HEALTH

H-2

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Health Status of Mothers and Children in Rural Badghis Province, Afghanistan 2007

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ABBREVIATIONS

ANC	Antenatal Check-up
ARI	Acute Respiratory Infection
BCG	Bacillus Calmette-Guerin
BPHS	Basic Packages Health Services
CHW	Community Health Worker
DPT	Diptheria, Pertussis, Tetenus
MICS	Multiple Indicator Cluster Survey
MoPH	Ministry of Public Health
NGO	Non Government Organization
NRVA	National Risk and Vulnerability Assessment
PNC	Postnatal Check-up
RED	Research and Evaluation Division
TBA	Traditional Birth Attendants
UNICEF	United Nations Children's Fund

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ABSTRACT

To assess the impact of BRAC health programme on sanitation, antenatal care, delivery practices, contraception, breast-feeding, immunization, and childhood illnesses in Badghis province during 2004-2007. This cross-sectional survey used a random sample of households (n=450). The respondents were all married women of reproductive age (15-49 years) and under-five children of the sampled households. Since no baseline information was available, the findings were compared with the provincial estimates for Badghis province from the Multiple Indicator Cluster Survey 2003 (MICS) and in some cases with estimates from a similar study carried out by BRAC in Balkh province in 2006. Nearly 75% of the adult population had never been to school. The mean age at marriage for girls was 16 years in 2007. Safe sanitary practices increased marginally (20% to 27%). Awareness of the danger signs of pregnancy complications (32%), provisions of immunization against tetanus (48%) and antenatal check-up during pregnancy (44%) have not improved among women compared to what was found in Balkh province (45%, 59% and 49% respectively) in 2006. The delivery under the supervision of traditional birth attendant increased from 10% (MICS 2003) to 83%, while the use of post-natal care (PNC) remained poor (35%). The knowledge and practice of family planning increased from baseline (MICS 2003) (16% to 56.0%, and 1% to 19% respectively) in the last three years. There is marginal decrease in the proportion of breast-feeding within 6-hr of delivery, from 79% at 2003 (MICS) to 72%. Bacillus Calmette-Guerin (BCG) coverage of under-five children increased from baseline (MICS 2003) (21% to 84%) but the coverage of measles remained somewhat unchanged at around 55%. However, vitamin A coverage declined significantly during the study period. The prevalence of diarrhoea has been remained high compared to baseline (MICS 2003) (around 50%) and the use of ORS has increased. The awareness of mothers about the danger signs during a diarrhoeal episode of children was higher (65%) compared to the Balkh study (50%). BRAC has achieved development on some indicators. Attention needs to be given in areas like ANC, PNC, management of diarrhoea and other childhood illnesses.

EXECUTIVE SUMMARY

Afghanistan is one of the poorest countries in the world with a population of 23.8 million within an area of 652,225 sq. km. The scope to provide health services is severely limited in Afghanistan due to the lack of health infrastructure, poorly trained medical staff, and inadequate supplies of drugs and equipments to effectively run the health facilities. But recently the ministry of public health (MoPH) of Afghanistan has made significantly gains in developing health services since the newly elected government has come in power. The government of Afghanistan has been implementing Basic Package of Health Services (BPHS) with the help of non government organizations (NGOs) focussing on maternal and child health, immunization, nutrition, communicable diseases, mental health, disability and the supply of essential drugs since 2003.

BRAC has been providing the BPHS in Badghis province since 2004 to ensure access to health services for all population living in the province. Simultaneously it has started the BPHS programme in Balkh and Nimroz provinces. BRAC conducted a study in Balkh to see the achievement the programme goals in 2006. In some cases BRAC achieved a greater change in health sectors in Balkh province. It is not known whether BRAC interventions have made any change in health status of the population in Badghis province. The objectives of this study were to understand the current status of access to and the utilization of basic health services, illness prevalence and knowledge about danger signs, and assess the impact of BRAC health programme on sanitation, antenatal care, delivery practices, contraception, immunization, breast-feeding, childhood illnesses, and treatment in Badghis province during 2004-2007.

Data and methods

This cross-sectional survey used a random sample of households (n=450) following the sampling procedure of MICS 2003 (Multiple Indicator Cluster Survey 2003 of UNICEF). The study was conducted in September 2007. The respondents were all married women of reproductive age (15-49 years) and mother of under-five children of the sampled households. Since no baseline information was available, the findings were compared with the provincial estimates for Badghis province from the MICS Survey 2003 and in some cases with estimates from a similar study carried out by BRAC in Balkh province in 2006.

