timely use of MNCH services are numerous and complex, and serve to reflect both patient and provider-side constraints and insufficiencies. In relation to the 'three delays' for example -vis a vis decision to seek care, to reach care, and to receive care - rural Chitrali communities experience delays that are related to logistical and financial concerns, gender inequitable health policies and programs, gaps in health service provision and coverage, inadequate knowledge regarding maternal and newborn health needs and risks, and low levels of family and community support. Delays have also been shown to be associated with women and healthcare providers' failure to recognise the signs of health complications or the severity of illness and patients' previous negative experiences with healthcare services.[12]

CBSGs are composed of approximately 10 to 30 self-selected women who deposit and pool their savings, and then lend out internally through group consensus at a pre-defined and mutually agreed upon interest rate. CBSGs are a simple, transparent, cost-effective and sustainable means of providing entry level financial services to the very poor and have been identified as a viable mechanism for poor rural populations that are most often neglected in formal microfinance systems that find it too risky and costly to provide credits to the poor living in remote villages. CBSGs enable the poorest, most marginalised to participate and also allow a space for community interaction.[13] CBSGs address traditional constraints to utilising MNCH care by empowering them through economic means, as well as offering a platform for group solidarity.

CCSP's primary objective was to reduce poor maternal and neonatal health outcomes through women's increased use of the obstetric and neonatal continuum of care available in targeted communities.[14] In order to fulfil these objectives, AKHSP trained 28 Community CMWs in partnership with the provincial and district MNCH programs.

The CMW program was first introduced to Pakistan in 2008, when the national MNCH Programme initiated a five-year training program that was designed to lead to the deployment of approximately 10,000 trained CMWs across Pakistan by 2012.[15] CMWs are a promising solution to address the lack of medically trained skilled birth providers at the community level. In Pakistan's rural communities, they are the only locally accessible, clinically trained personnel that provide the full continuum of care: antenatal and post-natal care, birth preparedness and complication readiness counselling, skilled delivery, and family planning.

12. Thaddeus S., Maine, D. 1994. Too far to walk: maternal mortality in context. Social Science & Medicine, 38: 1091.
13. Ashe, J (2009) Savings-led Microfinance and Saving for Change.Oxfam America.
14. Specific objectives are, a) Increasing awareness of obstetric and neonatal complication; increased utilisation of birth preparedness and complications readiness (BPCR) plans; an improved enabling environment for maternal, neonatal and child health (MNCH); b) Increasing the availability of skilled birth attendants (SBAs) at the community level; c) Strengthening Community Midwife (CMW) referral linkages for obstetric and neonatal services; d) Reducing financial barriers to women's access to Emergency Obstetric and Neonatal Care (EMoC) services.
15. Of the targeted 10,000 CMWs, by February 2010 more than 4,500 had been trained by NMNCHP and other development partners, including PAIMAN, UNICEF, and UNFPA. Indeed, the AKF Project drew numerous lessons from the large and well-resourced PAIMAN Project, which was tasked with responsibility to train, deploy, and support over 2,300 CMWs throughout Pakistan. In order to determine which elements of the PAIMAN Project could be applied to CCSP's CMW program in Chitral, CCSP conducted site visits to PAIMAN model districts in order to learn from their CMWs' practices, support systems, community involvement, and use of the Health Management Information System (HMIS). CCSP representatives also attended the annual meeting of PAIMAN's Technical Advisory Group (TAG). Through the introduction of this new professional cadre of community health workers, it is envisioned that the CMW program will help to reduce gaps in the coverage of public sector safe delivery services at community and facility levels, particularly in rural and remote communities.

In Chitral, the CCSP program contributed towards the establishments of the Chitral Midwifery School in partnership with the Government. The school was accredited by the Pakistan Nursing Council (PNC) in February 2010. This was followed by the hiring and training of midwifery tutors, the selection of trainee CMWs, the completion of the PNC-approved 18 months curriculum, and the implementation of a mentorship system which would improve the quality of teaching, improve students' performance, and provide additional training support to deserving trainees.[16].

CMWs' training included 12 months of classroom instruction in theory, followed by six months of practical training in secondary-level health facilities. To ensure that CMWs received the best possible training, 2 CMW tutors were trained for 6 months in the CMW teaching methodology and content. In their instructional duties, tutors have been supported by nurses and nurse-matrons posted to the secondary-level hospitals in which CMWs complete their practical training. Monitoring tools were specifically designed for the program. These enabled CMW tutors to identify and thereafter better support those students who consistently scored below average.

All CCSP CMWs successfully cleared their exams in December 2010, received their licences from the PNC in June 2011, and were deployed in July 2011. In addition, particular emphasis was paid to CMWs acquisition of practical skills, CCSP's graduating CMWs have been deemed to be well-trained, motivated, and confident, especially by comparison to CMWs trained by the national and provincial MNCH programs.

Following their deployment to the union councils from which they originated, CCSP contributed PKR 25,000 (US $250) towards the construction or preparation of the 'Working Stations' where CMWs are expected to see their patients and to conduct deliveries. The working stations were adequately equipped with an examining table and basic supplies (autoclave, adult weighing scale, IV stand, emergency light, and two chairs). CMWs were also provided a tool kit of emergency equipment and initial supplies, and were expected to self-fund their purchase of additional supplies using the fees received from their patients. The costs for CMWs' services are determined in collaboration with Village Health Committees (VHC), and this information is prominently displayed inside their work station. The delivery cost ranges from PKR 500 – 1000.

CMWs have been expected to adhere to MNCH program guidelines which address, for example, CMWs' placement in the community, their delivery of preventive and clinical service packages, and their timely and effective referrals of complicated obstetric patients to higher-level providers and facilities. According to MNCH national guidelines, CMWs are required to provide safe delivery services in their catchment areas.[17]

With the deployment of CMWS, the CCSP has sought to improve the quality of maternal and newborn health care at the community level. The Lady Health Workers (LHWs) and Traditional Birth Attendants (TBAs) working in Chitral's semi-rural and rural communities facilitates the identification and referral of pregnant women to the CMWs for ANC and safe delivery. CMWs, in turn, are responsible to help pregnant mothers prior to delivery by making birth preparedness plans so that there is a clear pattern

16. In Chitral District, the CCSP advertised for CMW candidates who were residents of program intervention communities in district Union Councils. Candidates were assessed according to pre-determined criteria which required, for instance, that prospective CMWs be preferably married, between 18 and 35 years of age, permanent residents of the villages from which she was applying, a graduate of at least Grade 10 with above 45% marks in the sciences, if possible. Additional criteria required that applicants be committed to attending the 18-month theoretical and practical training course, to attend annual refresher courses, and to work as a CMW for at least 7 years post-graduation and deployment. Following the announcement of the CCSP's minimum application requirements, 101 applications were submitted and, of these, 30 women were selected by a recruitment committee chaired by the EDO (H) District Chitral.

17. A cluster of villages from which CMWs draw their clients comprised of approximately 8,000 residents. However, CCSP found that CMWs are only able to provide coverage to community clusters of approximately 4,500 residents. The cluster of communities which can be covered by one CMW was determined by assessing the area that CMWs could reasonably access from her home within one hour of walking, or, an estimated 5km^2.

of therapeutic resort should deliveries become complicated. In such cases, CMWs are expected to refer delivering mothers to the nearest health facility, where the CMW has ideally formed professional and personal relationships with the healthcare providers. In terms of their community-based activities, CMWs are encouraged to maintain close coordination and cooperation with LHWs and TBAs so as to reduce referral delays between community health workers. By supporting CMWs' training, deployment, and post-deployment activities and service provision, CCSP and AKHSP, in partnership with the national and provincial MNCH programs, actively contributes to provincial and national efforts to meet targets for SBAs and Pakistan's progress towards achieving MDGs 4 and 5.

Through the mechanism of CBSGs, the CCSP actively supports and promotes the importance of women's decision-making authority and ability to access MNCH services available with public, private and non-governmental health sector. The women associated with CBSGs also have an ability to influence their families to engage in birth preparedness plan. This includes availability of funds, and timely decision making at household level to access services available with CMWs and other skilled service providers. This fundamental promise, that funds saved now will be available in the future, represents the core mandate and commitment of CBSGs.

Individual CBSGs are composed of a group of approximately 25 self-selected members who agree to a constitution, elect officers, make regular savings, and provide loans against accrued savings. Through the course of their annual memberships in the group, women deposit and pool their savings, and then loan out accumulated monies on the basis of group consensus at pre-defined and mutually agreed upon interest rates. At the end of a pre-determined period of time, typically once a year, the group distributes its assets to its members according to the proportion of their savings. At the end of every year of CBSG activities, the group then elects new officers to serve on the CBSG for the next savings cycle, and frequently decide to make one-time contributions to capitalise their group so that lending activities may continue without interruption. Throughout the tenure of their association with the CBSG, members democratically vote on and make all decisions including those related to lending and the standard interest rates that are applied to individual loans. In order to generate savings, members may purchase shares at each meeting, the values of which are set in the CBSG constitution and remain constant throughout the annual savings period. Members are entitled to purchase up to but no more than five shares per meeting, which ensures that there is a consistent degree of equity in ownership over the group.

In CBSG programs, community mobilisation is employed as a capacity-building vehicle by which individuals and groups in targeted communities can plan and carry out participatory activities towards common objectives. Accordingly, the CCSP emphasises empowering these groups with knowledge and community savings which can lead to positive financial and health effects for women. In ways which resonate with renewed attention to the interrelationship between gender, social exclusion, poverty and health, CBSGs enable the poorest and most marginalised women to participate and interact at the community-level.[18]

In Chitral district, in order to finance women access to MNCH services, it was estimated that among women members,12% would be transferred to one of the district's four public sector secondary health care facilities for emergency and/or surgical labour and delivery care, the costs of which would run upwards of PKR 12,000. It was estimated that a further 20% would deliver at one of the first-level health centres for an average payout of PKR 2,000. The remaining 68% of women members would be delivered by CMWs at the household-level for an anticipated expense of PKR 900. Equally

18. Conducted between April and September 2010, the CBSG baseline survey found that among 291 women members from 205 included households in 19 CBSGs, the most commonly cited reasons for saving were education (68.3%), health expenditures (43.3%), social obligations such as weddings and funerals (15.5%), emergencies and food purchases (11.6%). Only 18.5% of surveyed households reported having outstanding loans. (Aga Khan Foundation, Pakistan. Baseline Household Survey Report, CCSP 2008-2009.)

importantly, especially in light of CCSP's 2008-2009 findings that 25% of women members had forgone ANC because the high costs associated with travel and medical care [19], CCSP theorised that CMWs would provide a low-cost, reliable, and easily accessible source of ANC.

By addressing the traditional constraints placed on women's access of MNCH services through the principles of gender empowerment and collective participation, CBSGs are intended to lead to significant improvements in health indicators and serve as the platform for increased community solidarity and political voice. And, at the organisational level, CCSP set an example of a private-public partnership (PPP) in Chitral and across northern Pakistan. In line with MNCH strategy in the Chitral district, CBSGs are intended to facilitate community members' access to safe delivery services by enabling women and their families to more easily pay for CMWs' services and by also assisting CMWs to better establish their practices. This is especially important since the management, support, and supervision of CCSP's CMW cadre is expected to become the responsibility of the district government once the project comes to a close in 2013.

19. Aga Khan Foundation, Pakistan. Baseline Household Survey Report, CCSP 2008-2009.

Aims and Objectives of the Current Study

This hypothesis driven study was implemented to test whether, CBSGs enabled women members to achieve increased access to Community Midwives and EmOC services for safe deliveries at local and district-levels. The study was initiated with the goal of identifying whether CGSGs have the capacity to reduce barriers to access skilled health providers, particularly CMW services, an issue which has not been adequately addressed by the national and then provincial MNCH programs.

CBSGs are an innovation in Pakistan, and the ability of these savings groups to reduce financial barriers, especially in the area of MNCH, was not known nor had it been tested prior this research project. This study explored whether the benefits of CBSG savings activities and forms of participatory mobilisation extended to key improvements in women members' access of necessary MNCH services. Midterm evaluation of CCSP was done in 2011 and it revealed potential health effects of CBSG membership and estimated that if successful, CBSGs had the potential to reduce two of the three delays associated with maternal morbidity and mortality.

The Current study was devised to explore and answer whether membership in CBSGs has measurably contributed to women members' increased awareness of service availability, their understanding of MNCH issues, and also greater utilisation of community-level MNCH services and those provided by CMWs in particular. The study included interviews with all the women in study area who had delivered within the last month prior to data collection and consented to be interviewed.

The research hypothesis tested by this study was:
Is membership in CBSGs by women and their family members associated with greater utilisation of MNH services and those provided by CMWs in particular?

The research question was tested through the quantitative and qualitative methods. The outcome variable was the utilisation of MNH services (disaggregated by 1+ANC, 1+PNC, skilled delivery, and utilisation of the full continuum of care, defined as the combination of all three mentioned services). The primary independent variable was the association of women or their family members with CBSGs.

For the qualitative portion of the study, FGDs were employed in order to explore a series of inter-related questions and issues. First, FGD participants were asked to discuss the issues, problems, and difficulties they normally experienced while seeking health care during pregnancy. This discussion included participants' accounts of the reasons why they chose particular healthcare providers, inclusive of matters of financial and geographic accessibility and women's and men's perceptions of healthcare providers' skill and expertise. Participants were also asked to discuss the importance they attached to those services associated with the continuum of care for pregnancy, labour and delivery, and the post-partum period, and to evaluate CMWs' roles, position, skills, and social acceptability.

Second, FGDs focused on the ways that CBSG membership or non-membership and the associated benefits of membership, such as savings and loans, were related to women's access to and use of CMWs and other MNCH providers and services.

Literature Review

Developing countries with a higher degree of health care spending consistently demonstrate greater overall utilisation of maternal health services compared to countries with lower levels of spending. However, even in these more economically conducive circumstances, it has been shown that the rich tend to disproportionately use these services as compared to the poor. In preparing to develop this study's design, methodologies, and to analyse the primary data, we assessed whether redistributive government policies in the context of higher levels of health spending were associated with more-equitable use of SBAs (e.g., doctors, nurses, and/or midwives) by the rich and the poor. Overall, our review of the available literature confirmed that women's use of SBAs was more equitable when higher health expenditures were accompanied by redistributive education policies (Kruk Me etal 2008). Higher health care expenditures should ideally be accompanied by redistributive policies in order to reduce the gap in utilisation of SBAs by richer and poorer women in developing countries such as Pakistan.

The research precedent indicates that the issue of community-level MNCH health service utilisation is nuanced by multiple complex and often interrelated factors; many of which reflect the influence of gender, social exclusion, and poverty (GSEP) for maternal and neonatal health.

First, the literature suggests that several socio-economic, cultural and religious factors play a significant role in the use of SBAs. A 2010 study by Baral YR concerning safe delivery in Nepal found that women's ability to access SBAs for childbirth were affected by the availability of transportation and the distance to the health facility; poor infrastructure and lack of services; the availability and accessibility of the services; issues of cost and convenience; staff shortages and attitudes; gender inequality and the status of women in society; women's involvement in decision making; and women's autonomy and place of residence. Such work suggests that there is the urgent need for additional qualitative research which explores the impacts of women's role and choice on their use of SBAs' services.

Second, Traditional Birth Attendants (TBAs) are essential to the prevention of maternal and newborn deaths. A 2010 qualitative study by Titaley CR et al found, through the use of FGDs and in-depth interviews in six villages (Indonesia), that TBAs and home delivery continued to be preferred by some community members even despite the availability of the village midwife. Participants noted that issues of physical distance between their residences and health centres, as well as financial limitations and the relative inaffordable nature of available services, were among the two major constraints that prevented community members from accessing and using SBAs and having institutional deliveries. A number of participants reported that SBAs or an institutional delivery were only accessible to or appropriate for women experiencing obstetric complications.

Third, traditional beliefs continue to play a key role in determining women's and their families' choice of midwives or TBAs, and in determining the number of ANC visits that women make – if any – during their pregnancies. A 2012 study in rural West Sumatra (Indonesia) by Agus Yet al found that women made heavy use of TBAs and that, in addition, women believed strongly that healthy pregnancies were a result of their careful adherence to traditional health beliefs and practices. The authors of this study advised that by understanding the complexities of local culture, health policy-makers and planners would be able to better improve women's awareness of the importance of pregnancy health and ANC as a means to prevent obstetric complications.

Fourth, Pakistan has one of the highest pre natal and neonatal mortality rates in the region and the national mortality rates figure significantly in global estimates of mortality. Pakistan's high mortality rates are partially attributable to the scarcity of trained SBAs and the paucity of existing health

resources. Prior studies have postulated that the empowerment of health care providers, and the provision of additional training and support so as to improve their overall medical knowledge and skills, can serve as important instruments of change. A 2010 assessment of Pakistan's healthcare providers' 'Knowledge, Attitude, and Practices' (Ariff et. al.)employed carefully designed research tools in order to test KAP at three levels of public sector MNCH healthcare personnel at community and facilitylevels.The study interviewed Lady Health Workers (LHWs), Midwives, Lady Health Visitors (LHVs), Nurses, and Physicians. The test found that LHWs' performance with regard to MNCH KAP was good, with 30% scoring more than 70% in the test. Medical Officers (MOs), however, performed poorly in their knowledge of MNCH with only 6% scoring more than 70%. All three cadres of health care providers performed poorly in terms of their knowledge and practice of essential resuscitation skills. Only 50% were able to demonstrate the steps necessary for immediate newborn care. Generally, MOs performed better in terms of their counselling skills than LHWs;only 50% of LHWs were found to be 'competent'. The study found that all cadres of healthcare providers performed below competency levels related to MNCH knowledge and skills.

Fifth, a 2010 randomised controlled trial in Bangladesh by Azad et al has shown how women groups can serve to reduce neonatal mortality in poor communities. All the clusters involved in this trial received health services strengthening and the basic training of SBAs. In the intervention clusters, a facilitator convened 18 women's groups every month to support their participatory action and learning, and to develop and implement strategies to address maternal and neonatal health problems. The primary outcome was that the cluster-level mean neonatal mortality rate (NMR; adjusted for stratification and clustering) was 33.9 deaths per 1,000 live births in the intervention clusters as compared to 36.5 per 1,000 in the control clusters (risk ratio 0.93, 95% CI 0.80-1.09).

Sixth, our review of the literature sought to identify the ways in which inequalities in maternal, newborn, and child health interventions vary according to the nature of the intervention and the country in which they are located. According to four summary indices, SBA coverage was found to be the least equitable intervention, and the next-least equitable intervention was women's use of four or more ANC visits (Barros et al, 2012). We noted substantial variations in the coverage levels associated with different interventions and countries. These findings indicate that the most inequitable interventions should receive additional attention so as to ensure that all social groups are reached. Interventions delivered in health facilities also require specific strategies that enable the countries' poorest individuals to receive necessary treatment. The most inequitable countries were found in need of significantly focused efforts in order to reduce the gap between the poorest individuals and those of greater economic means (Kruk ME et al 2008)

Seventh, in order to assess the level of birth preparedness and women's utilisation of services in an urban union council where only private sector health services were provided, a 2009 study found that women's knowledge concerning the danger signs associated with pregnancy and childbirth was problematically low (Ul Haq et al, 2009). Moreover, 64% of women received some ANC while only 45% of deliveries were conducted at home. Among women who sought emergency care during pregnancy, delivery or the postpartum period, a mere 39% approached a health facility for treatment. The lack of preparation for birth among women, as indicated by their pre-delivery arrangements for transport to hospital, was found to exist in 83% of studied cases. Women and their families were not sensitised to the need for birth preparedness, and the study found that the need exists to improve essential maternal and newborn health care services at the facility-level. The authors argued, in addition, that the contribution of the private health sector towards the establishment of birth preparedness interventions as a key component in the improvement in Pakistan's MNCH indicators must be further explored.

Eighth, Pakistan is one of the six countries estimated that account for over half of all maternal deaths worldwide. To address its high maternal mortality rate, with particular attention focused on existing inequities in women's access to maternal health services, the Government of Pakistan launched a new cadre ofCMWs. A key expectation of this program was that CMWs would improve women's access to skilled antenatal and intra-partum care, especially among the poor and disadvantaged. As our own study has explored, a review of the available literature confirms that a critical gap exists in terms of our knowledge of whether or not this cadre – as they operate in private healthcare settings – is able to provide care to poor and marginalised women. Specifically, prior research by Mumtaz et. al. points to the paradox inherent in the notion of providing for-fee CMW services to the poorest women who, by definition, are unable to pay. The findings of the 2012 study by Mumtaz et. al. indicates that power, gender, and class dynamics and differentials contribute to the marginalisation of poor women from the health care systems, inclusive of CMWs. This study emphasises the need for increased sensitisation to the special needs of socially excluded women, who constitute an otherwise invisible group. The study also argues that poor, socially excluded women should be explicitly targeted for MNCH service coverage in order for Pakistan to achieve its commitment to MDG 5 and key reductions in the maternal mortality ratio.

Ninth, we evaluated a 2012 study by Hassan et al which explored the prevalence of specific intra-partum practices in the province of Sindh. The outcomes and indicators measured by the study included safe delivery practices and referral following an obstetric complication. The study further found that deliveries attended by TBAs were characterised by unhygienic and unsafe practices. Deliveries handled by SBAs, in turn, were found to be significantly safer but still with some lapses in providers' adherence to hygienic practices. Of women who had experienced an obstetric complication, 29% had not received emergency treatment. In order for safe delivery practices and newborn care to be improved in rural Pakistan, the study's authors argue that health workers and TBAs must receive additional training in safe delivery practices, the use of safe delivery kits and the importance of timely referrals.

Tenth, and in response to the changes which have taken place in Pakistan's public health sector over the last 5 years, we reviewed a 2012 study by Shaikh et. al. that analyzed the strengths and weaknesses of the devolved district health system from the experiences of multiple, diverse stakeholders. Using a qualitative exploratory design, the study was conducted in three cities of Sindh. Interviews included questions concerning the degree of district-level autonomy in health system decision-making, and the effectiveness of the devolved health system. The main strengths of a devolved health sector were identified to include the formation of the District Health Management Team, which was tasked with implementing inter-sectoral collaboration, the creation of new posts at the sub-district level for close monitoring and supervision, and greater financial autonomy to prioritise expenditures and outreach according to local needs. The reported weaknesses associated with devolution included the lack of team work, limited autonomy, a lack of capacity, nepotism and poor accountability. The study found that there is further need for the delegation of power to sub-district and union council levels which will, in turn, enhance districts' capacity and lead to increases in health system transparency, accountability, and effectiveness [20].

Eleventh, and with specific regard to our study's focus on the ameliorative health impacts of CBSGs, we reviewed a 2012 study by Muhammad et al which explored how out-of-pocket (OOP) payments for healthcare represent the predominant means of health financing in developing countries. In Pakistan, the study found the OOP represent 67% of total expenditures on healthcare. Analysis was undertaken of the determinants of OOP health expenditures, and it was found that healthcare financing is required to ensure equity and for the formulation of effective health financing and

20. Following the 18th Amendment, the National Program has since devolved to Pakistan's provinces, meaning that since 2012 Chitral District's MNCH program services and providers are currently managed by the provincial Khyber-Pakthunkhwa MNCH Program.

program policies. The available evidence concerning OOP in Pakistan is sparse; this study, therefore, remedies a critical gap in the research. The study analysed the Pakistan Household Integrated Economic Survey (HIES) and Pakistan Standard of Living Measurement (PSLM) Survey for the year 2004-05, and found that the median household OOP healthcare in 2004-05 was PKR 2,500 (US$ 41.99). The study's findings confirm earlier research that suggests that household economic status and the number of older-aged family members are significant positive predictors of OOP payments. This association and finding can help direct governments to enhance additional allocations to healthcare and to include programs which focus on non-communicable diseases. The study suggests that further research is needed to explore the beneficiaries of government healthcare programs and the determinants of high OOP payments by households in KPK.

Twelfth, and in terms of the broader global health literature, we assessed studies which had examined women's awareness and intentions to use maternity services. A 2011 multi-centric study in south-eastern Nigeria by Ekabua et. al. involved 800 women, and found that women's educational status was the best predictor of their awareness of birth preparedness (P = 0.0029), but not a good predictor of their intention to attend four antenatal clinic sessions (P = 0.449). Parity rather than education level was found to be a better predictor of women's knowledge of severe vaginal bleeding as a key danger sign during pregnancy (P = 0.0009 and P = 0.3849, respectively). In turn, women's identification of means of emergency transport to safe delivery facilities was related to their greater awareness of the necessity of birth preparedness ($\chi(2) = 0.3255$; $P = 0.5683$). While parity was a highly significant predictor (P = 0.0089) of women's plans to save money for healthcare expenditures, planning to save money for childbirth overall was associated with women's increased awareness of community financial support systems ($\chi(2) = 0.8602$; $P = 0.3536$).

In Uganda, a 2012 study by Kabakyenga et. al. found that the provision of childbirth support by SBAs is a critically important strategy for the reduction of maternal morbidity and mortality ratios in low-income countries. The aim of this study was to assess the influence of birth preparedness practices and decision-making and assistance by SBAs among women in south-western Uganda, where SBAs had ensured that 35% of women had been prepared for childbirth, and 68% were aware of the potential need for advanced assistance should delivery become complicated. The study found that 8% of deliveries were conducted by relative or friend. The study's authors suggest that women's education, the household's assets, women's degree of birth preparedness, her ANC attendance, and issues of parity and residence have a synergistic effect on the relationship between decision-maker concerning the location of birth and women's use of SBAs during labour and delivery.

A 2012 randomised controlled trial in the slums of Mumbai found that in order to improve maternal and newborn health in low-income settings, health service strengthening and community action are required (see More et al, 2012). In India, community health initiatives have been predominantly targeted to rural areas but, in recognition of the fact that India is undergoing steep rates of urbanisation, the study tested an intervention in which urban slum-dweller women's groups worked to improve local perinatal health. A cluster randomised controlled trial in 24 intervention and 24 control settlements covered a population of 283,000. In each intervention cluster, a facilitator was enlisted to support women's groups through an action-learning cycle. During this process, women and facilitators discussed women's perinatal health experiences, identified the level of their health knowledge, and took local action. The authors stated that while urban community groups and their facilitation was possible and led to evidence of behaviour change, they were not able to observe population-level effects on health care usage or mortality. For cities with multiple sources of health care andinequitable access to services, community mobilisation should be integrated with attempts to deliver services for the poorest and most vulnerable residents, and focus on the improvement of quality of care in both public and private health sectors.

As is true for Pakistan, the available literature indicates that neonatal deaths in developing countries comprise the largest contribution to global mortality in children younger than 5 years of age. This is because upwards of 90% of deliveries in the poorest quintile of households take place at home. A 2004 cluster-randomised controlled trial in Nepal postulated that community-based participatory interventions could significantly reduce neonatal mortality rates (Manandhar et al, 2004). In each intervention cluster, a female facilitator convened 9 women's group meetings every month. The facilitator supported women's groups through an action-learning cycle in which they identified local perinatal problems and formulated strategies to address them. Between 2001 and 2003, the neonatal mortality rate was 26.2 per 1000 (76 deaths per 2,899 live births) in intervention clusters compared with 36.9 per 1000 (119 deaths per 3,226 live births) in controls (adjusted odds ratio 0.70 [95% CI 0.53-0.94]). Stillbirth rates were similar in both groups. The maternal mortality ratio was 69 per 100,000 (two deaths per 2,899 live births) in intervention clusters compared with 341 per 100,000 (11 deaths per 3,226 live births) in control clusters (0.22 [0.05-0.90]). Women in intervention clusters were more likely to have ANC, institutional delivery, trained birth attendance, and hygienic care than were controls. Birth outcomes in the poor rural population targeted by this study were found to improve considerably through the introduction of this low cost, potentially sustainable and scalable, participatory intervention with women's groups.

In southern Ethiopia, a 2011 study by Hailuet alfound that birth preparedness and complication preparedness is a key component of globally accepted safe motherhood programs, and is shown to help ensure that women receive professional delivery care when labour begins. This preparedness also serves to reduce delays that occur when mothers in labour experience obstetric complications. Women enrolled in the study were asked whether they had followed the 5 desired 'healthsteps' required to ensure healthy pregnancies and safe deliveries. These steps include the presence of a SBA, women's identification of a health facility to which they can go in case of complications, their arrangement of necessary emergency transportation and a prospective blood donor, and their possession of the funds require to cover the expenses associated with a complicated or emergency delivery. If women were shown to have taken at least two steps, they were considered 'well prepared'; only 17% of pregnant women included in the study were found to have reached this stage of preparedness.

Study Design and Methodology

Over a study donation of 20 months, of which 10 months were reserved for primary data collection, To conduct a cross sectional study which focused on a target population of women CBSG members and non-members who were of reproductive age and had interviewed within one month of their delivery. [21] Following the administration of informed consent, eligible women CBSG members were recruited for inclusion from among eligible clusters in the study's quantitative and qualitative components. In order to better support the study's key findings, qualitative interviews were also conducted with women participants' spouses and male relatives.

Sample Size Calculation and Sampling Strategies

The study used purposive sampling, of including all 24 CMWs who were deployed in the respective catchment areas by the time of initiation of study. In the study population, it was assumed that following the introduction of CMWs to community clusters, there would be at least a 10% increase in the number of deliveries conducted by a SBA (p1-p2 >10%). A preliminary baseline survey conducted by CCSP indicated that in the communities targeted for inclusion in the study, 33% of all deliveries were conducted by SBAs even prior to CMWs' deployment. The study worked from the initial assumption that, even in the absence of CMWs, there would be a gradual natural increase in the number of deliveries conducted by SBAs (estimated 33% to 40%). And, with the introduction of CMWs, it was hypothesised that safe delivery coverage by SBAs would increase to at least 50%.

In order to reach our study's initial assumption that CMWs would contribute to a minimum 10% increase in SBA-assisted deliveries, the quantitative sample size was calculated as 860 with 5% level of significance at the power of 80%, which was then increased to 929 in order to compensate for non-responses and refusals. These estimates were predicated on the fact that average ratio of women participating in CGSGs in the targeted population was 1:3. Preliminary analysis of the village profile **(Annex -1)** revealed that the total population of the study area is 55013 **(Annex -2)** and the expected delivery rate is 2.6%.

In this way, the quantitative and qualitative components of the study employed purposive sampling strategies, in which eligible women CBSG members and non-members, as well as their husbands, who were residents of the CMWs' surveillance areas were approached and interviewed after providing their consent to participation.

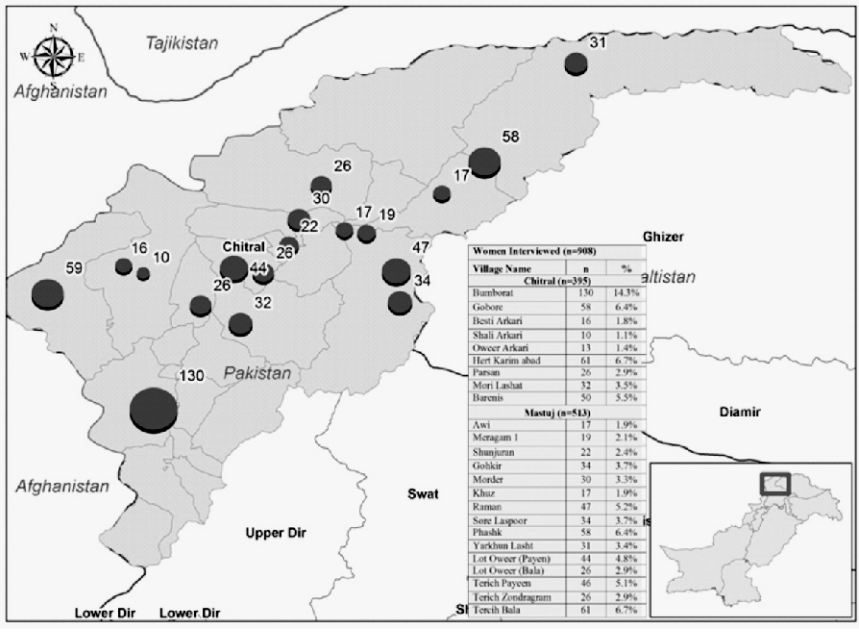
For the study's quantitative component, a total of 929 women were contacted in the study area during the study period. Out of these, only 908 women were interviewed for the study. The reasons for not interviewing the women were that they were not at home (n = 14), refused to participate (n=5), or had died (n=2).

21. Due to the difficulties reaching remote communities during extreme weather, the research team expanded their inclusion criteria to include women CBSG members who were of reproductive age and who had delivered in the two months prior to data collection.

Table 1. Number of women contacted and interviewed by villages, Chitral District

Women Contacted (n=929)			Women Interviewed (n=908)		
Village Name	**n**	**%**	**Village Name**	**N**	**%**
Chitral (n=406)			**Chitral (n=395)**		
Bumborat	132	14.2%	Bumborat	130	14.3%
Gobore	59	6.4%	Gobore	58	6.4%
Besti Arkari	16	1.7%	Besti Arkari	16	1.8%
Shali Arkari	10	1.1%	Shali Arkari	10	1.1%
Oweer Arkari	13	1.4%	Oweer Arkari	13	1.4%
Hert Karim Abad	62	6.7%	Hert Karim Abad	61	6.7%
Parsan	26	2.8%	Parsan	26	2.9%
Mori Lashat	39	4.2%	Mori Lashat	32	3.5%
Barenis	50	5.4%	Barenis	50	5.5%
Mastuj (n=523)			**Mastuj (n=513)**		
Awi	17	1.8%	Awi	17	1.9%
Meragam 1	20	2.2%	Meragam 1	19	2.1%
Shunjuran	23	2.5%	Shunjuran	22	2.4%
Gohkir	34	3.7%	Gohkir	34	3.7%
Morder	30	3.2%	Morder	30	3.3%
Khuz	17	1.8%	Khuz	17	1.9%
Raman	48	5.2%	Raman	47	5.2%
Sore Laspoor	34	3.7%	Sore Laspoor	34	3.7%
Phashk	58	6.2%	Phashk	58	6.4%
Yarkun Lasht	31	3.3%	Yarkun Lasht	31	3.4%
Lot Oweer (Payen)	48	5.2%	Lot Oweer (Payen)	44	4.8%
Lot Oweer (Bala)	26	2.8%	Lot Oweer (Bala)	26	2.9%
Terich Payeen	47	5.1%	Terich Payeen	46	5.1%
Terich Zondragram	28	3.0%	Terich Zondragram	26	2.9%
Tercih Bala	61	6.6%	Tercih Bala	61	6.7%

Figure 2: Number of women enrolled by geographical area



Women Interviewed (n=908)		
Village Name	n	%
Chitral (n=395)		
Bumborat	130	14.3%
Gobore	58	6.4%
Besti Arkari	16	1.8%
Shali Arkari	10	1.1%
Owcer Arkari	13	1.4%
Hert Karim abad	61	6.7%
Parsan	26	2.9%
Meri Lashat	32	3.5%
Barenis	50	5.5%
Mastuj (n=513)		
Awi	17	1.9%
Meragam 1	19	2.1%
Shunjuran	22	2.4%
Gohkir	34	3.7%
Morder	30	3.3%
Khuz	17	1.9%
Raman	47	5.2%
Sore Laspoor	34	3.7%
Phashk	58	6.4%
Yarkhun Lasht	31	3.4%
Lot Owcer (Payen)	44	4.8%
Lot Owcer (Bala)	26	2.9%
Terich Payeen	46	5.1%
Terich Zondragrum	26	2.9%
Tercih Bala	61	6.7%

Data Collection Methods

Two research tools were used as part of the study's data collection activities. For the quantitative component, semi-structured questionnaire survey was employed, while for the qualitative component open-ended, thematically-organised FGDs were held.

Quantitative Methods

Between December 1 2011 and October 15 2012, quantitative data was collected using a pre-coded structured questionnaire **(Annex 3)** which was divided into five sections:

Section 1: Socio-demographic and economic characteristics
Section 2: Knowledge about community midwives (CMW) and their utilisation
Section 3: Information about previous pregnancy
Section 4: Information about previous delivery and postnatal care
Section 5: Participation and Utilisation of Community Based Savings Groups

In the socio-demographic and economic characteristics information on woman age, marital status, education and occupation status of husband and wife, total number of household members, number of living children and monthly income from all sources were taken.

In the section concerning women's knowledge about community midwives (CMW) and their utilisation, information concerning women's knowledge about CMWs, the source of that knowledge, their health service utilisation of CMWs, and women's ability to visit health care provider was collected.

In the section focused on information about previous pregnancy, information on ANC, the source and anticipated purpose of ANC, access to and provision of TT vaccination, problems experience during pregnancy, referrals and the amounts expended on ANC, TT vaccination and referral were gathered.

In the section exploring information about previous delivery and postnatal care, data concerning the place of delivery, the person who conducted the delivery, the type of delivery, the status of women's family at home (e.g., number of children), complications experienced during delivery, the place and person contacted for post-natal care, the amount spent on delivery and post-natal care and, if not contacted for post-natal care, the reasons for non-contact, were assessed.

In the section addressing women's participation and utilisation of community based savings groups, information about women's knowledge of the CBSG in the village, their or their family's membership in the group, their utilisation of the CBSG for different purposes, including pregnancy related matters, were collected.

The questionnaire was intentionally kept short and only the most directly relevant questions included. Interviews were scheduled at the participants' convenience and did not last more than 30 minutes each.

Before the commencement of the fieldwork research, 24 data collectors were hired from the communities targeted for inclusion in the study **(Annex 6)**. Eligible applicants were then subjected to tests and general interviews. After being hired for the project, they were provided training concerning how to administer of the quantitative survey questionnaire. Data collectors were provided Urdu translations of the research instruments and the study's background information and rationale were explained to them. Data collectors were then given all necessary fieldwork materials.

A dedicated data collector in each community cluster was tasked with the responsibility to identify all the women who had recently delivered and were eligible for inclusion in the study. In order to assist the data collectors, a list of expectant mothers was generated on the basis of village and household profiles. Women were interviewed within one month of delivery, although in extreme circumstances when it was impossible to reach women participants in a timely manner, provisions were made to interview women within two months of delivery.

Data collectors also collected information of union councils, village boundaries, location of health centres, road networks, the presence of community healthcare providers, and the number of local residences in order to provide a more realistic visualisation of the CMWs' program coverage areas.

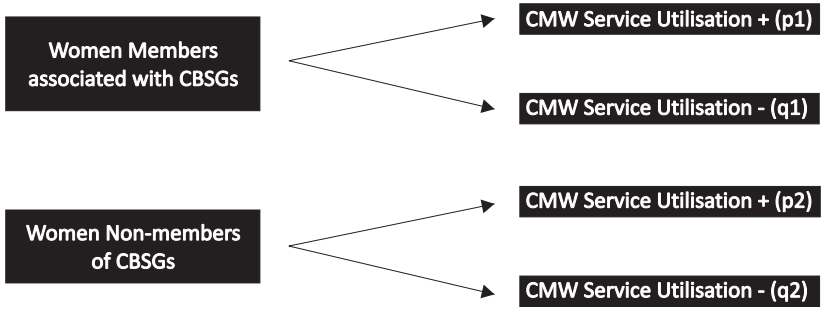
The study's questionnaire survey was developed by a study team and verified through field pilot testing processes. Errors were corrected and the finalised questionnaire was provided to all data collectors. [22] After administering informed consent with prospective participants, the data was solicited from recruited women participants through the use of a structured, closed-ended questionnaire. If selected participants were not available for interviews when the data collectors visited local communities, data collectors made efforts to visit a further 2 or 3 times in order to schedule time to speak. If women participants' delivered in areas outside of the local community, the data collection team notified those enumerators working in that area to collect the required information.

Qualitative Methods

Qualitative data collection activities were preceded by the recruitment and then training of field supervisors and the study's data collectors. This process was completed with the assistance of staff from AKRSP, AKHSP, and especially AKF. The recruited data collection team members underwent a 3-

22. Several questions in the survey required amendment when it became clear that the data collectors and also participants were unclear as to the questions' purpose or meaning. For instance, questions related to the participants' economic status were deemed problematic and required further clarification.

day training delivered by qualitative research expert, to prepare them for primary qualitative fieldwork and community-based research. The training included information concerning the essential methodological entailments and processes associated with qualitative research, and focused on the ethics of qualitative research, the use of interview field-guides and the conduct of FGDs, and note-taking and transcription. Team members were also provided a detailed orientation to the project and its objectives, and familiarised to the use of the fieldwork research instruments. The importance of achieving data saturation in the process of primary data collection was also emphasised. Based on pre-determined independent and outcome variables, the study was designed to include 4 types of sampling strategies for 4 different types of participants:



FGDs were held in 4 selected communities: Pashk, HertKarimabad, Morder, and Gobor. These four locations were selected to capture the geographic, administrative, socio- economic, ethnic and sectarian diversities of the district; the areas chosen for inclusion in the study were selected randomly, and fulfilled the following criteria:

- The presence of single- and double-cropping.
- Location in Lower and Upper Chitral District.

For the study's qualitative component, 4 primary variables were identified that would permit the study to capture, further explore, and account for the diverse impacts of geography, ethnicity and socio-economic status on women CBSG members' use of CMWs within the program area. In order for the study to also explore how women's perceptions and use of CMWs might vary according to the communities and regions in which women lived, 2 communities from upper Chitral and 2 from lower Chitral were selected for inclusion in the study's qualitative phase. FGDs were scheduled to take place in purposively selected villages where CBSGs had been established prior to the study. Communities were additionally screened and selected so as to more accurately represent sectarian and ethnic diversity in Chitral district, and to ensure that communities' socio-economic conditions were balanced. According to these criteria, four areas were identified for inclusion in the qualitative study **(Annex 4)**:

In order to reach data saturation concerning the study's primary and secondary research questions, and to generate comparative insights into the potential variation between CBSG members' and non-members' use of CMWs, the study conducted 16 FGDs in total, with 4 FGDs in each selected community.[23] Participants for the FGDs included the following individuals:

23. One FGD was conducted in each of the study sites with women who are already members of CBSG of their respective areas and with their men. Likewise, one FGD was conducted in each of the study sites with the women in the same communities who have not yet become a member of any CBSG and with their husbands, too.

- Women who had delivered within the last quarter and were members of a CBSG.
- Men in the same household as a woman CBSG member who had delivered within the last quarter.
- Women who had delivered within the last quarter and were not members of a CBSG.
- Men in the same household as a woman who had delivered within the last quarter and was not a CBSG member.

By adhering to the aforementioned inclusion criteria, female and male participants were selected and approached for inclusion in extended FGDs in each of the selected community clusters.

Each FGD was comprised of between 6 and 10 men or women, and each interview was kept gender-segregated so as to more fully encourage participants' cooperation and contributions. To identify participants, the data collectors visited prospective participants' homes to discuss the purpose of the FGD and the extent of their contribution and, if women and men agreed, administered informed consent. Data collectors and the Field Supervisor arranged the venue for the FGDs, as well as the lunch and transportation for the mothers coming from outlying communities.

The FGD guide and questions were developed by the qualitative research expert, with the initial questions in Urdu and later translated into Khowar during field-based interviews **(Annex 4)**. Through the medium of FGDs, the study's qualitative component sought to explore and provide in-depth contextual insights into the economic and social effects produced by community savings and to identify the associated pathways, such as financial autonomy, decision-making authority, degree of empowerment, and group support and encouragement, by which women CBSG members' are able to achieve enhanced and/or increased utilisation of CMWs and other MNCH services.

The majority of FGDs were completed in each community cluster within a 1 month period of time.[24] FGDs were primarily managed by a trained facilitator and a note-taker (the responses being captured by audio-recording and written note-taking), with additional support provided by the field supervisor and local data collectors. Informed consent for tape recording during the FGDs was obtained whenever possible. Participation diagrams were made so as to ensure that an equal opportunity was provided to all the FGD participants to speak and contribute to the discussion. Individual FGDs were ended when the field supervisors determined that data saturation had been reached.[25] Following the completion of each FGD, the first draft of transcribed responses was given to the data management officer for further review. After being reviewed, it was sent to the qualitative research expert for further analysis. Data retrieved from FGDs was analysed by using constant comparison techniques.