Key findings and implication

a. Socio-demographic characteristics have remained traditional in Badghis province

The population in Badghis province was relatively younger than the populations in most developing countries. The mean age was 28.5 years in 2007. Nearly 75% of the adult population have never been to school and a small proportion had higher education. Gender variation in education was widespread. Equity focus in terms of gender should be maintained in formal education. The mean household size has remained about 6.6 persons. The proportion of women having access to electronic media was 48%. The mean age at marriage for girls was 16 years in 2007. It is recommended that the risks of early marriage and other avoidable threats to adolescent girls should be promoted among the populations in general and the parents in particular.

b. Improvement of safe drinking water and sanitary practices

The proportion of using drinking water from protected sources has improved from baseline (MICS 2003) during the study period (30% to 59%). Safe sanitary practices increased marginally (20% to 27%), although a marked improvement was observed in hygienic practices after defaecation (8% to 26%). It is recommended that awareness regarding the benefits of using safe toilets should be promoted among the adults and children in the province.

c. ANC coverage needs to be improved further to have an impact on maternal health

Women generally suffer a greater burden of ill health particularly during pregnancy and childbirth in Afghanistan. Awareness of the danger signs of pregnancy complications (32%), provisions of immunization against tetanus (48%) and antenatal check-up during pregnancy (44%) have not improved among women compared to what was found in Balkh province (45%, 59% and 49% respectively) in 2006. Thus, antenatal check up (ANC) activities need further improvement to raise awareness and action on these aspects.

d. Practice of home delivery has remained the same

Home delivery was still popular among the pregnant women and the survey did not find any change during the study period when compared with MICS 2003 data. The delivery under the supervision of traditional birth attendant increased from 10% (MICS 2003) to 83%, while the use of post-natal care (PNC) remained poor (35%). Efforts are needed to improve the coverage of effective PNC in the Badghis province.

e. Although the improvement in prevalence rate was high, the programme should use its network to promote family planning messages to wider audience

The knowledge and practice of family planning increased in the last three years. The rate of increase was much higher in contraceptive use than knowledge. It is also quite possible that motivational activities at the grassroots might have increased the use in relatively shorter period. Appropriate messages concerning child spacing and the adverse affects of frequent pregnancies on health of mother should be highlighted.

f. Family planning programme should focus more on the semi-permanent and permanent methods

The knowledge and practice of family planning increased from baseline (MICS 2003) (16% to 56.0%, and 1% to 19% respectively) in the last three years. Condom among the male was un-popular (0.7%) and it indicates the necessity of involving men to promote family planning programme in Afghanistan. Pro-active interventions are needed for male participation.

g. Breast-feeding campaign should be actively promoted

There is marginal decrease in the proportion of breast-feeding within 6-hr of delivery, from 79% at 2003 (MICS) to 72%. Thus, breast-feeding promotion should receive continuous attention.

h. While immunization programme achieved success, vitamin A coverage reduced

Bacillus Calmette-Guerin (BCG) coverage of under-five children increased from baseline (MICS 2003) (21% to 84%). The coverage of polio (3-dose) was also quite high (76%) but the coverage of measles remained somewhat unchanged at around 55%. However, vitamin A coverage declined significantly during the study period. Although the 2007 coverage was

impressive compared to the coverage of many developing countries, it is quite possible that the benchmark estimate of vitamin A coverage was unusually high. Emphasis should be given to promote vitamin A.

i. Although the use of ORS has increased, the prevalence of diarrhoeal diseases has remained high

The prevalence of diarrhoea has been remained high compared to baseline (MICS 2003) (around 50%) and the use of ORS has increased. Efforts are needed to promote hygiene practices and use of sanitary toilets in case of the children along with the adults.

j. Improvement of maternal awareness about child health

The awareness of mothers about the danger signs during a diarrhoeal episode of children was higher (65%) compared to the Balkh study (50%), but it was not comprehensive for other illnesses. The use of services from the qualified providers rose significantly from baseline (MICS 2003) (15% to 38%).

Concluding remarks

There are no easy solutions for health problems that have accrued during decades of conflict and suppression in Afghanistan. A brave start has been made by BRAC and ministry of public health (MoPH) to create a health system in Badghis province. BRAC has achieved development on some indicators. Attention needs to be given in areas like ANC, PNC, management of diarrhoea and other childhood illnesses. Besides, to continue the progress stability and long-term commitments by the international community are required.

INTRODUCTION

Health situation in Afghanistan

Afghanistan is situated in Central Asia with a population of 23.8 million within an area of 647,500 sq. km (UNICEF 2004). According to its GDP per capita, Afghanistan is considered as a least developed country. In addition to the continuing civil war for over two decades, the country suffers from a devastating economy, political and social development with crumbling infrastructure. The poor infrastructure of health could not provide health services to the Afghan people at satisfactory level due to lack of community awareness, poorly trained medical staff, and inadequate supplies of drugs and equipments to effectively run the health facilities (NRVA 2004). On average, there was one medical doctor for every 50,000 and 0.31 dentists for every 10,000 population. About 4.2 hospital beds per 10,000 population and access to health services was only 29 per cent (estimated) of the population in 2004 (WHO EMRO 2008, UNDP 2004). Lack of access to such services has direct impact on morbidity and mortality (Sadik 1998). Maternal mortality is considered highest in the world with 1,600 per 100,000 live births (UNDP 2004). Antenatal care coverage was 16% in 2003 and less than 15% of the deliveries were attended by trained health workers (World Bank 2005). One woman dies in every 30 minutes from pregnancy related causes. Infant mortality rate per 1,000 live births was 147 and under five mortality rate was 257 per 1,000 live births in 2004 (WHO EMRO 2008). The life expectancy at birth was estimated as 44.5 years. Severe poverty, insecurity and discrimination against women continued for decades in the rural communities in Afghanistan.