Data Management and Quality Assurance

Quality assurance procedures played an integral role in ensuring the study's overall success and the integrity of the collected data. Routine data quality assessments mechanisms were put in place as to support the collection of high-quality and accurate primary data. Such mechanisms included sample accuracy checks and point reviews of data and its entry procedures.

During the fieldwork component of the study, field supervisors made regular visits (including follow-ups) to the field on a monthly basis. Completed questionnaires were checked for accuracy through observation, spot-checking, and randomly choosing questionnaires and revisiting participants again

24. In some communities, it was very difficult to organize the participation of 5 to 8 women or men. This was especially true during for rural communities during the summer agricultural season, when most residents were busy with planting, harvesting, or had left Chitral to work in Pakistan's urban centers. In one community, the FGD was completed 2 months past the originally scheduled date because of the unavailability of participants. However, study team managed to complete FGD as per the study's original objectives.

25. For the purposes of this study, the 'point of saturation' can be defined as the moment when researcher no longer hears or is able to obtain new information. Unlike quantitative research approaches, whereby data is analyzed at the end of the data collection process, qualitative research is analyzed on an ongoing and iterative basis.

to ensure their responses were consistent.[26] Field supervisors completed re-interviews in the presence of the data collectors so as to ensure field-based researchers fully understood the interview process and resulting data. Throughout the course of the study's primary data collection activities, a data collection register was maintained by the data coordinator and supervisors which was, in turn, checked and signed by the data management officer each time new data was submitted to the office. During the data collection period, the research team visited the study's field-sites and reviewed the quality of data collection procedures.

For the quantitative study, data collected by the interviewers in the community was assessed for completion and errors at the field level by the interviewers themselves and the questionnaires were submitted to the field supervisors for logical error checking and completeness. In addition to this 10% of the questionnaires were re-interviewed by the supervisors to ensure correctness and validity of the responses. Questionnaires were then reviewed by the data management officer before double data entry and validation. If the accuracy in data entry in any batch was found to be less than 99%, the particular batch of questionnaires was re-entered. The experts further checked 2% of the questioners to ensure consistency, quality, and validity.

Microsoft Access 2010 was used for data entry. Double data entry validation was done by the data management officerz and data were cleaned accordingly. This data was checked for wild codes and internal consistencies by the investigators and statistical experts. The final cleaned data was converted into SPSS software for analysis. The variable and value labels were assigned to clean data. The modification and creation of new variables were made after generating initial frequencies of all variables in the questionnaires.

A project coordinator was engaged for the purpose of supervising field-based research teams. The coordinator was a native of Chitral and had prior experience working in the areas under-studywhich ultimately facilitated the establishment of rapport between community members and the data collection teams. The FGDs were conducted by trained teams and coordinator was responsible for checking the completeness and accuracy of the FGD notes. Data samples collected during the study's FGDs was first translated into English, and then re-translated into Khowar, the district's primary language, so as to maintain the data's topical and content validity. A qualitative research expert supervised the data collection, analysis and compiling of the report.

Data Analysis

The quantitative data was analysed through the use of SPSS software and according to a logistic regression model whereby the outcome variable was women's use of CMW services[27] ('yes' or 'no'), while the primary independent variable was their membership in a CBSG ('yes' or 'no'). The descriptive statistics were generated for the variables in terms of frequencies of categorical variables and mean (SD) or median (Inter-quartile range) for quantitative variables. Simple bar charts for selected variables were made. Cross tabulation of selected demographic, socio-economic and pregnancy related variables with exposure variable (membership of CBSG) were also made. Association of all variables particularly exposure variable with outcome variable was assessed using chi-square test and independent samples t-test. Univariate and multivariable analysis were conducted using multiple logistic regression. The results are reported as crude and adjusted prevalence ratios with 95% confidence intervals. A p-value of less than 0.05 was taken as statistically significant.

26. Midway through the study, it became apparent that habitual problems ensuring the questionnaires' completeness and accuracy required that the data collectors and other key team members be provided refresher training. Following this training, the remainder of the quantitative data collector process was completed without undue incident.
27. Any service including ANC, PNC, and/or delivery as it occurs within the continuum of care provided by CMWs.

Qualitative data, in turn, was analysed according to the principles of ground theory, which can be defined as the generation of theories regarding social phenomena, and to develop higher level understandings that are 'grounded' in, or derived from systematic analysis of data. Such an approach is most appropriate when the study of social interactions or experiences aims to explain a process, and not to test or verify an existing theory. In this study's grounded theory research approach, the social phenomenon under study was the extent to which CBSG membership facilitated women's use of CMWs' services.

Data analysis was also facilitated by manually identifying nodes and sub-nodes in order to generate and classify the themes arising from the FGD transcripts. During the FGDs, precise notes were taken and recorded.[28] All the data relevant to each node was then identified and examined using a process called 'constant comparison'. This entailed that each item or aspect of the primary data was checked and compared to the rest of the data in order to establish analytical categories. In turn, the data was aggregated and analysed so as to further develop the study's thematic findings. Theoretical coding, memo writing and data-sorting were employed in the process of writing the initial version of the qualitative research report. The codes and themes produced as a result of the preliminary analysis were then re-written and re-organised.

Ethical Considerations

The field-based data collection teams and field supervisor were instructed to maintain participants' anonymity and confidentiality, and to accord codes rather than names to participants for the purposes of note-taking and data storage. Notes produced in the course of FGDs were kept and managed by the coordinator, and then provided directly to the qualitative research expert for analysis.

Data collectors were cautioned that, should any new mother who had been recruited as a study participant exhibit the signs or symptoms of a complication related to her previous pregnancy and which required urgent treatment, they were to refer such women to the CMW or higher-level healthcare providers for treatment. **(Annex 5)** for the study's ethical approval from the National Bioethics Commission.

In all other respects, the study did not entail any major ethical considerations or requirements.

Limitations

The following limitations were observed to affect primary data collection activities and the study's overall completion:

1. CMWs were only recently deployed to communities throughout district Chitral (July-September 2011). Considering the dynamics of village life and local socio-economic, religious, and gendered barriers to women's access to and use of CMWs, it is assumed that CMWs require time by which to make their presence known and render their services acceptable to local community members. This study, therefore, recognises that the key findings reflect a period of time in which CMWs presence is still comparatively limited but also ever increasing and expanding.

2. The process of introducing and formalizing CBSGs' presence in local communities was ongoing at the time of the study's primary data collection phase. Therefore, some of these villages had participated for more time with the CBSG program than others.

28. The accuracy of FGD transcription and translation was additional verified by randomly selecting 1 set of FGD notes and having the transcription completed again by colleague who had not participated in the qualitative study.

3. Although the study designed to capture all the pregnancies occurring in study area during data collection phase, some of deliveries may not have been covered by the study's quantitative surveys.

4. Due to severely cold weather and peak working season data collection schedule could not be maintained, as well as the challenges experienced while trying to access more remote villages, occasionally impeded the research team members' ability to complete the fieldwork according to schedule.

5. In addition to CMWs deployment and the CBSGs, (Behavior Changes and Communications CC intervention was also implemented in study population. This also has a major effect on health seeking behaviour of target communities. The study scope did not include the effect of BCC, which may have influenced the outcome.

Study Instruments

For the qualitative component of the study, a FGD guide was developed keeping in view the study objectives and in order to capture the maximum in depth information regarding the CBSG dynamics, utility and benefits as well as the scope of its membership for promoting the utilisation of the CMW services, particularly ANC, delivery and PNC. The following probes were included:

Issues, problems and difficulties experienced by pregnant women when accessing health care.	Various healthcare services and providers working in the local community and/or area.
Health-seeking practices and behaviours of women during pregnancy (inclusive of choice of provider, the available continuum of care, decision-making processes and personal autonomy).	The importance attached to ANC,delivery, and PNC services.
The reasons for choosing specific healthcare providers (inclusive of family preference, community opinion and/or familial and social pressure, economic accessibility, the provider's gender and their proximity/physical accessibility, perceived quality of care and skills).	Views and perceptions concerning CMWs (inclusive of their role, position, skills, acceptability).
Expenses incurred (direct and indirect).	Matters related to arranging the monies required for MNH service access and use.
Economic savings practices (household- and CBSG-levels).	Knowledge concerning CBSG (inclusive of its composition, aims and objectives, membership, advantages).

The FGDs examined a wide range of interrelated issues, and explored their associative impacts for women CBSG members' and non-members' use of CMW services:

CBSG Members	CBSG Non-Members
Reason/s for joining the CBSG.	Reason/s for not joining the CBSG
CBSG membership and its ability to support women's use of CMW services during pregnancy and delivery in terms of women's knowledge, trust, increased autonomy and decision-making ability, the social acceptability and financial accessibility of CMWs.	Whether women had considered becoming a member of a CBSG, and/or if it had been recommended to them, and/or they had recommended membership to other women. If yes, why? If not, why not?
Challenges associated with CBSG membership.	
Additional comments and/or suggestions concerning CBSG membership or CMW services.	

Results and Findings

Findings of Quantitative Component

Different demographic, socio-economic and pregnancy related characteristics of a total of 908 women interviewed are reported in the analysis.

Socio-Demographic and Economic Characteristics

More than half of women surveyed were found to be between 20 and 29 years of age. Almost all of them were married with only two respondents being divorced and one widowed. More than half of the women were illiterate. About one third of the husbands were educated up till the 10th grade (matriculation\secondary schooling) and about 16% wereeducataed till 12th grade (intermediate\higher secondary schooling) and above. Mean number of alive children for women aged 40 years and above were 5.4 (SD=2.3) showing a high fertility in the area (Table 2).

Table 2. Distribution of study participants by demographic characteristics

Characteristics	N	%
Age (in years)		
15-19	85	9.5%
20-24	245	27.5%
25-29	266	29.8%
30-34	157	17.6%
35-39	88	9.9%
40 years & above	51	5.7%
Mean Age (SD)	27.1 (6.5)	
Marital Status		
Currently Married	905	99.7%
Others	3	0.3%
Number of Alive Children		
None	16	1.8%
1-2	462	50.9%
3-4	258	28.4%
5-6	128	14.1%
7 & above	44	4.8%
Mean Number of Alive Children (SD)	2.8 (1.9)	
Respondent's Level of Education		
Illiterate (never attended School)	507	55.8%
Primary (1-5 class)	84	9.3%
Middle (6-8 class)	78	8.6%
Matric (9-10 class)	119	13.1%
Intermediate/Diploma	74	8.1%
Graduate & above	46	5.1%
Husband Level of Education		
Illiterate	184	20.3%
Primary (1-5 class)	94	10.4%
Middle (6-8 class)	175	19.3%
Matric (9-10 class)	311	34.3%
Intermediate/Diploma	76	8.4%
Graduate & above	68	7.5%

Most of the women interviewed were housewives; working women were usually involved in teaching and medical related jobs. The respondents' husbands were engaged mostly in unskilled labour or in security related jobs. About one fifth of them were engaged in farming and business. Most of the women were living in joint families with average household size of about 10 individuals (SD=3.9).

About one fifth of the respondent's families were earning less than 5,000 Pakistani rupees and about one fourth of them were earning between 5,000 to less than 10,000 Pakistani rupees. Major contribution of their income was coming from salaries (Table 3).

Median per capita monthly income for therepondents' families was 1300 (Interquartile Range: 708, 2300) Pakistani rupees. The daily per capita cash income of 83.5% and 97.3% of respondent's families were less than 100 Pakistani rupees (<1 US $) and less than 200 Pakistani rupees (<2 US $) respectively.

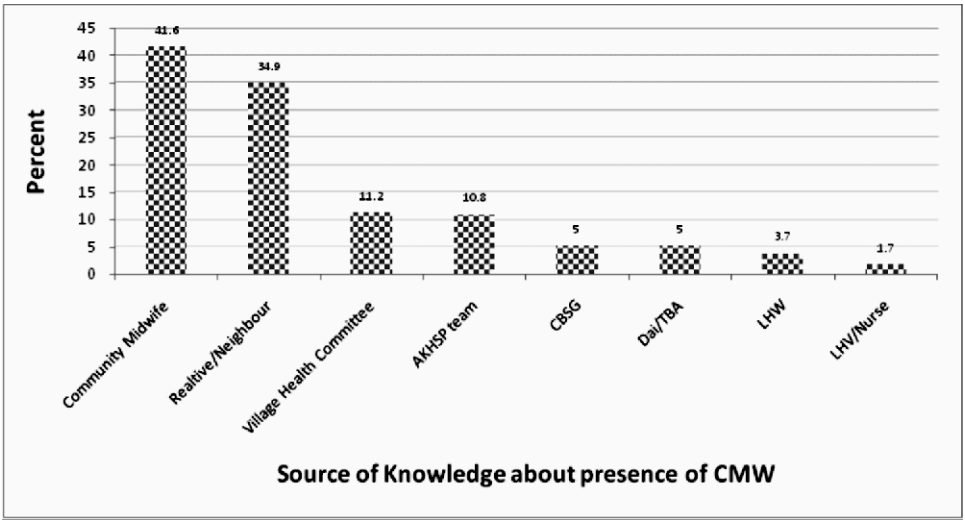
Table 3. Distribution of study participants by socio-economic characteristics

Characteristics	N	%
Respondent Occupational Status		
Housewife	863	95.0%
Teacher	20	2.2%
Other non-medical	10	1.1%
Medical related	15	1.7%
Husband Occupational Status		
Jobless/Unemployed	71	7.9%
Farmer	94	10.4%
Laborer	264	29.3%
Professional	47	5.2%
Businessman	94	10.4%
Office work/Clerical	38	4.2%
Retired	22	2.4%
Protective service	152	16.9%
Driver	40	4.4%
Employed Overseas	20	2.2%
Service Provider	59	6.5%
Household Size		
<5	37	4.1%
5-6	127	14.0%
7-8	225	24.8%
9-10	199	21.9%
11-15	247	27.2%
16 & above	73	8.0%
Mean Household Size (SD)	9.8 (3.9)	
Monthly Family Income (in Pak. PKR)		
<5000	163	18.0%
5000-9999	223	24.7%
10000-14999	155	17.1%
15000-24999	184	20.4%
25000 & above	179	19.8%
Mean Monthly Family Income (SD) Pak. PKR		
Overall	16302.9 (16236.7)	
Farming	1678.2 (2096.2)	
Livestock	1204.3 (4340.9)	
Salary	8587.4 (14580.2)	
Shop	921.1 (3213.6)	
Rent	153.5 (1973.8)	
Other sources	3769.8 (5965.3)	

Knowledge about Community Midwives (CMW) and their Utilisation

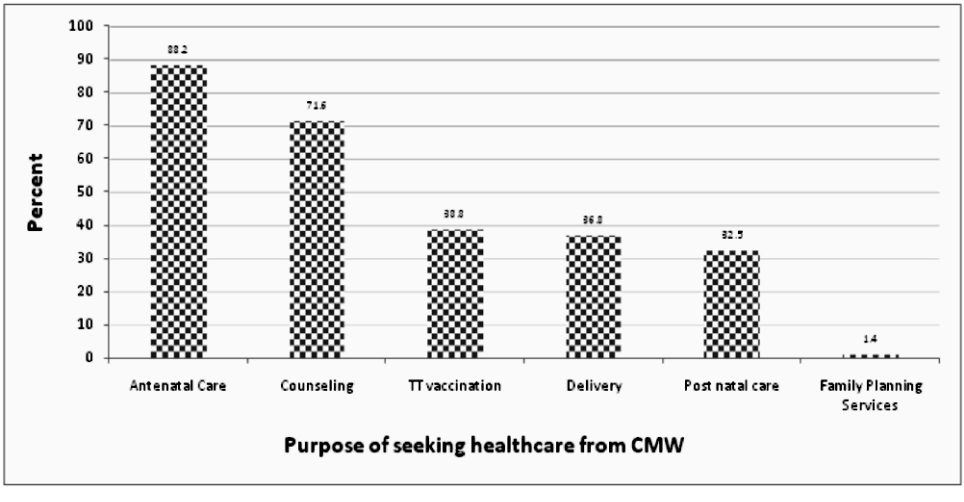
About three fifth (59.3%, 538) of the respondents knew about CMWs in their areas. CMWs themselves were the major source of respondent's knowledge followed by relatives/neighbours and village health committees (Figure 3).

Figure 3: Source of knowledge about the presence of CMWs in the area



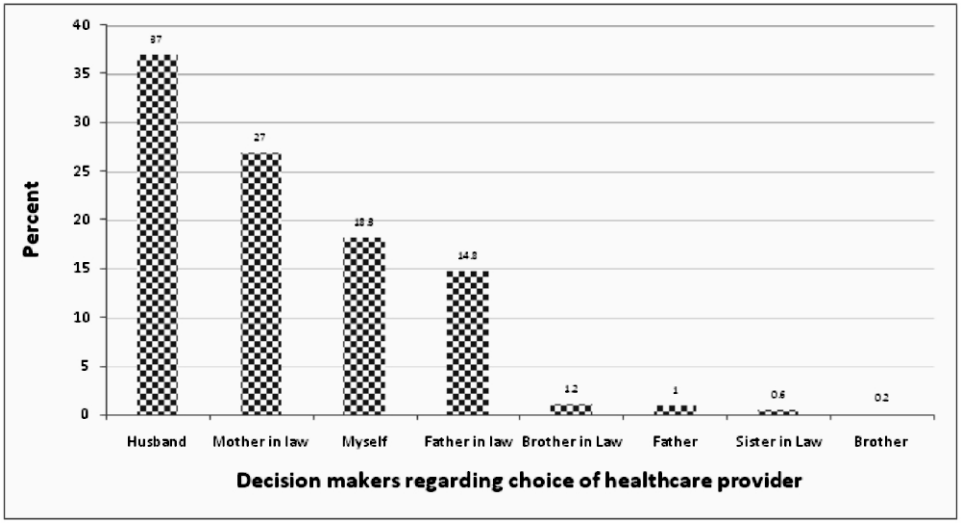
Among those who knew the presence of CMWs in their areas, more than half (53.3%, 287) of the respondent's attended sessions conducted by CMWs. This knowledge influenced their decision about seeking healthcare during pregnancy in majority of the women (Very much 46.3%,249; somewhat 30.9%, 166; not at all 17.5%, 94; Did not response 5.4%, 29). About two third (64.7%, 348) seek healthcare from CMW during the previous pregnancy. Major healthcare utilisation of CMWs was for pregnancy related matters including ANC, TT vaccination, delivery, PNC and counselling (Figure 4).

Figure 4: Respondent's purpose for seeking healthcare from CMWs



About one fifth (18.5%) of the respondents reported that they could make decision about health care utilisation themselves, although husbands were main decision maker followed by mothers in law for this purpose. (Figure 5)

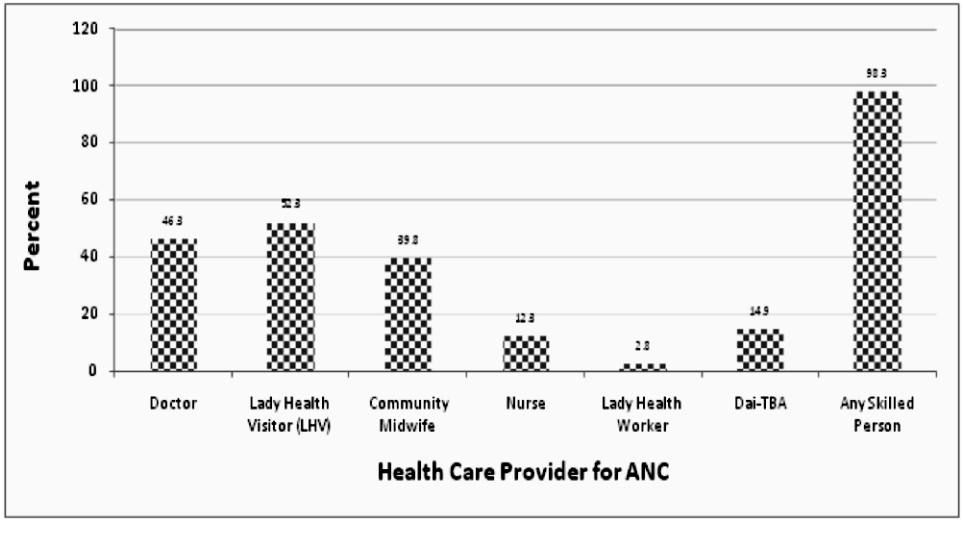
Figure 5: Family members who typically make decisions regarding choice of healthcare provider



Antenatal Care During Last Pregnancy

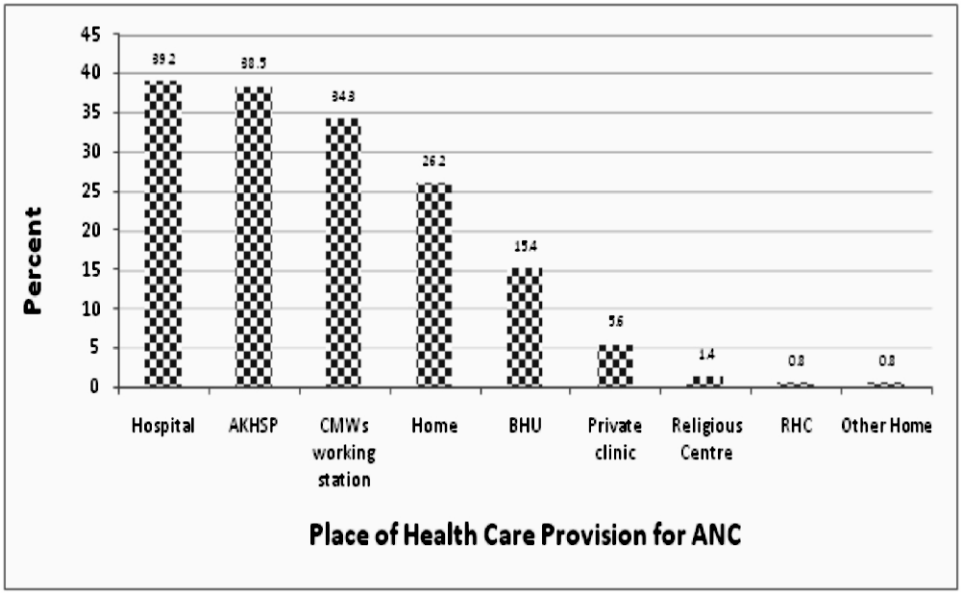
Majority (83.0%, 771) of the women received ANC during last pregnancy. Those women who received ANC check-ups during last pregnancy usually received it in the 2nd and 3rd trimester. Among the women who received ANC the mean number of visits in the whole pregnancy was 3.7 (SD=2.3). The median cost of ANC received during last pregnancy was 1,000 (Interquartile Range: 250, 3500) Pakistani rupees. Almost of all of them (98.3%, 755) received ANC from skilled health care professionals. Majority of them were LHVs followed by doctors and community midwives. (Figure 6)

Figure 6: Health Care Provider for ANC



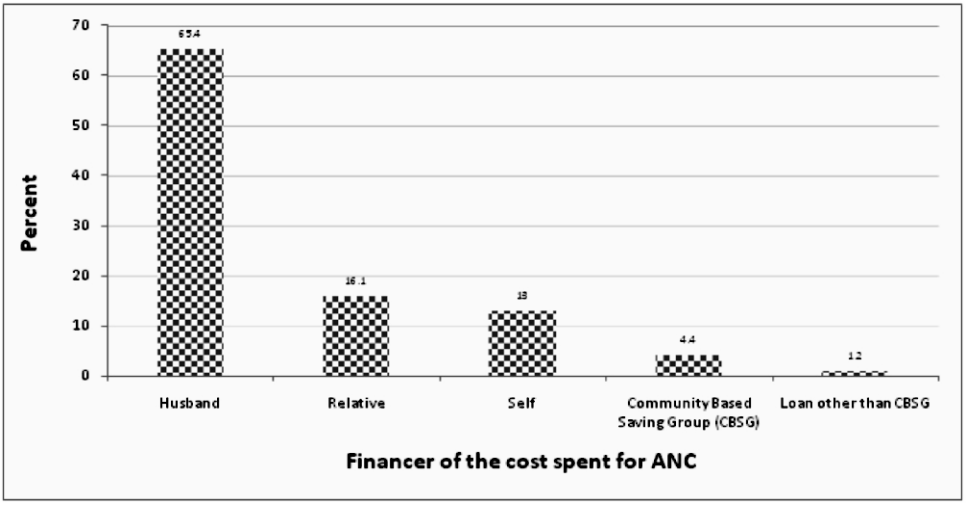
Hospitals and AKHSP centres were the main sources of health care provision for ANC followed by CMWs working station, respondent's own homes, BHUs and private clinics. Very few of them also visited religious centres and Rural Health Centres (RHCs) for this purpose. (Figure 7)

Figure 7: Place of health care provision for ANC



More than half of the respondents (55.8%, 430) who made an ANC visit did so for a check-up while the rest did so for treatment of a problem during pregnancy. The cost of ANC visits were mostly borne by the family themselves followed by relatives. Very few of them (5.6%) took a loan; those who did took it mostly from a CBSG. (Figure 8)

Figure 8: Financer of the cost spent on health care provision for ANC



About 17.0% women who did not receive any ANC reported various factors as the reason. A majority of such womenthought that ANCs were unnecessary or did not feel any problem (52.9%, 73). Other reasons given included: health facilities being too far (37.7%, 52), ANC visits costing too much (26.8%, 37), transport not being available (15.2%, 21), fear or shyness in discussing their need for an ANC check-up (4.3%, 6), lack of an accompanying partner (4.3%, 6) and unwillingness to recieve ANC from a male doctor (1.4%, 2).

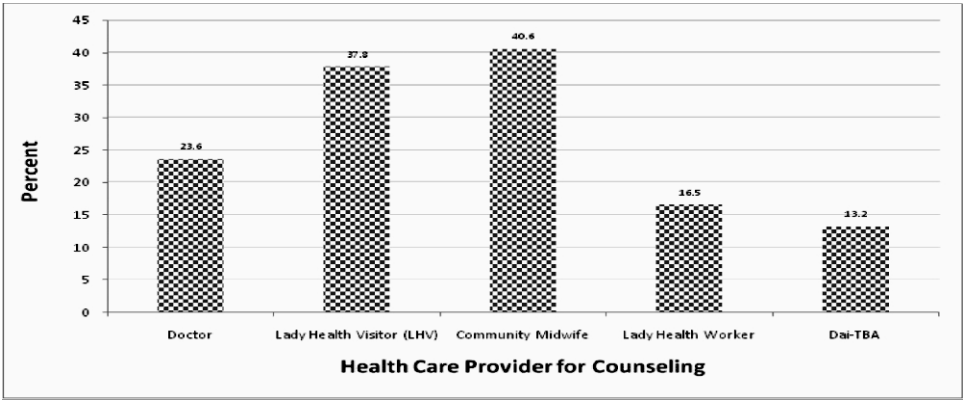
TT Vaccination, Referral to Health Care Facility (HCF) during last Pregnancy

Majority (81.4%, 739) of the women received TT injections during last pregnancy similar to ANC. About two-third of them were counselled about mother and child health. CMWs were the main source of counselling followed by lady health visitors and doctors (Figure 9). About one-fourth of the respondents were referred to a HCF. District Headquarter Hospital and AKHSP Centre were the main places of referral. Women mainly went to the HCF either at their own or on the advice of a lady health visitor, a family member or a CMW. Only a very few respondents did not go to the HCF due to financial reasons. The median cost at referral facility was 3000 (Interquartile Range: 1100, 5000) Pakistani rupees. Almost all of the respondents who went to a HCF were supported by their families for the expenditures.

Table 4. Distribution of study participants by TT vaccination and referral to a health care facility (HCF) during last pregnancy

Characteristics	n	%
TT injections during last delivery		
Received TT injection	739	81.4%
Mean number of TT injections (SD)	1.9 (0.4)	
Counseled about mother and child health		
Counseled	593	65.3%
Referred to a HCF		
Referred	210	23.1%
Place of Referral		
BHU	16	7.6%
RHC	5	2.4%
Private Clinic	10	4.8%
District Headquarter hospital	86	41.0%
AKHSP Centre/Hospital	86	41.0%
Community Midwife	6	2.9%
Person who referred to HCF		
Self	43	20.5%
Family member	51	24.3%
Lady Health Worker	8	3.8%
Lady health visitor	58	27.6%
Community Midwife	35	16.7%
Dai-TBA	5	2.4%
Doctor	9	4.3%
Source of transport arrangement to go to HCF		
Self	87	42.2%
Village Health Committee	1	.5%
Relative	109	52.9%
Did not go due to financial reasons	9	4.4%
Average cost of treatment at HCF	4067.9 (5248.4)	
Source of Finance for HCF cost		
Self	31	15.0%
Husband	135	65.5%
Relative	41	19.9%
Community Based Saving Group (CBSG)	2	1.0%
Loan other than CBSG	5	2.4%

Figure 9: Health care provider counselled about mother and child health (n=593)



Delivery related matters during last Pregnancy.

Most of the study participants in this area were comfortable deliveringat home (70.8%) but still more than half of the deliveries were assisted by a SBA (52.5%; 477/908). About 94 percent of the deliveries ended in live births and about 13 percent of them were not normal vaginal. Median per delivery cost was 1000 (Interquartile Range: 200, 2550) Pakistani rupees. Most of the respondents covered the cost on their own (83.0%) and only about 3 percent took loan from different sources including CBSG.

Table 5: Distribution of study participants by their last delivery related matters

Characteristics	n	%
Place of Delivery		
Home	643	70.8%
CMW working station	7	0.8%
BHU	17	1.9%
RHC	4	0.4%
Hospital/Clinic	101	11.1%
AKHSP	124	13.7%
Bashaleni	11	1.2%
On the way	1	0.1%
Delivery Assisted by		
Doctor	119	13.1%
Lady Health Visitor	181	19.9%
Community Midwife	128	14.1%
Nurse/Midwife	49	5.4%
Dai-TBA	153	16.9%
Relative/Family Member	273	30.1%
LHW	2	0.2%
Self	3	.3%
Type of Delivery		
Vaginal	789	86.9%
Assisted vaginal	69	7.6%
Episiotomy	43	4.7%
Cesarean -section	7	.8%
Cost of Delivery (in Pak. PKR)		
Mean cost of delivery (SD)	2694.0 (4794.2)	
Source of Finance for the Delivery Cost		
Self	48	5.3%
Husband	504	71.5%
Relative	155	17.1%
Community Based Saving Group (CBSG)	17	1.9%
Loan other than CBSG	12	1.3%
Other sources of finance	5	.6%
Newborn Status		
Alive	853	93.9%

Delivery complications related matters during last Pregnancy

More than one fifth of the study participants reported a problem or complication during last delivery. More than 45 percent went to a health care facility for treatment purpose and most of them (85.0%; 176/207) were treated by a skilled health personnel. The median cost for this treatment was 1005 (Interquartile Range: 300, 4000) Pakistani rupees. The cost was largely supported by the respondents themselves and only about 5 percent of them went for loan either from CBSG or others.

Table 6: Distribution of study participants by reported complications during delivery

Characteristics	n	%
Any problem or complication during delivery		
Had problem or complication	207	22.8%
Place of Treatment		
Patient Home	96	46.4%
Health Care Provider/Relative Home	2	1.0%
Community Midwife working station	3	1.4%
BHU	8	3.9%
RHC	2	1.0%
Private clinic	9	4.3%
Hospital	32	15.5%
AKHSP	41	19.8%
Did not see anyone	8	3.9%
Bashaleni	3	1.4%
Medical Store	3	1.4%
Person Assisted Treatment		
Doctor	63	30.4%
Lady Health Visitor	77	37.2%
Nurse	10	4.8%
Community Mid Wife	26	12.6%
Dai/TBA	8	3.9%
Compounder/Dispenser/Technician	7	3.4%
Elder household member/Relative	6	2.9%
Hakeem	1	.5%
LHW	2	1.0%
Did not see any one	7	3.4%
Cost of Delivery Complications (in Pak. PKR)		
Mean cost of delivery complications (SD)	3757.8 (6080.8)	
Source of Finance for the Delivery Complications Cost		
Self	11	6.1%
Husband	121	66.9%
Relative	34	18.8%
Community Based Saving Group	3	1.7%
Loan other than CBSG	5	2.8%
Others	1	.6%
No response	6	3.3%

Post natal care after last delivery

Only one third of the total study participants reported receiving PNC after their last delivery. About 8 percent of them received PNC at a CMW working stations. Of those who received PNC about 93.4 percent (283/303) got it by askilled health personnel. The median cost for PNC was 300 (Interquartile Range: 85 to 1,000) Pakistani rupees. This cost was paid for by the participants themselves and very few of them took a loan either from CBSG or from another source. Themain reasons for not receiving PNC were: felt unnecessary, involved high cost, long distance, transport problems, and no one to accompany.

Table 7: Distribution of study participants by post natal care after last delivery

Characteristics	n	%
Received Post Natal Care		
Received	303	33.4%
Place of Post Natal Care		
Home	145	47.9%
Health Care Provider/Relative House	1	.3%
Community Midwife Working Station	24	7.9%
BHU	23	7.6%
RHC	6	2.0%
Hospital	56	18.5%
Private Clinic	16	5.3%
AKHSP	51	16.8%
Person assisted in post Natal Care		
Doctor	87	28.7%
Lady Health Visitor	74	24.4%
Community Midwife	113	37.3%
Nurse	23	7.6%
Lady Health Worker (LHW)	6	2.0%
Dai (Traditional Birth Attendant)	12	4.0%
Compounder/Dispenser	9	3.0%
Cost of post natal care (in Pak. PKR)		
Mean cost of post natal care (SD)	1370.2 (3622.5)	
Source of Finance for post Natal Care		
Self	29	11.5%
Husband	182	72.2%
Relative	35	10.7%
Community Based Saving Group (CBSG)	4	1.6%
Loan other than CBSG	1	.4%
Reasons for not receiving post Natal Care		
Not necessary/Had no problem	432	71.9%
Costs too much	97	16.1%
Too far	151	25.1%
No transport	58	9.7%
Had no one to go with	20	3.3%
Did not know where to go	2	.3%
Not allowed to go	5	.8%
Long waiting time	2	.3%
Did not want to see a male doctor	1	.2%

Participation and Utilisation of Community Based Savings Groups (CBSG)

Less than half of the respondents knew about the CBSG in their village. However, among those who knew about it, more than two third (303/404) reported having a family member as with CBSG membership. About 15 percent (47/303) from those who had any one from the family as member of CBSG received loan for CBSG for the last delivery mainly for ANC followed by delivery related matters. The amount was usually used for treatment of the mother, medication and transportation. Similarly, about one fourth (74/303) from this group had also taken CBSG loan for other purposes. This loan was mainly taken for buying household items and school fees/books (Table 8).

Table 8: Distribution of study participants by their participation and utilisation of CBSGs

Characteristics	N	%
Heard about CBSG in the Village		
Heard	444	48.9%
Any one from the family as member of CBSG		
Member	303	33.4%
Relationship with the respondent with CBSG member		
Yourself	186	61.4%
Mother in Law	111	36.6%
Sister in Law	88	29.0%
Sister	7	2.3%
Daughter	9	3.0%
Other Relatives	9	3.0%
Taken loan from CBSG for the last pregnancy		
Taken	47	15%
Purpose of CBSG money from the last delivery		
Antenatal/referral during pregnancy	37	78.7%
Delivery/complications during delivery	19	40.4%
Post natal period	4	8.5%
Amount of loan taken from CBSG for the last delivery (in Pak. PKR)		
Mean amount taken from CBSG (SD)	2080.9 (2104.7)	
Purpose of loan taken from CBSG for the last delivery		
Transportation	14	29.8%
Treatment or service cost of the mother	10	21.3%
Treatment or service cost for the child	25	53.2%
Vaccination	16	34.0%
Medication	25	53.2%
Taken loan from CBSG for other purposes		
Taken	74	8.1%
Amount of loan taken from CBSG for other purposes (in Pak. PKR)		
Mean amount taken from CBSG (SD)	2673.0 (2711.1)	
Purpose of loan taken from CBSG for other Purposes		
Health care other than pregnancy related	7	9.5%
Setting up small business	1	1.4%
Buying household item	41	55.4%
School fees/books	23	31.1%
Burial of deceased family	2	2.7%
Marriage in a family	4	5.4%
Any other purpose	4	5.4%

Association of Demographic, Socio-Economic and Pregnancy related Factors by CBSG Status

Study participants were significantly younger women (p-value=0.021), relatively more literate (p-value<0.001) and hadfewer number of children alive (p-value=0.001) among those who had CBSG membership in the family (Table 9).

Table 9: Association of study participant's socio-demographic characteristics by CBSG membership in the family

Characteristics	CBSG Membership in the Family				p-value
	No		Yes		
	n	%	n	%	
Age (in years)					
15-19	56	9.4%	29	9.7%	0.021
20-24	149	25.1%	96	32.2%	
25-29	179	30.1%	87	29.2%	
30-34	102	17.2%	55	18.5%	
35-39	65	10.9%	23	7.7%	
40 & above	43	7.2%	8	2.7%	
Respondent's Level of Education					
Illiterate	380	62.8%	127	41.9%	<0.001
Primary	58	9.6%	26	8.6%	
Middle (6-8 Class)	43	7.1%	35	11.6%	
Secondary/Matric	67	11.1%	52	17.2%	
Intermediate/Diploma	30	5.0%	44	14.5%	
Graduate & above	27	4.5%	19	6.3%	
Husband Level of Education					
Illiterate	128	21.2%	56	18.5%	0.419
Primary	61	10.1%	33	10.9%	
Middle (6-8 Class)	116	19.2%	59	19.5%	
Secondary/Matric	200	33.1%	111	36.6%	
Intermediate/Diploma	48	7.9%	28	9.2%	
Graduate & above	52	8.6%	16	5.3%	
Number of Alive Children					
None	9	1.5%	7	2.3%	0.001
1-2	289	47.8%	173	57.1%	
3-4	173	28.6%	85	28.1%	
5-6	94	15.5%	34	11.2%	
7 & above	40	6.6%	4	1.3%	
Household Size					
<5	26	4.3%	11	3.6%	0.597
5-6	91	15.0%	36	11.9%	
7-8	150	24.8%	75	24.8%	
9-10	132	21.8%	67	22.1%	
11-15	163	26.9%	84	27.7%	
16 & above	43	7.1%	30	9.9%	

There were no differences in the mean expenditures on ANC check-ups, treatment at the referral facility, delivery, treatment of delivery complications and post natal care by CBSG membership status. (Table 10)

Table 10: Mean distribution (SD) of monthly per capita income, total number of ANC visits and expenditure incurred at different stages of pregnancy by CBSG membership in the family

Characteristics	CBSG Membership in the Family				p-value
	No		Yes		
	n	Mean (SD)	N	Mean (SD)	
Monthly per capita income (in Pak. PKR)	601	1808.7 (2342.6)	303	1750.6 (1392.9)	0.691
Total number of ANC visits	479	3.3 (2.1)	289	4.4 (2.4)	<0.001
Cost for antenatal check-up assessment (in PKR)	456	2721.9 (3575.3)	289	2216.9 (4627.8)	0.095
Cost of Treatment at the referral facility	117	3793.4 (3475.0)	79	4474.4 (7115.2)	0.374
Cost of Delivery (in PKR)	563	2503.0 (4489.1)	298	3054.6 (5312.3)	0.108
Cost of Treatment of delivery complications	143	3475.6 (5586.5)	49	4581.4 (7340.0)	0.273
Cost of post natal care (in PKR)	164	1372.2 (2833.4)	120	1367.5 (4495.6)	0.991

Table 11: Mean Distribution (SD) of monthly per capita income, total number of ANC visits and expenditure incurred at different stages of pregnancy by continuum of care by CMW

Characteristics	Mean Difference	Std, Error Difference	95% Confidence Interval of the Mean Difference	
			Lower	Upper
Monthly per capita income (in Pak. PKR)	58.1	146.1	-228.6	344.9
Total number of ANC visits	-1.2	0.2	-1.5	-0.8
Cost for antenatal check-up assessment (in PKR)	505.0	302.0	-87.8	1097.8
Cost of Treatment at the referral facility	-681	764.7	-2189.2	827.2
Cost of Delivery (in PKR)	-551.6	343.1	-1225	121.9
Cost of Treatment of Delivery complications	-1105.8	1006	-3090.2	878.6
Cost of post natal care (in PKR)	4.7	435.9	-853.4	862.8

A significantly higher proportion of CBSG members were utilising health care facilities either by CMWs or any skilled person during pregnancy, at the time of delivery and after delivery except for the treatment of complications during delivery. Similar behaviours were also observed for continuum of care by CMWs or any skilled person. (Table 11)

Table 12: Association of study participant's health care utilisation related characteristics by CBSG membership in the family

Characteristics		All individuals		CBSG Member		Crude Prevalence Ratio	95.0% CI for Crucle Prevalence Ratio		p-value
		frequency	Column %	n	Row (%)		Lower	Upper	
Seek healthcare from CMW during last pregnancy (n=538)	No	190	35.3%	64	33.7%	1.00			<0.001
	Yes	348	64.7%	194	55.7%	1.65	1.25	2.20	
Antenatal care (ANC) during last pregnancy (n=908)	Did not get	137	15.1%	13	9.5%	1.00			<0.001
	Got	771	84.9%	290	37.6%	3.96	2.27	6.90	
Antenatal care (ANC) from CMW (n=771)	Did not get	464	60.2%	113	24.4%	1.00			<0.001
	Got	307	39.8%	177	57.7%	2.37	1.87	2.99	
Counselling about mother and child health from CMW (n=593)	Did not get	352	59.4%	114	32.4%	1.00			<0.001
	Got	241	40.6%	148	61.4%	1.90	1.49	2.42	
Delivery Assisted by CMW (n=908)	No	780	85.9%	225	28.8%	1.00			<0.001
	Yes	128	14.1%	78	60.9%	2.11	1.63	2.73	
CMW provided treatment for complications during pregnancy (n=206)	No	181	87.9%	47	26.0%	1.00			0.387
	Yes	25	12.1%	9	36.0%	1.39	0.68	2.83	
Received post natal care (PNC) (n=908)	No	605	66.6%	171	28.3%	1.00			<0.001
	Yes	303	33.4%	132	43.6%	1.54	1.23	1.93	
Received post natal care (PNC) by CMW (n=303)	No	190	62.7%	60	31.6%	1.00			<0.001
	Yes	113	37.3%	72	63.7%	2.02	1.43	2.84	
CMWs provided continuum of care (n=908)	No	850	93.6%	264	31.1%	1.00			<0.001
	Yes	58	6.4%	39	67.2%	2.16	1.55	3.03	
Antenatal care (ANC) by Skilled Person (n=768)	Did not get	13	1.7%	2	15.4%	1.00			0.135
	Got	755	98.3%	287	38.0%	2.47	0.62	9.93	
Delivery Assisted by Trained Birth Attendant (n=908)	Not skilled	431	47.5%	114	26.5%	1.00			<0.001
	Skilled	477	52.5%	189	39.6%	1.50	1.19	1.89	
Skilled Person provided treatment for complications during pregnancy (n=207)	Not skilled	31	15.0%	6	19.4%	1.00			0.324
	Skilled	176	85.0%	51	29.0%	1.50	0.64	3.49	
Received post natal care (PNC) by skilled person (n=303)	Not skilled	20	6.6%	5	25.0%	1.00			0.159
	Skilled	283	93.4%	127	44.9%	1.79	0.73	4.39	
Skilled person provided continuum of care (n=908)	Not skilled	698	76.9%	203	29.1%	1.00			<0.001
	Skilled	210	23.1%	100	47.6%	1.64	1.29	2.08	

Association of demographic, socio-economic and pregnancy related factors by Continuum of Care through CMW

The association of study participants' socio-demographic characteristics including age of the participant, level of education of couples, occupation of women, number of alive children and household size by continuum of care through CMWs were found to be insignificant (Table 12).