The government of Afghanistan designed the Basic Package of Health Services (BPHS) with the help of donors and has been implementing by a large number of national and international non government organizations (NGO) since 2003. The important components of this community-based programme are maternal and newborn health, child health and immunization, nutrition, communicable diseases, mental health, disability, and the supply of essential drugs. Community-based intervention to promote health services, particularly focusing on mother and children, launched in many countries (Tembo 1995, Huang *et al.* 1994) but the assessment of such attempts indicated that the achievements were minimal (Laverack *et al.* 1997, Huang *et al.* 1994).

BRAC has been running the basic package in the Badghis province since 2004 to ensure people's access to health services (BRAC 2006a). BRAC used community health workers (CHW) as the frontline workforce to raise awareness in the community regarding immunization and family planning, antenatal care services, identify sick children, provide treatment of common illnesses, promote the benefits of having institutional delivery and refer the complicated cases to the nearby hospitals. The services were offered through hospitals, comprehensive health centres, basic health centres, mobile clinics and the health posts run by the doctors, midwives, vaccinators, and other paraprofessionals.

Objectives

It is expected that implementation of BPHS by BRAC has made some positive changes in health services in Badghis province. The objectives of this study were to assess the impact of health interventions on selected health indicators such as sanitation, antenatal care, delivery practices, contraception, immunization, breast-feeding, and childhood illnesses and treatment.

MATERIALS AND METHOD

STUDY DESIGN

This study was cross-sectional based on randomly selected household survey. Since no baseline survey was conducted during launching the programme in Badghis province, we used the provincial estimates of the Multiple Indicator Cluster Survey (MICS) – 2003, conducted by the UNICEF, as benchmark (CSO 2003). All districts of Badghis province where BRAC has BPHS activities were included in sampling.

STUDY AREA[1]

Badghis province is located in the western part of Afghanistan, surrounded by Faryab, Ghor, Herat and Turkmenistan in the north. The province is divided into seven districts. More than two-third of the land is mountainous. The total population of Badghis province is 499,393. Average number of household members is 5.5 persons. About 97% of the population in Badghis live in rural areas. Their main profession is agriculture and some are involved in small production like handicraft.

STUDY POPULATION

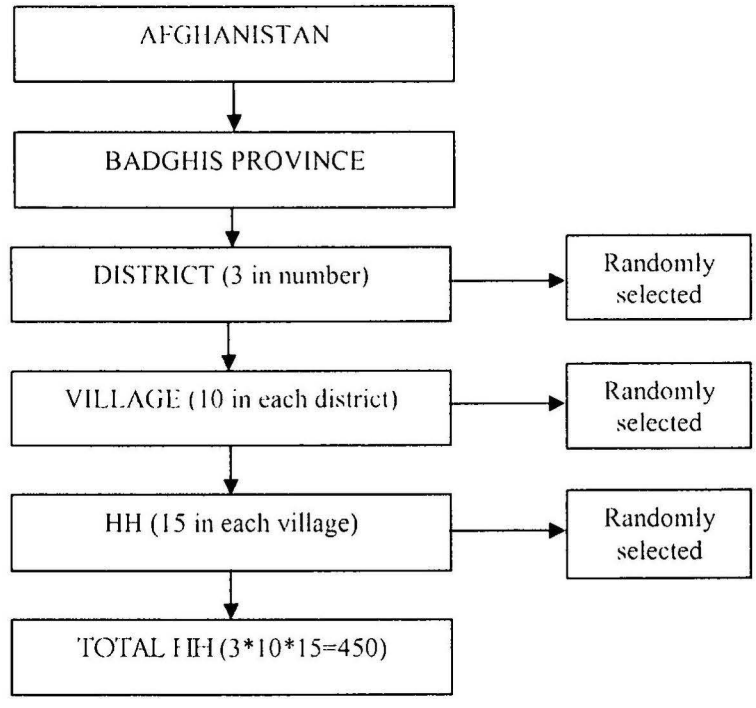
The respondents were all married women of reproductive age and all <5 children found in the selected households.

SAMPLING

All districts in Badghis province where BRAC has health programme were included in the sample. Five out of seven districts were selected at random. Due to security problem, we reduced the number of districts from five to three. Then from each selected district, ten villages/clusters were randomly taken which provided 30 clusters distributed throughout the province. In each cluster, 15 households were selected by systematic random sampling. Thus, the total sample size was 450 households for this study. The respondents were all married women of reproductive age (15-49 years) and under-five children of the sampled households. The sampling procedure, used in MICS 2003, was followed (Fig 1).