Table 13: Association of study participant's socio-demographic characteristics by continuum of care by CMW

Characteristics	Continuum of Care by CMW				p-value
	No		Yes		
	n	%	n	%	
Tehsil					0.639
Chitral	368	43.3%	27	46.6%	
Mastuj	482	56.7%	31	53.4%	
Age (in years)					0.593
15-19	77	9.2%	8	14.0%	
20-24	226	27.1%	19	33.3%	
25-29	252	30.2%	14	24.6%	
30-34	147	17.6%	10	17.5%	
35-39	85	10.2%	3	5.3%	
40 & above	48	5.7%	3	5.3%	
Respondent's Level of Education					0.350
Illiterate	481	56.6%	26	44.8%	
Primary	79	9.3%	5	8.6%	
Middle (6-8 Class)	72	8.5%	6	10.3%	
Secondary/Matric	108	12.7%	11	19.0%	
Intermediate/Diploma	66	7.8%	8	13.8%	
Graduate & above	44	5.2%	2	3.4%	
Husband Level of Education					0.789
Illiterate	174	20.5%	10	17.2%	
Primary	86	10.1%	8	13.8%	
Middle (6-8 Class)	165	19.4%	10	17.2%	
Secondary/Matric	291	34.2%	20	34.5%	
Intermediate/Diploma	69	8.1%	7	12.1%	
Graduate & above	65	7.6%	3	5.2%	
Cost of Delivery (in Rs.)	804	2774.6 (4936.1)	57	1556.8 (1476.8)	<0.001
Cost Treatment of delivery complications	188	3812.8 (6132.4)	4	1175.0 (960.5)	0.392
Cost of post natal care (in Rs.)	231	1624.5 (3967.8)	53	262.2 (493.3)	<0.001

In univariate analysis, having: a family member in CBSG, a mother in law as decision maker to visit health care provider, a normal vaginal delivery, used money from CBSG for the last delivery and costs of continuum of care were found to be significantly associated with continuum of care by CMWs. In the final multivariable analysis, only CBSG membership and mother in law as decision maker to visit health care provider are found to be associated with continuum of care by CHWs (Table 14).

Table 14: Distribution of prevalence, crude and adjusted prevalence ratios (95% CI) of continuum of care by CMW by different characteristics

Characteristics	Total Number	Continuum of Care by CMW n (%)	Crude Prevalence Ratio (95% CI)	p-value	Adjusted Prevalence Ration (95% CI)	p-value
A Family Member is in the CBSG		39 (12.9%).	4.1 (2.4, 7.1)	<0.001	3.6 (2.1, 6.4)	<0.001
Yes	303	19 (3.1%)	1		1	
No	605					
Decision Maker to visit Health Care Provider		8 (4.8%) 16 (4.8%) 3 (2.2%)		0.002		0.053
Self	166	29 (11.8%)	1		1	
Husband	336	2 (7.4%)	0.99 (0.4, 2.3)		1.1 (0.5, 2.5)	
Father in law	134		0.5 (0.1, 1.8)		0.4 (0.1, 1.7)	
Mother in law	245		2.5 (1.1, 5.4)		1.98 (0.9, 4.4)	
Others	27		1.5 (0.3, 7.2)		1.5 (0.3, 6.9)	
Type of Delivery		54 (6.8%) 4 (3.4%)		0.161		
Normal Vaginal	789		1			
Others	119		0.5 (0.2, 1.4)			
Used Money from CBSG for last pregnancy		6 (12.8%) 52 (6.0%)		0.076		
Yes	47		2.1 (0.9, 4.9)			
No	861		1			
Taken loan from CBSG for other purposes		5 (6.8%) 53 (6.4%)		0.896		
Yes	74		1.1 (0.4, 2.7)			
No	834		1			
Cost for antenatal check-up assessment (in Rs.)			0.9997 (0.9996, 0.9999)	<0.001		
Cost of Delivery (in Rs.)			0.9999 (0.9998, 1.0001)	0.073		
Cost of post natal care (in Rs.)			0.999 (0.998, 0.9997)	0.026		

Findings of Focus Group Discussion Component

The qualitative component of the study sought to identify the extent to which CBSGs have directly or indirectly facilitated women's increased financial and/or social access to CMWs and the services associated with the continuum of care. Such services include antenatal care, post-natal care, and skilled and safe delivery coverage. Specifically, the qualitative research attempted to identify and explore if CBSGs have the capacity to help women members to overcome the cost constraints associated with the fee-based services provided by CMWs. In order to glean these insights and produce meaningful findings, FGDs were chosen as the primary and most time- and cost-efficient means of data collection concerning female and male participants' perceptions, views and thoughts in those communities selected for inclusion in the study: Karimabad, Phashk, GoboreandMorder.The FGDs focused on the following priority areas.

Availability of MNCH Services in Study Area

Community members were appreciative of the fact that a CMW had been deployed to their area or the local vicinity (such as a neighbouring village). By the time of primary data collection, participants claimed that people had begun making use of CMWs for antenatal checkups and therefore, no longer needed to travel to a government hospital. In case complications occurred during deliveries, participants confirmed that CMWs referred patients to the nearest hospital for advanced treatment.

Consultation during pregnancy has become much easier because of the trained CMW in the area. (Woman non-member CBSG, Karimabad)

In terms of rural community members' ability to affordably and logistically access government health centres, participants indicated that among the most significant obstacles to care was that of transport. This was especially true for FGD participants in Morder. Even when patients were able to reach public sector facilities, participants stated that healthcare providers frequently referred patients to Chitral town for specialised treatment and this entailed additional, onerous expenditures on transportation.

In Phashkh, men and women participants reported that the CMW has not yet gained sufficient popularity and that the local Lady Health Worker, who is unable to provide safe delivery support, lives at a distance from the majority of local residences. Residents continue to rely heavily on the services of the local TBA, also known as the dai, in great part because there is neither an easily accessible doctor nor hospital. Participants added that at the local BHUs, the physicians who join on postings soon leave for positions in other areas. There is no community-based pharmacy (dispensary) and only one private clinic available to participants living in Phashkh, which is located nearly 2 hours walking distance from most residences.

We are poor, remotely located population with no health facility nearby and more so no transport available at hand, so most of the time, we leave it to God. (Women non-member, Phashk)

It was found that the proximity and the availability of the health provider are among the two primary factors that determine where participants go for delivery cases. It also became apparent that daishave been traditionally preferred because they are more accessible and affordable. However, participants confirmed that their health-seeking decision-making and practices are changing in response to the recent deployment of CMWs. Participants of greater economic means or who possess sufficient household savings, in turn, prefer to go to hospitals for delivery cases. In Chitral district, the most commonly used hospitals were either the DHQ Chitral or Aga Khan Health Centres. Indeed, for communities such as Phashkh and Gobore, participants stated that the Aga Khan Health Centres were the next most effective option for delivery cases.

Community Perceptions, Experiences and Practices on MNCH Services Utilisation

Health seeking practices and behaviours of the community women during pregnancy

Women participants of FDGs were conscientious of their nutritional intake during pregnancy and the postpartum period. In FGDs, women stated that they make efforts to eat fresh and nutritious foods, avoid lifting heavy objects, and plan ahead for their checkups and the possibility of hospitalisation for complicated deliveries. Some women also claimed that they exercised during pregnancy and took vitamins as required.

Antenatal, delivery and post natal care is taken very seriously in our community. We exercise, take special diet, vitamins and go for TT injections (Women CBSG-non-members, Gobore and Phashk) We make sure that women are taking iron and vitamins during the pregnancy. (Woman member CBSG, Phashk)

We do care about ourselves during pregnancy. We avoid lifting weights and take all precautions that one must take during pregnancy. When it is possible and feasible for us, we do go for checkup because we know how important this is for mother and child health. (Woman non-member CBSG, Karimabad)

Among poorer women, it was found that many were unable to receive a balanced diet or take vitamin supplementation during pregnancy and the postpartum period. As a result, some participants stated that they were physically weak and faced numerous problems at the time of delivery. Women's spouses and family members were often unable to remedy women's dietary deficiencies as a result of poverty and poor access to a wide array of nutritious foodstuffs.

Poverty is quite prevalent in our area. Women can't spend much on their health and nutrition (Woman member CBSG, Phashk)

Women participants were also aware of the majority of complications associated with pregnancy and delivery, and demonstrated concern regarding what would happen should deliveries become complicated and specialist care become necessary. Although the majority of women participants were aware of their overall health needs, they pointed to their inability to seek appropriate and timely medical consultations because of issues of distance, challenging road conditions, and, more importantly, poverty. They were, therefore, forced to make use of those informal and formal healthcare providers and facilities that were more accessible.

Despite limited health care facilities and long distances, my family & I make sure that we get the check-up done. (Woman non-member CBSG, Karimabad)

We take care of our women during the pregnancy because we are aware that if a woman suffers from complication, there will be minimal medical assistance available. (Mannon-member, Karimabad)

Although family's advice was deemed of considerable importance when deciding on available healthcare and delivery needs, women professed that they, too, enjoyed a measure of authority in the decision-making process. The majority of the women interviewed in Karimabad, for instance, preferred the services provided by local Aga Khan Health Centres. However, since the arrival of the CMWs, many of these same women now seek her care for regular antenatal check-ups and TT vaccinations. In Gobore, however, participants placed equal importance on the services provided by the dai, Lady Health Visitor, community Nurse, and CMW. Other women professed to be too shy to easily consult physicians, especially if locally posted doctors are male.They were also unable to share their health complaints or concerns with their in-laws. Many communities in the Chitral District, particularly the Sunni-dominated communities in Lower Chitral, are culturally and religiously conservative and characterised by considerable in-family hierarchies and gender inequality. This can present additional challenges to women who wish to discuss issues related to sexuality and reproduction.

All depends on weather and availability of men at home. If everything is ok, we go for consultation otherwise we leave it up to God. (Mannon-member, Phashk)

Even if women feel that it is necessary to consult a doctor or trained health provider during pregnancy, they have to seek permission from the head of the household, which is very doubtful. (Woman non-member CBSG, Gobore)

Men do not support us in any matters related to pregnancy whether it is our food, medicines, [and] vaccines. (Woman non-member CBSG, Gobore)

I always think what will happen when I get pregnant, what will happen at the time of delivery, how I will arrange the money, who will accompany me to hospital and what will happen to my child…Such are the worries always pre-occupying my mind. (Woman member CBSG, Morder)

Reponses of women who took part in the FDGs indicated that CBSG membership afforded them a certain level of financial autonomy, and enhanced their ability to consult healthcare providers in a timely manner. For instance, women stated that they were now able to afford the costs associated with transport and the health services at public, private, and non-governmental facilities. After having joined the CBSG, and especially because the health issues associated with pregnancy and delivery were discussed with the local CMW during CBSG meetings, women members stated that they had gained an expanded and more-informed understanding of the importance of nutrition and rest during pregnancy. Although non-members also demonstrated a comparatively high level of awareness concerning their health requirements, they had limited ability to exercise and act on their choice of healthcare provider or facility for labour and delivery because of unresolved economic barriers to service uptake.

Perception on Importance that People attach to ante Natal Care, Delivery and post Natal Care

Women at the FGDs said that they realised that appropriate care is essential to ensuring healthy pregnancies and safe deliveries and that, even if other healthcare providers are unavailable or inaccessible, they must consult the dai. Since the arrival of the relatively better trained and experienced CMWs, community members have begun to alter their health decision-making and usage patterns and made greater use of CMWs. The majority of women expressed the desire for regular check-ups, and stated that these consultations were important so that women would face decreased risks of poor outcomes. In more culturally and religiously liberal communities, men too stated that antenatal check-ups were of importance and were supportive of the need for women to have at least three ANC visits during pregnancy.Men further confirmed that they were willing to take loans in order to make sure this was possible.

We don't even care about the money; we want our women and children to be safe. (Husband of member CBSG, Karimabad)

Participating men stated that in the previous generation, pregnancy and childbirth were not considered 'serious' or 'dangerous' health events. With the advance of their health awareness, men said that they now made more strenuous and diligent efforts to meet women's antenatal, delivery, and postnatal needs. Women participants confirmed that in some communities and among some families, this was true.

Today men are supportive of providing all care to the women, at least when men are home they do their best for them. But our fathers are old conservative people. They think it is not necessary. (Men and women members CBSG, Morder)

Despite more positive developments in household- and community-level support, participants said that in more distant communities, many women are still unable to have regular checkups. Things are changing gradually, nevertheless.

Common reasons for choosing a specific Health Care provider

Participants confirmed that for delivery cases, physicians are preferred as the treatment provider because of the perceived higher quality of their skill and expertise. Such qualifications were stated as creating confidence among community members, and facilitating their use of physicians for all types of health complaints.

People prefer DHQ hospital because they can find a doctor there, as well as the medicines and diagnostic facilities etc. Despite the fact that cleanliness is not up to the mark, we still would go to DHQ. (Husband of non-member CBSG, Karimabad)

Skilful doctor is our preference because there have been many complications and deaths in our area (Woman member CBSG, Morder)

But because doctors are seldom available in Chitral district's more remote communities, people stated that the local dai or CMW act as the primary healthcare providers for women during pregnancy and for labour and delivery. This did not preclude many families from taking women considerable distances for regularly-needed care. CMWs' skills and qualifications were considered to be adequate for the provision of effective ANC, and to conduct normal deliveries and refer complicated cases as required. The proximity and availability of healthcare providers is considered of equal importance and, for poorer households,dais are the provider of choice.

Most commonly consulted health provider in our area is a dai because she is available inside the village; she is reliable and like a family member. More so, her fee is very nominal. (Woman CBSG member, Phashk and Gobore)

Because of considerable poverty, many participants stated that they often felt helpless and were forced to avail themselves of whatever services were available and regardless of the quality of such care.

We are not in a position to exercise our choice, whosoever is available; we try to avail the services (Man non-member CBSG, Morder).

For those instances when decision-making is less constricted, the recommendations of community and religious leaders play a significant role in influencing decision-making on matters related to health. Leaders generally recommended, for instance, that patients seek treatment at the comparatively cleaner and higher-quality, albeit more expensive, Aga Khan Health Centres.

Community opinion matters a lot to us and for that we often consult our elders in JamatKhana. (Men and women members CBSG, Phashk)

At the household-level, mothers-in-law were described as exerting influence over how and where their daughters-in-law gave birth. Women from the older generation were said to be generally inclined towards using a dai because of their availability and low-costs. In Gobore, women's husbands said they were unaware of the specific reasons why and when different types of healthcare providers should be sought at the time of delivery. They stated that it was women's job to decide where and how they want to deliver.

Views and perception about the Community Midwife compared to other Health Care providers

During FGDs, participants were asked about their perceptions of CMWs' roles, professional position and social standing in the local community, and the overall acceptability of their services. Overall, participants stated that CMWs were socially accessibility and providing skilled and appropriate treatment to expectant and delivering mothers. It became clear that many community members' were already well aware of CMWs' services prior to their participation in the FGDs. Nevertheless, participants voiced their concern that although CMWs are supposed to be based from and working in the local community, they are often found living and providing services in more distantly located areas. Women in Gobore reported that the local CMW was very considerate, and that she accompanied the patient to hospital for those cases which required referral. Moreover, she does not insist for fee if somebody cannot afford to pay her. Men appreciated the CMW services, her behaviour and her way of giving advice. In Morder, women shared that she is very confident, cooperative and very kind.

CMW has been a blessing to us and our women. She is all time available to help our women; at times conducting two deliveries concurrently. In case she cannot handle the case, she refers us to Booni in time; that is also a favour. (Husband of memberCBSG, Morder)

CMW is very nice girl; she provides all possible help and advice at our home as well as at her working station; but when the problem is out of her control, she refers us to the hospital. (Woman non-member CBSG, Karimabad)

We are very happy to have the CMW in our area. She is doing a great job. But one CMW is not enough because of large distances. (Husband of membersCBSG, Karimabad)

People have this realisation that if a case is handled by a CMW, there will be no complication, because she is very skilful (Woman member CBSG, Gobore).

It became clear that both women members and their female relatives, such as daughters-in-law, had benefited from the services provided by CMWs. They expressed positive sentiments and provided satisfactory feedback about her services, but also pointed to CMWs' lack of necessary supplies and resources as being potentially problematic for their provision of safe delivery services. Although the majority of CBSG members professed to having placed theirtrust in CMWs' skills and expertise, others were less certain.

Something is better than nothing. This is the case of having a CMW, because she is not well trained like a doctor, so she can manage normal cases only. (Woman member CBSG, Phashk)

Women members had also benefited from the health knowledge gained in the course of CBSG meetings. However, since the CMW belongs to the locality, most of the non-members are appreciative of her training as a CMW and deployment back in their village. However, some of the non-members had yet to understand the role and position of the CMW, or, they harboured doubts about her skills. For instance, certain misconceptions existed concerning CMWs' duties and the scope of their expertise. In Phashk and Morder, participants were of the opinion that CMWs were perhaps equivalent to 'chemists' and that their 'working stations' operated in the same manner as medicinal dispensaries.

Problems Faced by the Pregnant Women in seeking Health Care

Participants stated that the distance to basic health facilities such as BHUs, was among the most significant obstacles to service uptake and usage. Distances were also cited as being among the

primary reasons why women were unable to have timely and regular check-ups during pregnancy or during the post-partum period. In some communities, even the CMW's working station was also said to be too far from women's residences and, therefore, difficult to access. Women's transportation difficulties are compounded by the poor condition of regional main and link roads, and the overall lack of public transportation.

When complications occur during home deliveries, and if neonates experience life-threatening health issues, participants said that it is often very difficult to reach higher-level care in order to save the baby's life. Compounding this situation are high levels of regional poverty and the lack of monies available at the household-level for both routine and emergency health services. The qualitative component of the study found that these obstacles were experienced consistently and evenly by participants within and across the communities selected for investigation.

We pray that no woman should face any complication during the pregnancy because we know what consequences and problem we will then be facing in getting her to an appropriate health facility. Most *of the time and majority of the people prefer to go to Chitral as it has a bigger hospital and has far better facilities including the doctor's availability for conducting the delivery; but harsh weather and deplorable conditions of the road are the major constraints in appropriate and timely health care seeking. (Male CBSG, Karimabad)*

Very few participants reported to have delivered in a hospital. In communities where CMWs have been deployed, the women who had given birth with her support reported as being 'quite satisfied'.

I had a full antenatal check-up, delivery and follow up by the CMW and had no issue at all. My friend had started bleeding, got checked up by the CMW who provided her the treatment and advice. She too is perfectly alright now. (Woman member CBSG, Karimabad)

It is also customary for mothers-in-law to assist in deliveries. However, the outcomes of such deliveries are often uncertain and losses were not unexpected.

My mother-in-law assisted me with the delivery and she handled the neonate, but the child did not survive ten days. (Husband of member CBSG, Karimabad)

Transportation and accessibility difficulties were further worsened during the winters when many connecting roads are blocked due to snow; indeed, a number of major connecting roads are closed between January and May. In every season, however, participants confirmed that arranging emergency transport by private vehicle is very expensive. When possible, participants confirmed that women and their families were sometimes forced to walk up to 3 hours to reach care.

Transport availability is the main issue and due to long distances, many women deliver on the way and many a times there is no care available (Woman member CBSG, Phashk)

Economic constraints are the main issue while seeking healthcare for our women as for reaching the nearest hospital in Booni, one needs a transport and of course has to arrange the money (Husband of non-member CBSG, Morder)

In a FGD conducted in Morder, participants recounted how women need to travel as far as Booni for check-ups and delivery complications.

No government health centre is present due to which we rely on CMW only, who can handle only the normal deliveries. However, in our area, premature deliveries and excess bleeding are common. (Husband of member CBSG, Gobore)

Even after women have reached local public sector facilities, the on-duty providers are frequently male. Because the majority of women prefer to be checked by women providers for their reproductive and maternal health needs, many participants stated that they are forced to travel as far as Chitral town. For more remote communities, this entails a minimum 2 to 3 hour walk before they are able to access public or private transport to take them to Chitral town. Moreover, ultrasounds are only available in Chitral town's health facilities. Generally, obstetric health centres are located far from the communities included in this study, and in which women face the highest degree of risk related to pregnancy, labour and delivery.

The Experiences of the Community during the recent Delivery of Children

When asked about their experiences and thoughts on the place of delivery as well as the healthcare providers required for childbirth, women and men stated that most women had delivered their last baby with the assistance of a dai. This was particularly so for women who were deemed by family members to have a 'normal' pregnancy and, therefore, predicted to have a 'normal' delivery. Participants further said that thedai is especially preferred in the winter months because of the difficulty arranging for transport to hospitals. As compared to CMWs, participants confirmed that dais are more affordable and may accept their payment in the form of token gifts or material items, rather than cash fees.

Deciding on the place of delivery, arranging for necessary monies and transport, and accessing hospitals notwithstanding challenging terrain and blocked roads are among the obstacles regularly faced by women and their families. The whole family is on high alert. Some women delivered at the Aga Khan Health Centre and were happy because everything was well taken care of. In Phashk and Morder, people reported that normal cases are still delivered at home by the local dai and very few by the CMW. The complicated cases were taken to Booni, Brep or Chitral.

Expenses incurred during the last delivery of the child

Women participants who had delivered at home with the assistance of an informal aide or a dai did not incur heavy expenditures and reported paying only a few hundred rupees. On the other hand, women whose last delivery was attended by a CMW stated that they had paid an average of PKR 2,000 for her services and supplies.

When compared to the costs of hospital-based deliveries, CMWs' services were much more affordable. Women who had delivered at Chitral's health facilities said that they had to arrange for and spend approximately PKR 8,000 to 20,000 to cover all the direct and indirect costs associated with their transport to and care at the hospital. For cases where women had emergency complications and their families were required to arrange for private ambulatory transportation, the costs sometimes ran as high as PKR 30,000. Even at the public sector DHQ hospital in Chitral town, people reported having to spend as much as PKR 10,000 to 30,000 for a normal delivery. Such expenditures included the costs associated with their transport, stay, food and necessary medications.