[1] Available at mrrd.gov.af/nabdp/Provincial%20Profiles/badghis%20PDP%20Provincial%20profile.pdf

Figure 1. Diagrammatic presentation of sampling procedure



HH = Household

TOOLS DEVELOPMENT

Pre-coded structured and semi-structured questionnaire were applied to collect information from the respondents. The questionnaire was thoroughly pre-tested, modified and edited on the basis of feedback received before finalization. The questionnaires were pre-tested in a village outside our sample for ascertaining consistency, appropriateness of languages, sequencing of questions, and to have an insight into the field operation procedure. The questionnaire has four parts, information on household members, information on household socioeconomic information, information on under-five children, and information on ever married women aged up to 49 years. Interviewers initially listed all households in selected villages and wrote the numbers on the door of households in each village by chalk. Then they selected 15 households from the lists by systematic random sampling.

RECRUITMENT, TRAINING AND DEPLOYMENT OF INTERVIEWERS

The team comprised of experienced interviewers and their supervisors. About 30 female interviewers with at least tenth grade of education conducted interviews. Research team organized a five-day intensive training both in classroom and in the field setting for the interviewers consisted of didactic lectures, mock interviews, role-play and field practice at community level. By this time all interviewers became efficient for data collection and management.

FIELD OPERATION

Prior to the actual survey, teams of interviewers, each led by an experienced supervisor, were deployed in the study villages about one or two days before beginning of the survey for rapport building activities and for listing the households in villages. In each village, the study team drew a map. Fifteen households were chosen through a systematic random sampling process. During this time villagers were informed about the purpose and activities of the survey and

seek their cooperation. All present members of the household were listed. Only the married women of reproductive age (15-49 years) and children under-five were selected from sampled households for the study. The respondents were freedom to participate. Each interview took 30 to 45 minutes to complete. These interviews were carried out during August-October 2007.

QUALITY CONTROL

Efforts to improve the reliability and validity of data included the use of culturally appropriate language, and deploying an independent quality control team to spot-check households randomly within three days of the main survey. The members of research team from central office at Kabul made frequently field visits for spot-checking the quality of interviews. Immediately after completion of session, the interviewer checked completeness of the notes taken, before leaving the interview place. In the cases where inconsistencies noted, interviewers were accompanied by field supervisors until quality standards were met.

DATA PROCESSING AND ANALYSIS

The quantitative data were edited, coded and cleaned in SPSSWIN (version 11.5) statistical package. A preliminary data analysis plan was developed in keeping with the objectives of the study. The analysis was carried out by SPSS package. Performing statistical test of significance was not possible while comparing between 2003 and 2007 data because the secondary (published) data of MICS 2003 were used.

FINDINGS

The results begin with a brief profile of the socio demographic and economic characteristics of the study population and their households, which is followed by key findings on water and sanitation, Antenatal care, delivery and post natal care, contraception, Breast feeding practices, child immunization and child illness.

Profile of the population

This section presents an overview of the population profile such as age, education, socio-economic condition, access to media and marital status.

Age and education

Table1 shows Afghan population was generally younger than the populations of most developing countries. Among the adults, one-fifth (19.6%) of the adult population were aged below 20 years. The mean age was 28.5 years. Literacy has traditionally been lower in Afghanistan. Nearly 74.5 % of the adult Afghan population never went to school, and a small proportion had higher education. Gender variation in education was widespread as illiteracy was 91.8% among women compared to only 57.4% among men.

Table 1. Background information of the population (15 + year) (%)

Indicators		Sex		Average
		Male	Female	
Age (year)	*Mean*	29.7	27.4	28.5
	15-19	20.7	18.6	19.6
	20-29	24.7	39.9	32.3
	30-39	29.0	30.2	29.6
	40-49	25.6	11.4	18.5
Years of schooling	*Mean*	6.1	3.93	5.76
	Illiterate	57.4	91.8	74.5
	I-VI	30.1	7.3	18.7
	VII-XII	11.4	0.9	6.2
	XIII	1.1	0.0	0.6
n		542	537	1079

Socioeconomic condition

Table 2 shows the changes in socioeconomic conditions between 2003 (MICS) and 2007 in Badghis province. It appears that the female-headed households increased from 2.4% to 3.6% during this period. The mean household size also increased to 6.6 persons. The proportion of women having access to radio reduced slightly to 48.4% during the study period. Majority of respondents' (62%) household economic situation was much worse last year.

Marital status and age at marriage

Table 3 shows that the proportion of married women increased marginally from 57.9% to 58.6% in the last four years. The mean age at marriage for girls in Badghis province was 16.1 years in 2007 compared to 18.29 years in 2003. No plausible reason was identified for such difference in only four years.

Table 2. Socioeconomic condition of women by year (%)

Socioeconomic factor	Year	
	2003 (MICS)*	2007
% of female-headed household	2.4	3.6
Mean household size	5.94	6.6
% of women listen to radio	52.0	48.4
Economical situation last year		
Much worse	-	62.4
Slightly worse	-	29.1
Even	-	7.1
Slightly better	-	1.3
n		450

*MICS-2003 Multiple indicators Cluster Survey conducted by UNICEF

Table 3. Marital status and age at marriage among women by year (%)

Marital issues	Year	
	2003 (MICS)*	2007
Marital status (10+ years)		
Never married	36.6	39.1
Married	57.9	58.6
Divorced/separated	-	0.1
Widow	5.1	2.1
Mean age at marriage (years)	18.3	16.1
n	---	450

* MICS-2003 Multiple indicators Cluster Survey conducted by UNICEF

WATER AND SANITATION

Table 4 shows that most of the population used drinking water from unprotected sources in 2003 but the situation has been changed in 2007. Among the protected or safe sources, about 27.3% used piped water while 28.2% had bored well as their primary source for water in 2007. Dependency on river decreased significantly from 2003 to 2007. Nearly 44.6% had to depend on rivers while about 15.4% used water from unprotected spring. Overall, the use of unsafe sources for drinking water declined in the four years. Although inadequate disposal of human excreta was widely known to cause a range of diseases including diarrhoea and polio. The use of safe sanitary practices has remained poor compared to 2003. A marked increase, however, has been recorded in hygienic practices after defaecation (7.6% to 26.2%).