Because of high rural levels of poverty, participants said that arranging the savings required for emergency deliveries was largely impractical and impossible.

I had saved nothing. It is impossible to do some saving because of so many expenses. (Woman non-member, Gobore)

We are labourers; we cannot save money as such. (Husband of CBSG member, Karimabad)

Moreover, it was rare for men to save money either as a routine habit, or specifically for the purpose of affording their wives' delivery expenses.

I save money as a habit so I had everything arranged before my wife's delivery time. (Men CBSG, Morder)

Indeed, several participants shared that they had been able to arrange for necessary monies by selling, for example, their crops and cattle. And for male and female participants who had become members of the local CBSG, many reported availing themselves of loans for the express purposes of affording necessary care for labour and delivery cases. Women and men who were not members of local CBSGs, on the other hand, were unable to easily save money at the household-level. At the time of delivery, many non-members admitted to having been forced to take loans from their relatives to cover service fees and associated costs.

Perception on the role of men in the pregnancy and childbirth experience

During FGDs with male members and non-members of CBSGs, they were asked to share their beliefs and perceptions concerning women's reproductive and maternal health. Particular attention was paid to assessing their knowledge of women's experience of pregnancy and childbirth. In their responses, men consistently reaffirmed their responsibility to care for women, who were described as being their economic, physical, and social dependents.

We as men have the responsibility of our women's health especially during the pregnancy. They are dependent on us and therefore they should not suffer. This would actually be criminal to ignore their special needs during the pregnancy (Men, Karimabad)

If we will look after our women during the pregnancy, she will take care of the children, our parents and household properly. Special care and diet is needed in winter. Men have an important role in this regard starting from expecting mother's nutrition to the time of delivery of the child and when children are brought up. (Men, Morder)

Generally speaking, men participants confirmed that they provide for women's health and dietary requirements during pregnancy. They also admitted that women should be allowed to rest and given respite from their routine household chores, which include washing, cooking, and fetching water.

Women should be relieved from the heavy household chores like fetching water, lifting weights and she should be allowed some rest (Men, Gobore)

At the time of the delivery, men ideally prefer to accompany their wives to either the CMW or hospital as women are deemed 'not literate enough' to understand the entailments associated with their treatment.

Women are not much literate, aware and socially mobile, men have the responsibility to look after them. (Men, Phashk).

CBSG Intervention

Knowledge about the CBSG

Level of knowledge of the community women and men regarding the composition, aims and objectives, membership, advantages of the CBSG showed that those who are members, know everything about CBSG, more commonly known as the 'box group' in the local context.

I am a member and I believe that it is a good medium of saving some money for the odd times. (Woman-member CBSG, Karimabad)

People have the realisation that they are able to meet their children's needs due to CBSG aid. They admitted that it is a good mechanism for saving and that they are consolidating their own money for needy times. Men in Phashk have formed a male CBSGs with a different name. Those who did not have the membership of a CBSG, did not know much about its details, and were unaware of the fact that a loan is given to even those who are not member of the CBSG.

Perceptions of CBSG members, and their husbands: Reasons for joining the CBSG

Participants of the study shared that the box group seems to be a safe mode of saving money since there are no banks in their area. Moreover, it is easy to get money from CBSG at any time. All the participants were of the opinion that their money is safe withing the CBSG system and it is being consolidated.

My wife has joined CBSG because it helps in resolving issues of seeking care for ante-natal, delivery and post natal times. (Husband of CBSG member, Karimabad)

Women respondents claimed that CBSGallows them to save for rainy days. At times, men are not at home and in such situations women can take loan from their CBSG for any kind of need. This saves them the need to take loans from relatives or neighbours.

Most of the time, we are not home. [The savings] group can help our women in difficult times for arranging finances. (Husband of member CBSG, Morder)

CBSG Assistance in using CMW Services Especially during Pregnancy/Delivery

Women CBSG members and their husbands were asked to discuss the assistance provided by the CBSG and the information they had gained concerning CMWs' services as a direct result of their membership. They were also asked if the CBSG had helped to establish their trust in CMWs, to establish CMWs' social acceptability, and if members were able to easily avail themselves of the loans available through CBSGs. In Gobore, it was shared that the CMW is regularly invited to attend all CBSG meetings and to share advice to expectant mothers. In turn, participants were asked if their increased financial accessibility to CMWs' services was the result of the confidence and decision-making autonomy permitted by CBSG membership. Many participants confirmed that CBSG membership was directly associated with the enabling mechanisms required for women's use of CMWs' services.

It is because of CBSG meeting that we came to know that there is a trained CMW in our area now. CBSG meeting is the forum where all women are advised to seek skilful services of CMW (Woman member CBSG, Phashk)

It became clear that CBSG membership has not only empowered the women to take their decisions regarding the place of delivery; it has also helped to enhance members' knowledge concerning necessary nutrition during pregnancy, the importance of rest, and the significance of delivery that is handled by a SBA. Older women members also said that they had taken loans to help cover the

expenditures associated with their daughters-in-law's deliveries, inclusive of transportation costs, doctor's fee and medicines, and other miscellaneous expenses. In this way, CBSGs were said to provide women the critical opportunity not only to generate much-needed savings and allocate urgent loans, but to socialise with other women and share their experiences and insights regarding pregnancy, childbirth, breastfeeding, family planning, and maternal and infant immunisation.

Other Social Benefits of CBSGs besides availing CMW Services

People shared that by virtue of the CBSG membership, women members have become economically empowered. Some members who were participants in the study even pointed to their having been able to establish small businesses thanks to loans from the CGSG. By operating as a low-interest alternative to the formal banking system, CBSGs help poor residents in their difficult times. As importantly, participants indicated that CBSG membership has helped to establish a greater degree of solidarity among community members.

CBSG provides a platform for social networking and community support. It is a good pass time too. We chat, we laugh, and we share our worries with each other (Women member CBSG, Morder).

As compared to women who stay at home all day, we are more knowledgeable, smart and aware about social dynamics, and know how to utilise CBSG money to alleviate our poverty (Woman member CBSG, Phashk)

Participants also indicated that CBSG loans have been used to cover children's school fees and other household related expenses such as essential repairs.

My wife being a member of local CBSG, took loan and we could manage expenses related to children school fee, mother's illness and other household expenditures (Husband of member CBSG, Gobore)

Challenges faced by the Women and their Husbands because of CBSG Membership

Participants stated that they faced no particular challenges or barriers to their membership in the CBSG, except that sometimes it was difficult to take time to attend CBSG meetings and leave behind unfinished or pending household chores. In a few locations, women participants said they initially faced objection to their membership in the CBSG from their relatives. Only a small number of participants stated that they believe there are Islamic strictures in place which prohibit members' use of loans or the application of low interest rates. Interest on loan is not 'halal' [permissible] in Islam. However the fact that some women have started a poultry business with CBSG money may help in creating acceptability for CBSGs. The study did not record any serious challenge related to the CBSG membership.

Perception of CBSG Non-members and their Husbands

Among the two primary reasons cited by participants- which helped to explain their non-membership in a CBSG – werepoverty and the lack of information about CBSGs. Women non-members also stated that they were hesitant to ask their husbands for the money necessary to join a CBSG. This was especially so for Phashk and Gobore, where a number of participants were also completely unaware of CBSGs' presence in the District.

My children are studying and I don't have extra money to contribute to the box group. (Husband, non-member CBSG, Phashk)

Other reasons for not joining a CBSG included anegative prior experience with similar such associations, groups, and/or organisations. Some women professed they had been unable to secure permission from family elders to join the CBSG. In other instances, the lack of NICs (National Identity Cards), a mandatory requirement for membership, was also described as a constraint to membership. Men and women non-member participants who were unsure of the benefits of joining a CBSG stated that:

- Women waste time in CBSG meetings.
- They do not have extra money to contribute to the box group, every now and then.

Among women participants who had already heard about the local CBSG and were contemplating becoming members, many pointed to the unavailability of the monies initially required in order to become a member. Following FGDs with men non-members, many agreed to send their women relatives to join the CBSG.

Having listened to the advantages of CBSG, we will recommend our women and other men to send their women for membership in CBSG (Husband, non-member CBSG, Morder).

FGD participants were also asked about the perceived benefits of membership in a CBSG. Some participants stated that:

CBSGs have made women economically empowered (Men, Morder)

We will consider joining because we are facing problems in paying children's school fee. (Women, Gobore)

The membership will benefit us in the difficult times such as delivery of child and to pay hospital expenses.

All women in Phashk would join CBSG because they will find means to save some money in absence of banks in the area and they will have access to this money in the time of need (Women, Phashk)

Loan is available at very little interest (Men, Karimabad)

Assistance of CBSG is available in critical times when one doesn't have enough money for any need. (Women, Morder)

In FGDs with men non-members, participants were asked to assess local receptivity to the establishment of an all-male CBSG, and to consider how such a group might help to resolve the financial burdens experienced by men. In all FGDs, male members and non-members were supportive of the concept of all-male CGSGs. Men stated that by having an alternative banking system in their community, they will be able to develop solutions to a number of their financial concerns. Men also stated that the PKR 100 joining fee was not a barrier to their joining the CGSG, and that membership would afford them much-needed access to the loans needed for small businesses, children school fee, buying household items, and arranging their daughters' marriages.

Table 15: Summary of Qualitative Study Findings of CBSG Members and Non-Members

Topic	CBSG Members	CBSG Non-members	Common Experiences and Concerns
Utilisation of CMW services	Accepted that CBSG membership was directly enabling women to utilise CMW services. Members got opportunities to enhance their knowledge on nutrition, particularly from CMWs who used to meet them in CBSG meetings. Also members got an opportunity to share their experiences and insights regarding pregnancy, child birth, breastfeeding, family planning and immunisation. More positive feedback about CMW.	Yet to understand the role and position of CMW. Have some doubts on skills of CMWs.	Community started changing their health seeking behaviours, and started utilising CMW services, because, Accessing CMW is convenient than accessing a health facility. They understand that CMW have comparatively higher degree of training and expertise among other community level health care providers. Less utilisation of CMW is due to Less popularity Some CMWs located far from the catchment area Lack of necessary supplies CMW skills and qualifications were considered to be adequate for the provision of ANC, to conduct normal deliveries, and to refer complicated cases. Women access to CMW during harsh weather as it does not need transportation, otherwise very costly.
Utilisation of MNH services from skilled providers	Enhanced ability to access to health care providers in timely manner. (Can afford for transportation and fee of health care provider) Availed loans from CBSGs to spend for MNH services. Older women confirmed that they got loans to cover the cost of their daughter-in-laws (non-members) delivery which includes transportation, doctors' fee and medicines.	Unresolved economic barriers limit the ability of access to health care provider or facility for labour and delivery. Had difficulties in saving money, and took loans from relatives to spend for MNH services.	Access to skilled delivery mainly depends on proximity and availability. Men also accepted that ANC check-ups are important. Further, they stated that they are willing to take loans to proceed for ANC in case of financial limitations that they have. Physician's service is more preferred in delivery, as they are more skilled and expertise in delivery.
Indirect factors that may have effects on utilisation of skilled MNH services.	Women gained certain level of financial autonomy, and some of them even managed to establish their own small businesses. Gained an expanded and more informed understanding on the importance of proper nutrition during pregnancy. Greater degree of solidarity established among members of the group.		Women realise that appropriate care is essential to ensure healthy pregnancy and safe delivery. Although family advice has considerable importance, Women have authority in decision making on seeking health care. Poorest households still choose 'dai's for their MNH services, regardless of quality, because of their low cost. Older generation is also inclined towards selecting 'dai's for MNH services due to the low cost and their availability. Also they even accept their fee not only in cash but also in-kind. Women access to 'dai' mostly when there are no identified complications in pregnancy and delivery. Also in winter months they prefer to access to 'dai' for MNH services. Recommendation of religious leader in community plays a significance role in influencing decision making on health matters. Mother-in-laws have major influence over how and where their daughter-in-laws gave birth to their child. Men preferred accompany their wives to the health care provider, as women are deemed as 'not literate enough' to understand the entailments associated with the treatments.

Discussion and Conclusions

Discussion

The findings of this study show that women's economic and educational empowerment at household and community levels is correlated with their improved maternal health service spending and uptake. The data confirms that Chitrali women who are members of the CBSGs are able to achieve a comparably greater degree of socio-economic autonomy and increased health decision-making authority than non-members. In addition, the CBSG members are able to more effectively exercise and act in a timely manner on their normal and crisis-related maternal health needs. As such, the data confirms that economic interventions such as the CBSG can have a powerful corollary effect on reducing inequalities in maternal and newborn health, and that operational scope and success of such interventions are contingent on the cultural, economic and political contexts in which they are implemented. The enhanced access to and use of the services provided by CMWs and formal health facilities by members of Women's CBSGs are influenced by numerous complex and interrelated factors.

For the purposes of identifying the specific factors that shape women CBSG members' and non-members' use or non-use of CMWs and their consequent maternal health outcomes, the study's findings and their national and global health implications are discussed in detail.

Antenatal Care by a Skilled Provider

The data reveals that, more than four-fifths of respondents (83.0%) in the study population have utilised ANC services from a skilled provider, in contrast to the two-fifths in KPK (40.7%) and three-fifths at the national level (60.9%). Women's utilisation of ANC services from a skilled provider in the CCSP baseline survey conducted in 2009 (65.0%) was shown to have increased by 18% when compared with utilisation of ANC services from skilled provider reported in the current study (83.0%). Women who were associated with CBSGs made more contact with skilled providers (average 4) as compared to non-members of CBSGs (average 3). Most of the ANC contact was made during second and third trimester; the utilisation of CBSG members was 36.9 % higher than non CBSG members.

Deliveries by a Skilled Provider

More than half (52.5%) of the study's participants utilised the delivery services of skilled healthcare personal, whereas utilisation rates remained relatively low in KPK province (37.9%) and also at the national level (38.8%). Indeed, the current study has shown a 29% increase, of women accessed for SBA assisted delivery over a 1 year time period as compared to utilisation of skilled delivery services in the CCSP baseline survey (33.0%). As was highlighted in the literature review, one of the proxy indicators employed to assess Pakistan's progress towards decreasing the national MMR is the percentage of deliveries conducted by SBAs. While the number of SBA-assisted deliveries has risen from 20% in 2000 to 40% in 2012;it remains far less than the MDG target of 90% safe delivery coverage. The current study's findings provide evidence of the potential to rapidly accelerate Pakistan's progress toward meeting its MDG commitments through integrated interventions which deploy and establish CMWs in communities to help reduce high maternal and neonatal morbidity and mortality rates.

Postnatal Care by a Skilled Provider

The results of the study show that nearly one-third (31.2%) of the study's participants sought PNC services from skilled healthcare providers, while only 19.3% of women in KPK and 26.7% at the national level had similar such use of skilled providers. Moreover, the current study indicates an improvement in the number of women's visits to skilled providers for PNC services from the 16.9% found by the CCSP baseline study, increased by 14.3%.

High Risk Pregnancies and Referrals

Our data shows that 210 (23%) women were referred to next level facility for ANC check-ups. Of this number, 150 (71%) visited a CEmONC facility and a further 71 (33%) returned to these sites for delivery. 119 of 908 women, or 12.5%, required skilled interventions for their deliveries; such interventions included complicated vaginal deliveries, episiotomies, and C-sections.Our study's qualitative findings, however, also point to sizeable gaps in the accessibility, availability and quality of more affordable public sector services in Chitral.

This confirms that in order to improve maternal health in low-income, low-resource and predominantly rural or isolated areas of Pakistan, community health service provision must be partnered with targeted health service and facility strengthening (see More et al, 2012).

Continuum of Care by a Skilled Provider

The study's most important finding was that the number of women CBSG members receiving ANC, delivery, and PNC care by skilled healthcare providers rose from 1% at the baseline, to 23%. It can be safely estimated that nearly half of this significant achievement is the result of CMWs' deployment and women's ability through their membership of CBSGS, to influence their family on birth preparation.

This indicator is of particular importance because it shows that women CBSG members increased use of SBAs may have significant consequences for maternal and newborn morbidity and mortality ratios. Because of CMWs community-based provision of safe delivery services, they are able to provide better patient tracking and monitoring, service provision to women during pregnancy, delivery, and the post-natal period, which further ensures more timely and effective high-risk referrals.

Figure 10: Comparison of CCSP baseline (2009) and current study of % utilisation of ANC, delivery and PNC services by skilled provider.

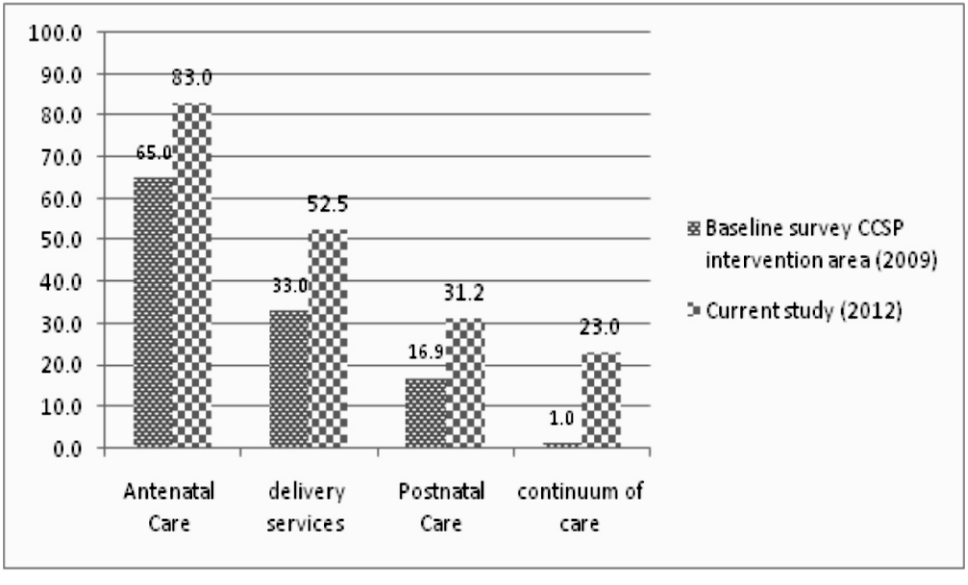
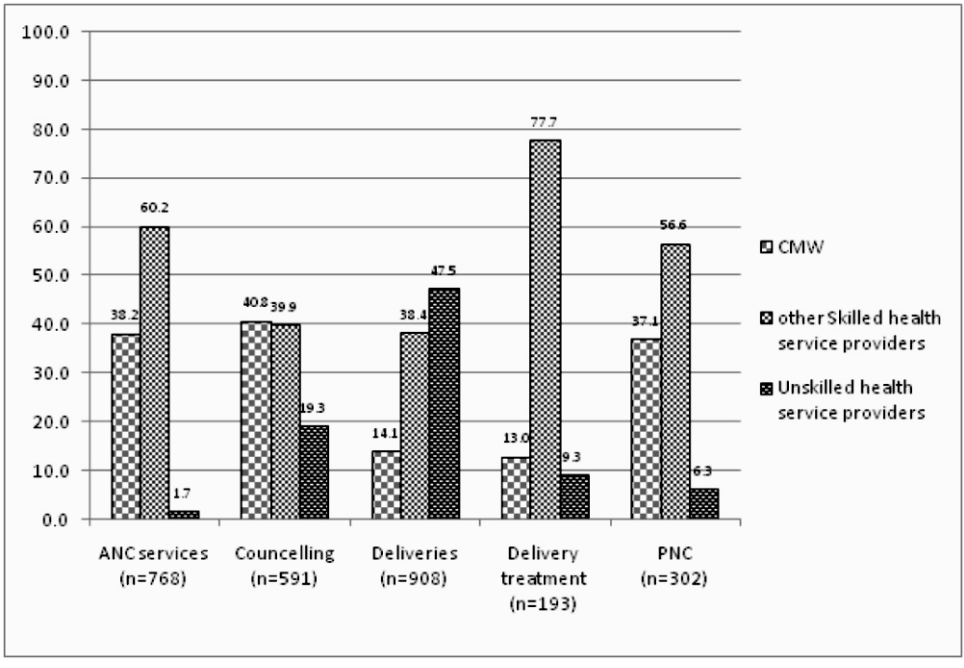


Figure 11: Utilisation of CMW service compared with other skilled and unskilled providers.



To reduce perinatal mortality, a continuum of care between the home and the various facilities is essential during pregnancy, childbirth and the newborn period (Bahl R 2010).Women CBSG members added, however, that their membership afforded them a significant level of financial autonomy and economic protection and, therefore, enhanced their ability to consult healthcare providers in a timely manner.The findings further suggest that CMWs play a critical role in providing MNH health education and awareness raising and advocating for women's birth preparedness and complication readiness (BPACR) (Hailu et al, 2011), particularly for those communities where women's knowledge of the risks and danger signs associated with pregnancy and childbirth is low (Ul Haq et al, 2009).

Factors Influencing the Continuum of Care

The data indicates that among women who did not adhere to the 'continuum of care', 40% felt that such care was unnecessary, 30% attributed to their non-adherence to issues of distance and transport, 20% as a result of the costs of care, and 10% because of social barriers such as not having a male relative to accompany them, or their discomfort seeking care for pregnancy and delivery outside of the household. This finding is consistent with the findings of the PDHS 2006-2007, as well as other literature which points to the primary obstacles associated with the lack of transportation, significant distances and travel time between home and healthcare facilities, and the high costs of reaching and using MNCH services.

The current study also further revealed information related to women's non-utilisation of skilled MNH services. Despite the deployment of CMWs to local communities, 17% of women remain unable to access ANC, and 67% to PNC. Similarly, among more than two-thirds of women who do not access PNC, they also believe that such care is unnecessary, particularly in absence of any obvious delivery complications. Other reasons, such as women's 'shyness' and their unwillingness to be checked by a male healthcare provider, factored infrequently in women's explanations of the regular obstacles to MNH services and care. These findings correlate with study findings in Nepal where distance, cost, and transport issues, gender inequality, status of women in the society, women's involvement in

decision making, women's autonomy were significant contributing factors for uptake of SBA for delivery (Baral YR 2010).