Table 4. Use of drinking water and sanitation by year (%)

Water and sanitation		Year	
		2003(MICS)*	2007
Sources of drinking water			
Protected or safe			
	Piped water	5.1	27.3
	Bored well	20.2	28.2
	Slow-sand filtration	-	0.2
	Protected spring	4.9	2.0
Unprotected or unsafe			
	Unprotected well	1.1	5.3
	Unprotected spring	15.4	0.6
	River	44.6	27.0
	Others	52.3	12.4
Type of latrines- Safe or sanitary			
	Flush to sewage	0.0	8.0
	Traditional pit	19.6	18.9
Unsafe or non-sanitary			
	Open pit	7.8	21.8
	Bush/Field	73.0	51.3
* *Hygienic practice after defaecation		7.6	26.2
n			450

* MICS-2003 Multiple indicators Cluster Survey conducted by UNICEF
* *Washing with soap, ash or soil after defaecation

ANTENATAL CARE, DELIVERY AND POST-NATAL CARE

Antenatal care services

Antenatal care (ANC) includes awareness about the danger signs of pregnancy and delivery, provisions of immunization against tetanus and antenatal check-up during pregnancy. Still more than half of women (56.1%) were deprived of accessing to antenatal care service. The proportion of receiving antenatal care from qualified practitioners (such as physicians, nurses or midwives) rose to 28.0% in 2007 compare to 0.8% in 2003. Such increase might reduce the risks of pregnancy related complication. On the other hand, dependency on traditional birth attendants (TBA) has been increased from 37.9% to 68% and the dependency on relatives/ friends tremendously decreased from 59.7% to 0%. Around 48% of the pregnant women received two doses of Tetanous Toxoid (TT) vaccine during their pregnancy period.

Table 5. Changes in the utilization of antenatal care services by year (%)

Antenatal care	Year	
	2003 (MICS)*	2007
Antenatal care		
Never visited	-	56.1
Visited at least once	-	43.9
Person attended		
Doctor/Nurse/Midwife	0.8	28.0
TBA	37.9	68.0
Community health worker	0.0	7.3
Relative/Friend/Other	59.7	0.0
None	18.7	0.0
TT coverage** (two doses)	-	47.7
n		344

*MICS-2003 Multiple indicators Cluster Survey conducted by Unicef

Type of antenatal services

Various types of antenatal services were delivered during pregnancy. Given that the data for 2003 were not available in Badghis, Table 6 compares the coverage of antenatal care between Balkh and Badghis. It appears that the coverage in all indicators was much lower in Badghis province in 2007 than the antenatal care coverage of Balkh in 2006. Majority of women visited TBA and may be TBA did not have those facilities (measuring of weight, height, blood pressure, test of urine, blood test)

Table 6. Use of antenatal health services by province (%)

Type of antenatal care	Year	
	2006*	2007
Measured weight	49.3	1.7
Measured height	31.7	0.0
Monitored blood pressure	60.4	6.1
Urine tested	27.9	2.0
Blood tested	25.2	2.9
Told signs of pregnancy complications	45.2	32.3
Told where to go to treat the problems	50.7	32.8
Took iron tablet/syrup	54.0	21.5
n	497	344

*Balkh study was conducted in 2006 by Research and Evaluation Unit (REU) of BRAC, Afghanistan

Delivery practices

Table 7 indicates that home has still remained the most favoured place of delivery in Badghis province and there was marginal difference between 2003 and 2007 (99.2% *vs* 98.8%). This is a reflection of not accepting institutional delivery in the province. Dependency on TBA for delivery has been increased from 10.4% to 83.0% and reduced the dependency on friends, relatives for delivery from78% to 15.5%. Thus, most of the pregnant women used to deliver their newborn with the help of TBAs.