These findings suggest that the potential exists to rapidly increase women's use of ANC and PNC provided by SBAs. This might be accomplished by changing women's understanding about the 'necessity' of such services. In addition, the study's findings suggest that such utilisation can be further increased by introducing specific interventions that are tailored to address issues of distance, cost and transport to MNH services at community and also facility levels.

A comprehensive package of community based low cost interventions along the continuum of care tailored according to the socio cultural environment coupled with existing health force capacity building may result in improving the maternal and neonatal outcomes (Turab A et all). This is particularly important given the high-risk health complications associated with women's under-utilisation of the PNC check-ups required to diagnose and treat post-pregnancy complications, which can lead to maternal and neonatal deaths.

Poverty and affordability of the Community to Skilled Services

Prior studies have shown that issues of poverty, gender, social exclusion and marginalisation play a significant role in restricting women's knowledge of pregnancy and childbirth health needs, and their ability to act on these needs in a timely manner (Mumtaz et. al. 2012). Out-of-pocket (OOP) payment on healthcare is dominant mode of financing in developing countries and in Pakistan it is 67% of total expenditure on healthcare (Muhammad Malik A).

However, the exact degree to which these factors influence Pakistani women's ability to access community and facility-based healthcare providers remains uncertain. The study's focus on the influence of household poverty for CBSG women members' and non-members' access to and use of CMWs, therefore, remedies a critical gap in the available research.

Our data showed an average monthly family income of PKR 16,300, and monthly per capita income of PKR 1,300 in study area, was far less than the national average of PKR 6650. [29] Nearly half of the households surveyed had an income of less than 50% of the average income, and nearly 85% possessed per capita daily cash incomes of less than PKR 100 (less than one US $ a day). Only 16% of women's husbands had education above tenth grade, with many having low-paying unskilled labour work. Only 5% of the women could contribute to their family's income.Also the study found no significant correlation between families' income levels and the cost of services with the utilisation of MNH services and treatment.

Due to issues of low paying capacity, some local health committees had advocated in favour of decreasing the costs of safe delivery care by CMWs from PKR 1,000 to a more affordable PKR 500. This finding is similar to that of another study exploring the challenges associated with providing for-free CMW services to those women who, as a result of their extreme poverty, are unable to pay (Mumtaz et al, 2012). However, our study confirms that even modest member savings are enough to help women achieve significantly improved health decision-making authority, and to legitimate their need for and access of, specialised obstetric services for routine and complicated labour and delivery.

Also the average saving per member in the CBSG was PKR260, which indicated that the majority of members belonged to low-income groups(Annex 7). Due to difficult terrain, the cost of care in Chitral is generally higher. Our study showed that average cost for continuum of care of PKR 5370 (ANC 1300, normal delivery 2700 and PNC 1370). With the low income families, the cost still remains a major barrier to address.

29. NIPS PDHS-2006-2007.

Perception of the Role of CMWs in the Community

The study results showed that approximately three-fifths (59.3%) of the participants were aware of a CMW working in their area and 38.3% seek health care from CMWs during the previous pregnancy. The role of CMW came out strongly in contacting women during pregnancy, counselling, referral to next level facility and providing post natal care. However for the deliveries, TBAs acceptability is still higher. The study's findings also revealed that CMWs themselves promoted their availability and services, and that CBSG members stated that they had benefitted from CMWs' service provision, and were satisfied with the level of care that she had provided. This finding stands in notable and positive contrast to prior assessments of women's level of satisfaction with the quality of services provided by SBAs in other areas of Pakistan (Hassan et al, 2012). During FGDs, women stated that prior to the introduction of CMWs they had not been able to easily access healthcare providers and were consequently forced to rely on Traditional Birth Attendants (dai). However, following the deployment of CMWs to local communities, many community members had changed their health-seeking behaviours and started utilising CMW services.

On the other hand, the study also indicated that a considerable proportion of women in study population (40.7%) remained unaware of the existence of a local CMW. The FGD findings also demonstrate that some participants, particularly those who were non-members of CBSGs, were uncertain of the role and position of CMWs. Or, they held misconceptions concerning the scope of CMWs' duties and expertise. Such findings suggests that the potential to increase CMWs coverage with the time, and by promoting CMWs' availability and services.

While appreciating the role of CMW, during FGDs the participants shared higher expectation of CMW and proposed that she should visit homes, educate women, her working station should be well equipped, should have more medicines to treat common illnesses, should be provided with ultrasound to avoid women referral.

According to the findings of the CCSP, CMWs are young and mostly married and without the social support of community members, they are unable to perform their tasks. According to the supervisors providing on the job support, there are a number of reasons why CMWs under-perform their duties. These reasons include job insecurity, lack of family and community support, and problems related to their health; indeed, because CMWs are of reproductive age, they frequently face the same health challenges and crises as their clients. Under the ambit of the CCSP program, AKHSP originally intended to hire 35 CMWs. However, at the time of the study, all but 7 of the deployed CMWs had left the cadre due to problems securing their family's permission to work outside the home, or because of pregnancy and child birth of CMW, or they had married and moved to live outside their original catchment areas. Of the remaining deployed CMWs, many professed to also experiencing difficulties performing their jobs because of their restricted social mobility as female healthcare providers.

Role of TBAs and LHWs to Enhance CMW Performance

Our data showed that 72% births occurred at home. This clearly indicates that, given their current circumstances, women prefer to deliver at home. Of these deliveries, 46% were conducted by unskilled providers. These results relate with the findings from Indonesia where use of TBAs and home delivery were preferable for some community members despite the availability of the midwife in the village (Titaley CR et all 2010) For instance, our study found that three-fourths of deliveries were conducted by TBAs, and the remainder by LHWs and/or women's relatives. This confirms that a significant number of women continue to prefer dai's or other local birth attendants because of their availability and the lower-fees which are charged for their services. More positively, TBAs were found to have contributed to women's awareness of the importance of seeking care by CMWs for pregnancy and childbirth, which points to the need to further augment the informal and formal professional connections between CMWs and TBAs at the community level.

The data from 24 CMW areas show that 71 TBAs and 89 LHWs are actively working, but there is no joint supervision mechanism to improve coordination and networking of these health workers with CMWs. The professional and referral relationships between TBAs and CMWs are complex and require further investigation, as well as formal recognition of the role played by and referral incentives provided for TBAs. In the context of remote rural areas with scattered populations, and in the absence of TBAs involvement and professional support and referrals, CMWs' performance as healthcare providers will undoubtedly be compromised.

CBSG role in Empowering Women in Decision Making

Through an analysis of the role played by CGSG membership in facilitating women's access to and use of CMWs, our study suggests that community-based participatory interventions have the potential to significantly reduce maternal and also neonatal morbidity and mortality rates (Manandhar et al, 2004) in Chitral, a phenomena which may be explored in a future randomised case-controlled study of the CBSG as an economic intervention with specific impacts on maternal and new born health.

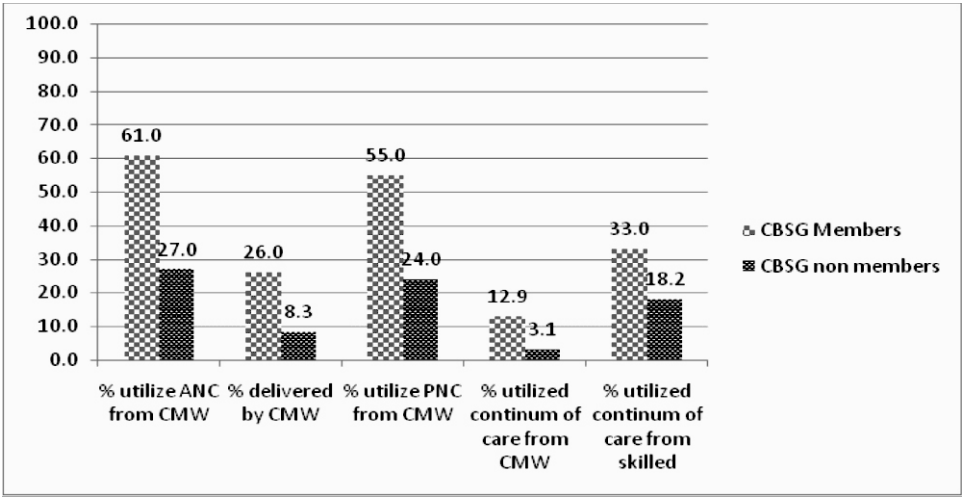
Our study showed that there are numerous, specific factors which influence how women's membership in a CBSG shapes their use of CMWs and referral obstetric services. For example, the data has shown that 65% of women participants were 'illiterate', and that only one-fifth of women had education higher than Class 10. Moreover, only 15% of women participants professed that they were able to decide on specific healthcare providers for their pregnancy and childbirth needs, and such decisions were made mostly by their husbands, mother-in-laws or in consultation with other family members.

According to the data, of the one-third of women associated with CBSGs either directly (61%) or through immediate family members, (39%) described themselves as being further empowered to discuss their interests and needs in the CBSG, to actively seek knowledge, and to solicit the support of their family as part of birth preparedness exercises. Similarly, the findings of the FGDs revealed that health-seeking behaviours, decision-making patterns and health practices are changing among women who had joined CBSGs for at least one year as compared to the newly formed groups. In addition, FGD participants shared that CBSGs provided a platform for social networking, the enhancement of community support, and opportunities for younger women to interact with women with more experience and knowledge in the areas of household finance as well as reproductive and maternal health. Following from prior models of women's community social mobilisation in Pakistan, such as that exemplified by the Women's Common Interests Groups (WCIG) organised by the Sarhad Rural Support Programme in KPK, AKDN may consider expanding CBSGs to also incorporate health promotion activities organised by CMWs.

One important finding is the mother-in-law's role in decision making for the choice of health care provider and this factor was significantly influencing the study outcome such as women's association with CBSGs and their use of the continuum of care provided by CMWs. And, as previous studies in South Asia have found (Azad et al, 2010), the group dynamics associated with CBSGs have also been shown to positively influenced mother-in-law's facilitation of their daughters-in-law's access to CBSGs, economic empowerment, and improved health service uptake and health outcomes.

Through CBSGs, women are able to involve family members in their birth preparedness and complication readiness plans (BPACR), to access CMWs as part of the continuum of care, and to respond to childbirth complications through timely referrals to the next level facility. And as the data indicates, in addition to having directly ameliorative impacts for women's intra-household allocation of monies to MNCH issues and health-seeking, CBSG membership has afforded women social leveraging opportunities whereby they are able to draw on the empowerment resulting from their membership to advocate on behalf of and make decisions concerning, their health needs.

Figure 12: Comparing the % of utilisation of MNCH services by CBSG membership



CBSG Role in Financing Access to Skilled Care

At the community level, renewed attention to women's financial accessibility to CMWs is particularly important given women's traditional preference for home-based delivery care (see Baral et al, 2010 and Titaley et al, 2010), and the proven impacts of CMWs' skilled birth attendance for preventing childbirth morbidity and mortality risks. Through the deployment of CMWs and parallel establishment of CGSGs in Chitrali rural communities, women CBSG members are able to overcome many of the barriers and obstacles associated with their access to and use of MNH services, including issues of family-level decision-making and the arrangement of transport to and the financing of, specialised medical care in case of emergencies.

The study found that 15.5% of CBSG members obtained CBSG loans for MNCH services, and 27% availed a CBSG loan to meet other household needs such as for marriages, funerals, purchasing food items, establishing small businesses, or paying school fees for their children. Direct financial inputs (loans) were not definitively correlated with increases in women CBSG members' use of MNCH services. The data further reveals that financing for the continuum of care was mainly arranged through family contributions(79%), relatives (16%), and only 5% of such monies were arranged through CBSG loans and other financial sources. This relates with study findings in Nigeria that planning to save money for childbirth was associated with greater awareness of community financial support system (Ekabua KJ et all 2011). Our study results shows, first, that CBSGs couldn't provide sufficient funding but managed to sensitise the families to mobilise resources for the health care that women needed. Second, this suggests that CBSG membership and loans have indirect and supportive corollary impacts that facilitate women's socio-economic empowerment at the household level which, in turn, facilitate their improved health decision-making and health seeking behaviours.

The findings derived from FGDs provide additional insights. For example, CBSG members stated that as a result of their membership, they were able to achieve increased financial independence which, in turn, facilitated their access to skilled healthcare providers and health facilities as required. The FGD findings also indicate that CBSGs provide important opportunities for women to increase their awareness of MNH issues, and to empower women members to taking well-informed and timely decisions to seek and access skilled MNH services. Indeed, CMWs were found to attend CBSG meetings and use these groups as an opportunity to convey important health awareness messages.

In addition to empowering women members' health knowledge, this has served to strengthen the link between CBSG members and CMWs which, under the right circumstances, supports women's increased use of CMWs' services.

The FGD findings also highlight how CBSG contributions enhance the overall household economy. Through their CBSG membership, women described themselves as becoming economically empowered, and praised the ability of CBSGs to assist them in obtaining alternativestoloans from money-lenders or banks. In this way, members are able to better use their savings for small scale investments.

Among non-members, the FGD findings revealed that although non-members are willing to access SBAs, financial barriers prevent them from being able to act on their choice of healthcare provider or facility for MNCH services. Women and men who were not members of local CBSGs were unable to easily save money at the household-level and, at the time of delivery, many non-members admitted to having been forced to take loans from their relatives or sell assets such as crops and cattle to cover the service fees and charges incurred by MNCH services.

By attending to the social determinants associated with women's use of CMWs in low-income rural communities, our findings will enable health policy developers, planners, and public sector officials to better identify and respond to issues related to the local context, inclusive of socio-economic and geographic constraints and the health beliefs and practices followed by women and their families. In doingso, increased awareness has the potential to lead to the generation of culturally responsive, gender equitable and economically empowering MNCH initiatives and community health education and service provision programmes (see Agus et al, 2012). If enacted, such reforms and community-side outreach activities can enable Pakistan to meet its commitments to MDGs 4 and 5 commitments.

Conclusion

The study assessed whether women's association with CBSGs (exposure variable) resulted in their increased utilisation of MNH services by a CMW as skilled providers (outcome variable).

In relation to the study hypothesis, the results suggest that as compared to CBSG non-members, CBSG members made significantly higher useof the continuum of care as defined in this study (1+ANC, delivery and PNC) provided by CMWs and other skilled providers. CBSG members' use of the MNH services provided by skilled providers was also far better as compared, to provincial and national level figures.

The most likely explanation for this trend is that, through the combined impacts of CMW deployments and the establishment of CBSGs at the community level provided enabling working environments in which CMWs are able to interact, educate and influence women's health seeking practices around birth preparation and choice of provider.

As summarised in the table; women who were associated with CBSGs were four times more likely to utilise the continuum of care from CMWs.

Characteristics	Total Number	Continuum of Care by CMW n (%)	Crude Prevalence Ratio (95% CI)	p-value	Adjusted Prevalence Ratio (95% CI)	p-value
A Family Member is in the CBSG						
Yes	303	39 (12.9%)	4.1 (2.4, 7.1)	<0.001	3.6 (2.1, 6.4)	<0.001
No	605	19 (3.1%)	1		1	

In univariate analysis, the variables of: a family member in CBSG, mother in law as decision maker to visit health care provider, normal vaginal delivery, used money from CBSG for the last delivery and costs of continuum of care were found to be significantly associated with continuum of care by CMW. In the final multivariable analysis, only CBSG membership and mother-in-law as decision maker to visit health care provider are found to be associated with continuum of care by CMW.

Women who were young, educated, and had a smaller number of children were more likely to be associated with the CBSGs.The qualitative study's findings demonstrate that CBSGs are a unique initiative by which women can be empowered at the community level. Such empowerment is reflected by the degree to which women make more informed, knowledgeable, financially autonomous, and confident decisions in terms of birth preparedness and remaining in contact with CMWs for utilizing the services along the continuum of care. CBSG members using continuum of care of CMW had lesser mean cost of care. Although most of the financing were arranged through family sources, CBSGs helped to influence families support in arranging the financing.

The data derived from our study is only based on a short term (12-month) study of the association between CBSG membership and women's use of CMWs this implies that it may be premature to draw definitive conclusions. However, our experience and findings suggest that community level support groups (CBSG) do help women to access skilled care and, in turn, support CMWs' provision of MNH services. For instance, during FGDs it was observed that community's had high and positive expectations of CMWs, and they also provided a number of suggestions in order to improve functionality and performance of the CBSG.

In conclusion, the study has shown that women groups at the village level are acceptable to families, and provide convenient and socially-acceptable opportunities for women to come together and organise. These groups also provide flexible forums for health education by skilled providers such as CMWs, and enable women to discuss MNH issues, health seeking practices, available health care providers and more importantly the preparation required at the family level to finance timely accessing health care.

RECOMMENDATIONS

The CBSGs proved to be effective in increasing utilization of MNH services from skilled MNH care service providers. The integrated intervention of CMWs' deployment and the establishment of CBSGs has helped women to overcome the barriers and obstacles associated their access to and use of the MNH services provided by CMWs. CBSGs also act as an enabling, empowering, and collective opportunity by which women are able to expand their reproductive health seeking behaviours and increase community-level demand on and use of skilled MNH healthcare providers.

In order to increase women's utilisation of MNH services, it is recommended to scale up the package of intervention i.e. CBSGs combined with increased availability of SBAs, specifically effective deployment of CMWs.

To enhance outreach, sustainability and maximise impact, CBSGs may be linked with the government's income and livelihood support programmes, such as Benazir Income Support Programme, or Zakat and Baitul Mal, in order to support poor communities.

CBSGs improve access to MNCH services; and financial services including small loans for poor women, promote culture of savings at village level, facilitate dissemination of useful information; and strengthen social linkages among members.
CMWs and other community health workers who provide MNCH services should be enlisted to provide regular information and health promotion sessions to CBSG members concerning 'Safe Motherhood' practices.

MNCH program guidelines support the establishment of community-level Health Committees which in turn can support and facilitate the work of CMW.The representation of both male and female members in Village Health Committees is necessary in order for members to become agents of change or social activist on behalf of their communities or socially homogenous groups.

The employment security and service sustainability of CMWs is of critical importance. Regular support and supervision is essential to maintain CMWs' motivation and enthusiasm, and their ability to work in coordination with women's groups to achieve priority health objectives.

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Appendix 1: Village Profile Format and household data collection sheet

Name of Tehsil		Basic Health Unit(BHU) /Rural Health Centre(RHC)	Yes ☐ No ☐
Village Name and No.		AKHSP Health Centre	Yes ☐ No ☐
Name of Data Collector		Private Clinics	Yes ☐ No ☐
Name of Community Midwife		Name of Head of Village Health Committee	
No. Of Lady Health Visitors (LHVs)		No. Of Nurses working in the village	
No. Of Lady Health Worker		No. Of Community Health Workers	
No. Of Dais/Trained Birth Attendants		Name of Local Support Organisation	

Household data sheet

Please fill one sheet for each household

Name of Data collector: _____

Name and No. of Village:_____

Name of sub Village: _____

Household No. ☐☐☐☐

APPENDIX 2: Summery of Village Profiles (Study Population)

Village name	Female	Male	Total	Number of CBSG members
01 Bumburet	3023	3421	6444	29
02 Gobore	859	877	1736	26
03 BestiArkari	493	536	1029	79
04 ShaliArkari	369	412	781	110
05 OwirArkari	461	492	953	80
06 Hert Karim Abad	1733	1816	3549	141
07 Parsan	835	851	1686	116
08 Mori Lasht	1536	1661	3197	52
09 Barenis	1665	1575	3240	50
10 Awee	1168	1293	2461	78
11 Miragram	695	821	1516	6
12 Shunjuran	814	799	1613	14
13 Gohkir	919	971	1890	2
14 Morder	1092	1169	2261	96
15 Khuzh	695	714	1409	150
16 Raman	1584	1567	3151	253
17 Sorlaspur	922	1018	1940	190
18 Phashk	1570	1643	3213	318
19 YarkhunLasht	883	1013	1896	54
20 OwirPayeen	944	1062	2006	8
21 OwirBala	881	968	1849	8
22 TerichPayeen	1812	1788	3600	
23 Terich Z Gram	765	737	1502	34
24 TerichBala	1041	1079	2120	
Total	26759	28282	55042	1894

A	B	C	D	E	F	G	H	I	J
S#	First Name	Gender (see code)	Age (completed years)	Marital status **(see code)**	Relation to head of household **(see code)**	Pregnancy Status (see Code)	Expected Date/Month and year of Delivery	Membership in any organisation/ Society (see Code)	Contact No.
1.		|___|	|___|___|	|___|	|___|___|	|___|		|___||___||___||___|	
2.		|___|	|___|___|	|___|	|___|___|	|___|		|___||___||___||___|	
3.		|___|	|___|___|	|___|	|___|___|	|___|		|___||___||___||___|	
4.		|___|	|___|___|	|___|	|___|___|	|___|		|___||___||___||___|	
5.		|___|	|___|___|	|___|	|___|___|	|___|		|___||___||___||___|	
6.		|___|	|___|___|	|___|	|___|___|	|___|		|___||___||___||___|	
7.		|___|	|___|___|	|___|	|___|___|	|___|		|___||___||___||___|	
8.		|___|	|___|___|	|___|	|___|___|	|___|		|___||___||___||___|	
9.		|___|	|___|___|	|___|	|___|___|	|___|		|___||___||___||___|	
10.		|___|	|___|___|	|___|	|___|___|	|___|		|___||___||___||___|	
11.		|___|	|___|___|	|___|	|___|___|	|___|		|___||___||___||___|	

Codes for Column C	Codes for Column D	Codes for Column E	Codes for Column F		Codes for Column G	Codes for Column H	Codes for Column I
1. Male 2. Female	999. Do not know	1. Married 2. Divorced 3. Separated 4. Widowed 5. Single	1. Head 2. Spouse 3. Mother/father 4. Sister/brother 5. Son/daughter 6. Grandson/granddaughter 7. Daughter -in-law / son-in-law 8. Nephew/niece	9. Aunts/uncles 10. Cousins 11. Brother -in-law/Sister-in-law 12. Mother -in law / Father -in-law 98. Other _____	1. Yes 2. No	Please record date or month of delivery	0. No membership 1. Community Based Savings Group 2. Women Organisation 3. Village Organisation 4. Local Support Organisation 5. Civil Society Organisation 6. Village Health Committee 7. Health Board 8. School Management Committee 98. Other _____

APPENDIX 3: Quantitative Survey Questionnaire

QUANTITATIVE QUESTIONNAIRE

Research Project: "Role of Community-Based Savings Groups (CBSGs) in enabling greater utilisation of Community Midwives in Chitral district of Pakistan"

INFORMED CONSENT:

I am representing Aga Khan Foundation (Pakistan). We are conducting a research for the betterment of mother's and child's health in the Chitral District. The findings of this research will help in implementing effective interventions to improve the mother's and child's health in Chitral as well in the rest of Pakistan. You will be asked questions regarding your health during your previous pregnancy, delivery and the post natal period. The data which I am collecting from you today will only be used for research purposes and kept confidential. Do you agree to take part in this research?