Table 7. Changes in delivery practices by year (%)

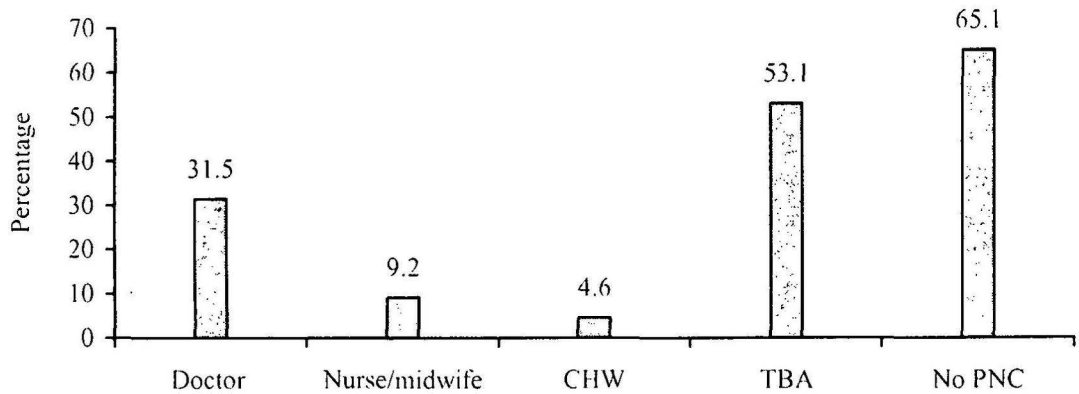
Delivery practices		Year	
		2003 (MICS)*	2007
Place of delivery			
	Government hospital/Health centre	0.0	1.2
	Private/NGO health centre	0.8	0.0
	Home	99.2	98.8
Delivery attended by			
	Doctor/Nurse/Midwife	11.6	1.8
	TBA	10.4	83.0
	Relative/Friend/Other	78.0	15.5
n			344

*MICS-2003 Multiple indicators Cluster Survey conducted by UNICEF

Postnatal care

Compared to antenatal care coverage, the use of postnatal care (PNC) was much lower about 65.1% did not receive any kind of PNC services (Fig. 2). About 31.5% received the services from qualified doctors followed by nurse/midwife (9.2%). The community health workers also provided services to 4.6% of mothers and their newborn babies. The remaining received services from the TBAs was still higher (53.1%).

Figure 2. Post-natal care and providers



FAMILY PLANNING

Knowledge and use of contraceptives

Given that unwed-lock fertility is rare in Afghanistan, only married women of reproductive ages were included in this analysis. Figure 3 shows that both knowledge and practice of family planning increased in the study areas. The rate of increase was higher in the contraceptive use (1.2% *vs* 18.9%, 16 times) than the knowledge (15.8% *vs* 56.2%, 4 times).

Family planning method

Oral pill was found the most popular method among all which rose from 0.7% to nearly 14.9% in last four years (Table 8). The use of injections also increased marginally from only 0.5% to 3.3%.

Figure 3. Knowledge and use of family planning

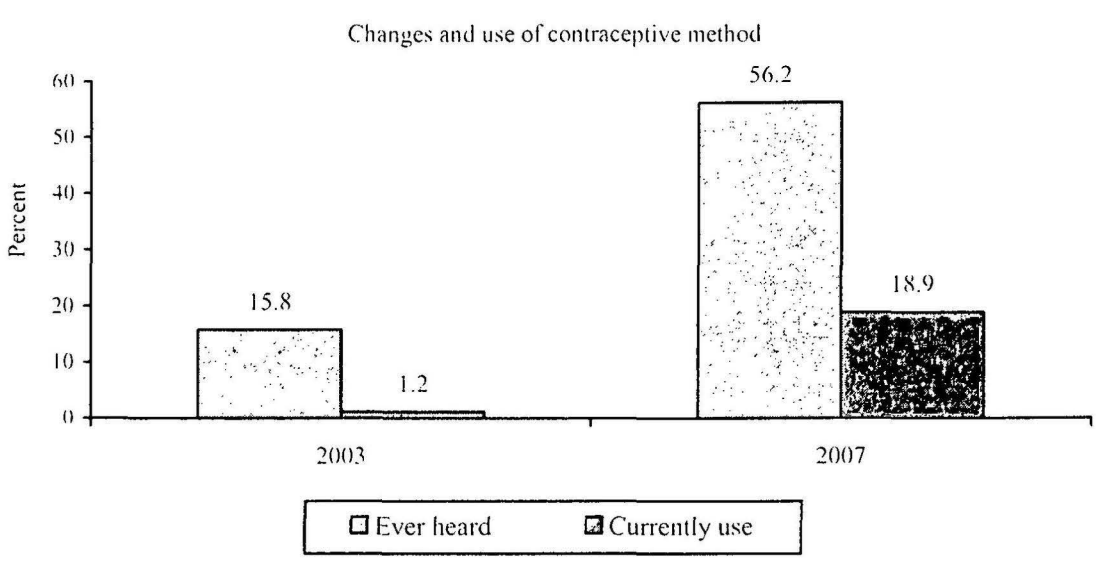


Table 8. Change in the use of family planning method by year (%)

Type of method	Year	
	2003 (MICS)*	2007
Oral pill	0.7	14.9
Condom	0.0	0.7
Injection	0.5	3.3
Sterilization	0.0	-
Traditional	0.0	-
Non-user	98.9	81.1
n		85

* MICS-2003 Multiple indicators Cluster Survey conducted by UNICEF

BREAST-FEEDING

Breastf-eeding practices

Breast-feeding not only protects children from infection but also provides an ideal source of nutrients. Table 9 shows that the prevalence of breast-feeding (ever given) was very high (100%) and there has been an increasing trend.

Interval between birth and first breast-feeding

Among mothers who breast-fed, 72% began breast-feeding their newborn within six hours after birth (Table 10). The proportion of early breast-feeding practices has marginally decreased in the last four years. About 84% of the cases, breast-feeding began within 24 hours in 2007, but it was 92.3% in 2003.

Table 9. Ever given breast milk among <5 children by year (%)

Sex	Year	
	2003 (MICS)*	2007
All	98.3	100.0
Boy	98.7	100.0
Girl	97.8	100.0
n		450

* MICS-2003 Multiple indicators Cluster Survey conducted by UNICEF

Table 10. Interval between birth and first breast-feeding (0 – 23 month) (%)

Interval	Year	
	2003 (MICS)*	2007
Within 6 hours	79.3	72.0
6 - 23 hours	13.0	6.4
24 48 hours	6.3	8.2
48 + hours	1.4	3.1
Don't know	-	10.2
n		450

* MICS-2003 Multiple indicators Cluster Survey conducted by UNICEF

IMMUNIZATION AND VITAMIN A COVERAGE

Child immunization

BCG coverage among under-5 children increased from 19.7% in 2003 to 82.4% in 2007 (Table 11 and Fig 4). Compared to BCG, Diphtheria, Pertussis, Tetanus (DPT 3+) coverage among

children (12–23 month old) children was low in both periods although the improvement of DPT3+ coverage in four years was quite impressive (from 4.3% to 56.2%). The polio 3+ coverage also showed a major improvement from 33.6% to 75.6%. The measles coverage was almost the same, 57.1% in 2003 and 54.7 in 2007. The coverage was marginally higher among girls than boys.

Vitamin A coverage

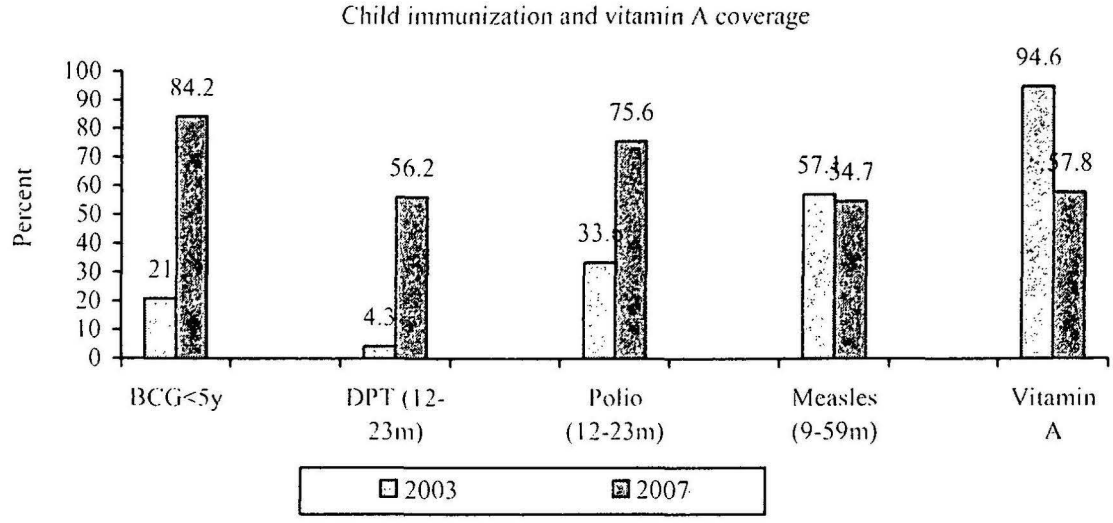
The coverage of vitamin A appeared to decrease from 94.6% to 57.8% during the study period (Table 11). The gender variation in the coverage was negligible.

Table 11. Change in vaccination and vitamin A coverage among children by year (%)

Antigen	Year	
	2003 (MICS)*	2007
BCG (<5 year)		
Both	21.0	84.2
Boy	19.7	82.4
Girl	22.0	86.6
DPT 3+ (12 – 23 month)	4.3	56.2
Polio 3+ (12 – 23 month)	33.6	75.6
Measles (9 – 59 months)		
Both	57.1	54.7
Boy	58.2	52.7
Girl	56.1	56.9
Vitamin A coverage		
Both	57.8	94.6
Boy	58.6	93.4
Girl	56.9	95.7
n		450

* MICS-2003 Multiple indicators Cluster Survey conducted by UNICEF

Figure 4. Child immunization and Vitamin A coverage



CHILD ILLNESSES AND TREATMENT

Diarrhoea among children

It has been reported that diarrhoea was a major cause of mortality among children in Afghanistan (MICS 2001). Table 12 shows that the prevalence of diarrhoea increased marginally from 45.1% in 2003 to 49.3% in 2007. The prevalence was higher among girls than boys in both periods. Use of ORS has been increased in 2007. It appears that the use of fluid, which continued feeding, increased from 65.7% to 76%. The use of increased fluild was lower among the girls than boys in both study periods.