If yes, kindly sign (or thumb stamp) in the space below:

_____

Participant's Signature or Thumb Impression.

If No, Please state reason for refusal: _____

Start Time: _____ Stop Time: _____

Tehsil No. (01. Chitral, 02. Mastuj): ☐☐ Village No. ☐☐ Respondent No. ☐☐☐

IDENTIFICATION		
Identification number (IDNO)	☐☐☐-☐☐☐-☐☐☐ (Combination of above three fields)	
Name of the participant		
[redacted]		
Phone number		
Name of the Village		
Interview date:	Date (dd/mm/yyyy) ☐☐-☐☐-☐☐☐☐ Result* ☐	
*Codes for Result of interview (to be entered in the row above in the results of interviewer's visit) Completed Not at home Postponed Partially completed Refused Incapacitated Others (specify)_____		Total number of visits ☐One ☐ Two ☐ Three
Interviewer/ Data collector Name_____ Date ☐☐-☐☐-☐☐☐☐ (dd/mm/yy)	Field Supervisor Name _____ Date ☐☐-☐☐-☐☐☐☐ (dd/mm/yy)	Data Management Officer Checked for completeness and correctness ☐No ☐Yes

SECTION 1: Sociodemographic & Economic Characteristics

No	Question	Coding category	Response	Skip
01	In which year you were born? / How old are you?	Please ask for CNIC to record the year of birth; if CNIC not available then ask for approximate age in years; if do not know then record 99.	☐☐☐☐ (year of birth) ☐☐ (Age in completed years)	
02	What is your current marital status?	Married Widow Divorced Separated 98. No response	☐☐	
03	Have you attended school?	No Yes	☐☐	If No, then go to 05
04	Please tell us the highest class you attended at school / college/ university?	1. Primary (1-5 Class) 2. Middle (6-8 Class) 3. Secondary/Matric (9-10 Class) 4. Intermediate (11 – 12 Class) 5. College/University (13 – onwards) 6. Diploma (Specify)_____ 98. No response	☐☐	
05	Did your husband attend school?	No Yes 99. Don't Know	☐☐	If No or don't know then go to 07
06	Please tell us the highest class your husband attended at school / college/ university?	1. Primary (1-5 Class) 2. Middle (6-8 Class) 3. Secondary/Matric (9-10 Class) 4. Intermediate (11 – 12 Class) 5. College/University (13 – onwards) 6. Diploma (Specify)_____ 98. No response 99. Don't Know	☐☐	
07	What is your occupation?	House wife Teacher Office worker Police Midwife Nurse Lady Health Worker Lady Health Visitor Self Employed Others(Specify)_____	☐☐	
08	What is your husband's occupation?	Jobless/ Unemployed Farmer Laborer Teacher Shop keeper Office work Retired Police/Scouts/Army Driver Self Employed Others_____ 99. Don't Know	☐☐	

09	What is the total number of permanent residents living in your household? (People living for 6 months or more)	Record the no. of household members	☐☐	
10	How many live children do you have?	Record the no. of children	☐☐	
11	What is your approximate monthly family income in rupees?	Record the following in rupees, Annual income through farming ☐☐☐☐☐☐ Monthly income through livestock ☐☐☐☐☐☐ Monthly income through Salary ☐☐☐☐☐☐ Monthly income through Shop ☐☐☐☐☐☐ Monthly income through rent ☐☐☐☐☐☐ Annual income from any other ☐☐☐☐☐☐ source 98. No response 99. Don't Know	☐☐☐☐☐☐ Please divide 1 and 6 by 12 and add it to all the responses from 2 – 5 and record the number in the above space. Please put a cross mark on the option if is not applicable for this household and leave its columns blank. (To be filled in by supervisor)	

SECTION 2: Knowledge about Community Midwives (CMW) and their Utiliztion

No	Question	Coding category	Response	Skip
12	Have you heard about the Community Midwife in your area?	No Yes 98. No response	☐☐	If No , or No response, then go to 18
13	From whom did you come to know about the Community Midwife in your area?	Community Midwife Village Health Committee Community Based Savings Group Lady health worker AKHSP team (CCSP) Dai/TBA Relative Others (Specify)_____	☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐	
14	Did you attend any session with the Community Midwife?	No Yes 98. No response	☐☐	
15	Did the information about the Community Midwife in your area influence your decision of seeking healthcare during pregnancy?	Somewhat Very much Not at all 98. No response	☐☐	
16	Did you seek healthcare from CMW during the previous pregnancy?	No Yes	☐☐	If No go to 18

17	For what services did you seek healthcare from Community Midwife? (Record all that apply)	Antenatal care Delivery Post natal care TT (vaccination) Counselling Family planning Did not avail service Not applicable Others (Specify)_____ 98. No response	☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐	
18	Who is the decision maker in your family to visit a health care provider?	Myself Husband Father in law Mother in law Sister in Law Brother in Law Others(Specify)_____ 98. No response	☐☐	

SECTION 3: Information about Previous Pregnancy

No	Question	Coding category	Response	Skip
19	Did you get antenatal care (ANC) during your last pregnancy?	No Yes 98. No response	☐☐	If No or No response. then go to 26
20	How many ANC check-ups did you get?	Record the No. of times, Else 98. No response 1st Trimester 2nd Trimester 3rd Trimester	☐☐ ☐☐ ☐☐	
21	From whom did you get the antenatal care? (Record all that apply)	Doctor Lady Health Visitor Community Midwife Nurse Lady Health Worker Dai-Traditional Birth Attendant Other (Specify)_____ 98. No response 99. Don't Know	☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐	
22	Where did you get antenatal care for this pregnancy?	Home Community Midwife working station BHU RHC Hospital Private clinic AKHSP Others(Specify)_____ 98. No response	☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐	
23	The first time you got antenatal care during this pregnancy, did you have a problem or was it just for check-up?	For problem For check-up only 98. No response	☐☐	
24	Please tell the approximate cost in rupees for accessing antenatal check-up? (The cost includes providers fee, transport, medications and investigations)	Record cost in rupees, or else 98. No response 99. Don't Know (If no cost incurred, write 00000)	☐☐☐☐☐	

25	How did you finance this spending on antenatal care?	Self Husband Relative Community Based Saving group Loan other than CBSG Others(Specify)_____ 98. No response 99. Don't Know		Go to 27
26	Why didn't you see anyone for antenatal check-up?	Not necessary/Had no problem Costs too much Too far No transport Had no one to go with Did not know where to go Not allowed to go Long waiting time Did not want to see a male doctor Others(Specify)_____ 98. No response		
27	Did you receive injection during pregnancy to prevent the child from getting tetanus?	No Yes 99. Don't Know		If no or don't know then go to 29
28	How may doses of TT vaccination did you get during your last pregnancy?	Please record no. of times TT injection taken		
29	During this pregnancy, did any one counsel you about you and your child's health?	No Yes 98. No response		If no or no response then go to 31
30	Who counselled you about your and your child's health?	Doctor Lady Health Worker Lady health visitor Community Midwife Dai-TBA Other(Specify)_____ 98. No response		
31	During pregnancy, did you have any problem for which you referred? (To First Level Health Care Facility (BHU/ RHC/ Private clinic/ AKHSP) or Secondary level Health Care Facility (Hospital))?	No Yes 98. No response		If no or no response, go to 37
32	Where were you referred?	BHU RHC Private Clinic District Headquarter hospital AKHSP Centre/Hospital Community Midwife 98. No response		
33	Who referred you to the Health Care Facility (BHU/ RHC/ Private clinic/ hospital/ AKHSP)?	Self Family member Lady Health Worker Lady health visitor Community Midwife Dai-TBA Other(Specify)_____ 98. No response		

34	How did you arrange transport to get to the referral facility?	Self Village Health Committee Relative Others (Specify)_____ 98. No response 99. Don't Know	☐☐	
35	What was the cost of treatment at the referral facility? (This includes cost of medicine, transport, provider's fee, investigation and accommodation)	Record the cost in rupees, or else 98. No response 99. Don't Know	☐☐☐☐☐	
36	How did you finance this spending?	Self Husband Relative Community Based Saving group Loan other than CBSG Others(Specify)_____ 98. No response 99. Don't Know	☐☐ ☐☐ ☐☐ ☐☐	

SECTION 4: Information about previous Delivery and Post Natal Care

No.	Question	Coding category		Skip
37	When did your last delivery take place?	Record the date in dd/mm/yy, or else 98 for No response or 99 for Don't Know ☐☐-☐☐-☐☐☐☐		
38	Where did you deliver the last child?	Your Home Other Home CMW working station BHU RHC Private clinic Hospital AKHSP Other(Specify)_____ 98. No response	☐☐	
39	Who delivered the child? (Please record the highest qualified person)	Doctor Lady Health Visitor Community Midwife Nurse/Midwife Dai-TBA Relative/Family Member Other (Specify)_____ 98. No response	☐☐	
40	What type of delivery did you have?	Simple Vaginal Delivery Assisted vaginal delivery (forceps/vacuum) Episiotomy Caesarean -section 98. No response	☐☐	
41	What was the cost of delivery? (This includes transportation, medication, fees, investigation and accommodation)	Record the cost in rupees, or else 99. Don't Know (Write 00000 if no cost was incurred)	☐☐☐☐☐	
42	How did you finance the cost for delivery?	Self Husband Relative Community Based Saving Group Loan other than CBSG Others(Specify)_____ 98. No response 99. Don't Know	☐☐ ☐☐ ☐☐ ☐☐	

43	Was the child alive?	No Yes 98. No response	☐☐	
44	Did you have any problem or complication during delivery?	No Yes 98. No response	☐☐	If No or No response then go to 49
45	Where did you get treated for this problem?	Your Home Other Home Community Midwife working station BHU RHC Private clinic Hospital AKHSP Other(Specify)_____ 98. No response	☐☐	
46	Who treated you for this problem?	Doctor Lady Health Visitor Nurse Community Mid Wife Dai/TBA Other(Specify)_____ 98. No response	☐☐	
47	What was the cost of treatment of this problem? (This includes transportation, medication, fees, investigation and accommodation)	Record the cost in rupees, or else 98. Don't Know 98. No response (If no cost incurred, write 00000)	☐☐☐☐☐	
48	How did you finance this spending?	Self Husband Relative Community Based Saving Group Loan other than CBSG Others(Specify)_____ 98. No response 99. Don't Know	☐☐	
49	Did you have Post Natal Care from any one after delivery?	No Yes 98. No response	☐☐	If No, or no response, go to 54
50	Where did you get the post natal care?	Home Other House Community midwife working station BHU RHC Hospital Private clinic AKHSP Others(Specify)_____ 98. No response	☐☐ ☐☐	
51	From whom did you get post natal care from?	Doctor Lady Health Visitor Community Midwife Nurse Lady Health worker Dai-Traditional Birth attendant Other(Specify)_____ 98. No response	☐☐ ☐☐	

52	What was the approximate cost of post natal care? (This includes Medication, providers fees, transportation and investigations)	Record the cost in rupees, or else 98. No response 99. Don't Know (If no cost incurred, write 00000)	☐☐☐☐☐	If no cost incurred, then go to 55
53	How did you finance this spending?	Self Husband Relative Community Based Saving Group Loan other than CBSG Others(Specify)_____ 98. No response 99. Don't Know	☐☐ ☐☐ ☐☐ ☐☐	Go to 55
54	Why didn't you get post natal care after delivery?	Not necessary/Had no problem Costs too much Too far No transport Had no one to go with Did not know where to go Not allowed to go Long waiting time Did not want to see a male doctor Others(Specify)_____ 98. No response 99. Don't Know	☐☐ ☐☐ ☐☐ ☐☐ ☐☐	

SECTION 5: Participation & Utilisation of Community-based Savings Groups (CBSGS)

No	Question	Coding category	Response	Skip
55	Have you heard about Community Based Saving Group (CBSG) in your village?	No Yes 98. No response	☐☐	If No then end the interview
56	Are you or anyone from your family is a member of CBSGs?	No Yes 98. No response	☐☐	If No then end the interview
57	Who in your family is a member of the CBSG?	Yourself Mother in law Sister in Law Sister Other(Specify)_____ 98. No response	☐☐	
58	Did you use money from CBSG for the previous pregnancy?	No Yes 98. No response	☐☐	If No or no response, go to 62
59	In what part of pregnancy did you use money from CBSG? (Record all that apply)	Antenatal period Delivery Post natal period 98. No response	☐☐ ☐☐ ☐☐	
60	What amount did you take from the CBSG during pregnancy, delivery or post natal period?	Record the amount in rupees, or else 98. No response 99. Don't Know	☐☐☐☐☐	
61	For what purpose did you use the money taken from CBSG? (Record all that apply)	Transportation Treatment or service cost of the mother Treatment or service cost for the child Vaccination Medication Others (Specify)_____ 98. No response	☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐	

62	Have you taken loan from CBSG for any other purpose?	No Yes 98. No response	☐☐	If No or no response, end the interview
63	What amount of money did you borrow from CBSG for this purpose?	Record the amount in rupees, or else 98. No response 99. Don't Know	☐☐☐☐☐	
64	For what purpose have you used the money borrowed from CBSG?	Health care other than pregnancy related Setting up small business Buying household item School fees Burial of deceased family member Marriage in a family Others(specify)_____ 98. No response	☐☐ ☐☐ ☐☐ ☐☐	

APPENDIX 4: Focus Group Discussion Guide

The FGD Discussion Guide is intended to help generate qualitative data concerning the ways in which the membership of CBSG may contribute to women's utilisation of CMW services.

Section 1: General Questions:

1. What are the issues problem and difficulties faced by the pregnant women in seeking health care?
2. What are the various health services /health providers in the area/community?
3. What are the health seeking practices and behaviours of the community women during pregnancy? (Probes: choice of provider; continuum of care; decision making process; autonomy)
4. What is the nature of importance that people attach to ANC+delivery+PNC?
5. What are the common reasons for choosing specific health provider? (Probes: family preference, community opinion, social pressure, economic reasons, gender of provider, proximity/physical accessibility, quality of care, skill of the provider)
6. Share with us your views and perception about the CMWs (Probes: role, position, skills, acceptability)
7. How has been your experience during the recent delivery? (Probes: place of delivery, health provider)
8. How much expenses were incurred? (Probes: direct, indirect)
9. How did you arrange the money?
10. Have you been saving some money as a practice or for this particular event?
11. Have you heard about the CBSG? (Probes: composition, aims and objectives, membership, advantages)

Section 2a: Specific Questions for CBSG members/their Husbands (only):

1. For what reason, you decided to join the CBSG?
2. To what extent CBSG helped in using CMW services especially during pregnancy/delivery? (Probes: knowledge, trust, SBA, social acceptability, economically, increased autonomy and decision making)
    a. Can you share with us some of the challenges faced b/c of CBSG membership?
    b. Any other comment, suggestion on CBSG or CMW services.

Section 2b: Specific Questions for CBSG non-members/their Husbands (only):

1. What are the reasons for not joining CBSG so far?
2. Are you considering joining CBSG and recommending to others?
    If yes, why?
    If no, why?

Section 2C: Selected areas and its Characteristics for Focus Group Discussions

Selected area	Location	Sect	Socioeconomic condition
Morder	Upper Chitral	Mix	2 crops
Phashk	Upper Chitral	Mix	1 crop
ShaliArkari	Lower Chitral	Ismaili	1 crop
Gabore	Lower Chitral	Sunni	1 crop

APPENDIX 5: Approval of National Bioethics Committee of Pakistan

National Bioethics Committee (NBC) Pakistan

Ref: No.4-87/11/NBC-54/RDC/ 3204 Date: January 26, 2011

Mr James Cowan Coventry
Interim Team Leader
Research & Advocacy Fund (RAF)
H. # 9, Street 64
Sector F-8/4,
Islamabad

Subject: **Role of Community-Based Savings Groups (CBSGs) in enabling greater utilization of Community Midwives in Chitral district of Pakistan. (NBC-54)**

Dear Mr. Coventry,

I am pleased to inform you that the above mentioned project has been cleared by "Research Ethics Committee of National Bioethics Committee".

Kindly keep the National Bioethics Committee Secretariat updated with the progress of the project and submit the formal final report on completion.

Yours sincerely

(Dr. Zulfiqar Bhutta)
Chairman
Research Ethics Committee

NBC Secretariat:
Pakistan Medical Research Council, Shahrah-e-Jamhuriat, Off Constitution Avenue, Sector G-5/2, Islamabad.
www.pmrc.org.pk, e-mail: pmrc@isb.comsats.net.pk . Tel: 92-51- 8207386, 9216793, 9205480, Fax 9216774, 9204559

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TOTAL P.001

APPENDIX 6. List of Research Workers

Serial #	Name	Designation/responsibility	Qualifications
1	Dr Qayyum Ali Noorani	Principal investigator	MSC Epidemiology
2	Paul Rippey	Co-investigator; Expert saving groups	Graduate in development economics
3	Iqbal Azam,	Co-investigator; Statistician	MSc in Statistics
4	Dr Babar T. Shaikh	Co-investigator; Qualitative researcher	MBBS, MBA, MPH, PhD, FRCP Edin
5	Tharanga Ranasinghe	Co-investigator; M&E and data management	BSc (special) in Nutrition
6	Dr.shazia, Abbas	Co-investigator; project coordinator	MBBS, MS in epidemiology
7	ShakeelaWali	Co-investigator;field Coordinator	MA (Women's Studies)
8	Meharban Khan	Finance Officer	MBA Finance
9	Abid Ali Khan	Data Management Officer	MPA
10	Farida Sultana	Field Supervisor	MA Economics
11	Saeedabibi	Field Supervsor	MA in EPM
12	Maimona	Data Punching Operator	MA
13	BibiAlam	Data Punching Operator	MCOM
14	Ziauddin	Data Punching Operator1	MA Economics
15	ToufiqaAhmaed	Data Punching Operator2	MBA Finance
16	Niamat Karim	Office Assistant	BA
17	Qadeer	Support Staff (Driver)	Middle
18	Mastana	Support Staff (Driver)	Primary
19	Sher Akber	Support Staff (Driver)	Primary

Data Collectors			
Serial #	Name	Qualification	Project area
1	Rashidabibi	BA/CT	Bumburate
2	Bus Gul	BSC	Gobor
3	Ashraf Nisa	FSC	Basti
4	Zarina	BA	Shali
5	Rubinabibi	BSC	OweerArkari
6	SifatZareen	BA	HertKarimabad
7	SafidaNaz	MA	Parsan
8	Samiabibi	BSC / Bed	Mori
9	Aziza Jahan	BSC	Baranis
10	Surriyabibi	MA	Awi
11	Mumtazbanu	MA	Meragram.1
12	Saiqabibi	BA	Shunjuran
	Zaibunnisa	BA	Gohkir
13	Rubina	BA	Rubina has replaced Zaibunnisa
	Hasina	MA	Morder
14	Salma Khanum	BSC	Salma khanum replaced Hasina
15	BibiSakina	MA	Khuz
16	Hairanbibi	BA	Pashk
17	PininNisa	BA	YarkhunLasht
18	ZareenJahan	MA	Raman
19	BanairBanu	BA	Sorlaspur
20	RubinaNaz	BA	Lot OweerPayeen
21	BibiRubina	BA	Lot OweerBala
22	BibiZarinTaj	BA	TerichPayeen
23	Sajidabibi	BA	TerichZondrangram
24	Hajirabibi	BA	TerichBala

Appendix 7: CBSG Performance Indicators as of December 2012

	Profile of groups	Aggregate	%	Average
1	Total number of current members	3,625		18.2
2	Total number of men	784	21.6%	3.9
3	Total number of women	2,841	78.4%	14.3
4	Total number of supervised groups	199		
5	Total number of graduated groups	222		
6	Average age of groups (weeks)			19.8
7	Membership growth rate		1.7%	
8	Attendance rate		95.6%	19.0
9	Retention rate		98.7%	
10	Number of members belonging to graduated groups	4,234		
11	Total number of people assisted by the programme	7,859		
12	% of members with loans outstanding		10.5%	
	Financial performance of groups			
13	Composition of assets, liabilities and equity			
14	Assets	997,674	100.0%	5,013
15	Liabilities	0	0.0%	0
16	Member equity	997,674	100.0%	5,013
17	Savings			
18	Cumulative value of savings this cycle	942,780		4,738
19	Average savings per member mobilised to date			260
20	Retained earnings	47,150		237
21	Average member equity			275
22	Loan portfolio			
23	No. of loans outstanding	380		1.9
24	Value of loans outstanding	607,340		3,052
25	Average outstanding loan size			1,598
26	Average write-off per graduated group			0
27	Loans outstanding as % of total assets		61.4%	
28	Current yield			
29	Average profit per member to date			13
30	Return on savings		4.3%	
31	Return on assets		4.7%	
32	Annualised return on assets		11.7%	
46	Staffing efficiency			
47	Ratio of all paid agents to total staff		40.0%	
48	Caseload: Members per paid agent			906
49	Caseload: Groups per paid agent			49.75

For more information:

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