Table 12. Episodes of diarrhoea among children by year (%)

Diarrhoea	Year	
	2003 (MICS)*	2007
Had diarrhoea	45.1	49.3
Boy	43.9	48.1
Girl	46.0	50.7
Increased fluid with continued feeding given	65.7	76.1
Boy	65.7	79.1
Girl	65.6	72.9
Drink during illness period		
Breast milk	59.1	57.2
Gruel	2.2	1.4
Home fluid	50.0	35.6
ORS	31.0	38.8
Formula milk	2.2	2.3
Water + other	41.8	23.4
Water	20.7	4.1

* MICS-2003 Multiple indicators Cluster Survey conducted by UNICEF

Cough and Acute Respiratory Infection (ARI)

Children with acute respiratory infection (ARI) are defined as those who had an illness with a cough accompanied by rapid or difficult breathing or both. Table 13 shows that the prevalence of cough or fever was much higher in 2007 than 2003 (9 times higher). The causes of such increased prevalence were not known. Seasonality and better reporting of illnesses were possible explanations. The prevalence of fast breathing of ARI had increased from 2003 to 2007. Boys were more likely to become sick than girls.

Table 13. Episodes of Cough, fever or ARI among children by year (%)

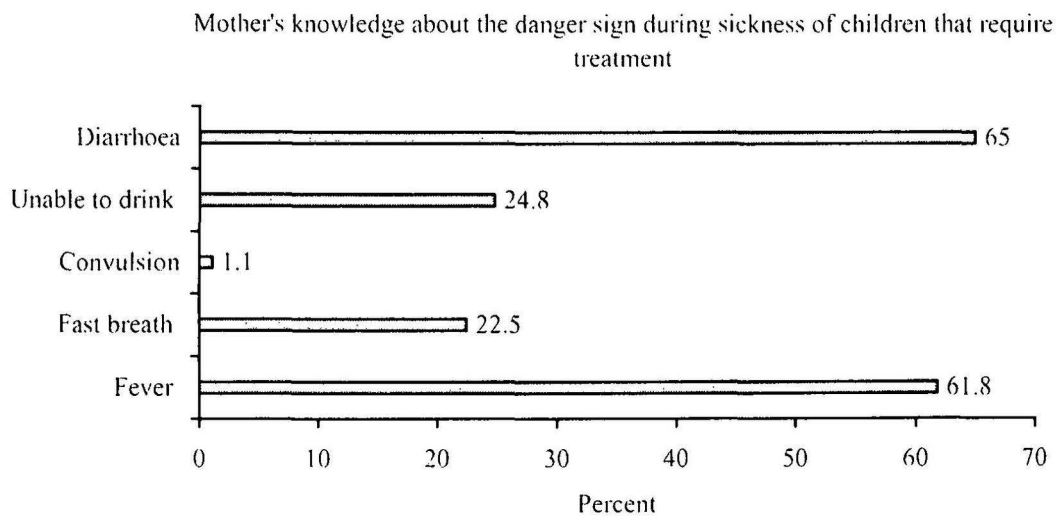
Cough, fever or ARI for last 15 days	Year	
	2003 (MICS)*	2007
% Had cough or fever	6.3	59.1
Boy	7.6	59.4
Girl	5.1	58.8
% Had fast breathing or ARI or breathing difficulties	41.4	74.8
Boy	40.5	76.8
Girl	42.2	72.6

* MICS-2003 Multiple indicators Cluster Survey conducted by UNICEF

Maternal knowledge of the danger signs

The knowledge of mothers about the danger signs during sicknesses of their children was shown in Figure 5. As expected, the presence of diarrhoea (65.0%) was most commonly identified by the mothers followed by fever (61.8%). Among others, fast breathing (22.5%) and difficulties to drink (18.5%) were also known to many. Convulsion (1.1%) as a danger sign was least known to the mothers in 2007.

Figure 5. Mother knowledge on sign of sick children



Sources of advice or service

It appears that the mothers of sick children received advice or service from a number of sources (Table 14). The proportion receiving services from the health centres increased from 15.1% in 2003 to 38.0% in 2007. The role of hospital to provide services also increased from 12.2% to 22.8%. As a result, the role of other providers such as traditional healers, dispensaries, community health workers, and relatives declined during the period. The traditional healers lost their share from 25.3% to 13.3%. Most importantly, the proportion of children not treated during the illness also increased from 12.2 % to 19.8%.

Table 14. Sources of advice or treatment during illnesses among children by year (%)

Source	Year	
	2003*	2007
Hospital	12.2	22.8
Health centre/clinic	15.1	38.0
Dispensary	17.1	1.1
Community health worker (CHW)	11.8	1.5
Traditional healer	25.3	13.3
Relative/other	55.9	4.2
Not treated/Don't know	12.2	19.8

* MICS-2003 Multiple indicators Cluster Survey conducted by UNICEF

DISCUSSION

Since the fall of the Taliban, considerable efforts have gone into the development of a national health policy and rehabilitation of health facilities. Most recently, with support from the World Bank, the MoPH has signed Performance-based Partnership Agreement (PPA) with a variety of local and international NGOs to provide health services. BRAC has been playing a significant role in promoting health programme (Basic Package of Health Services) in Badghis province since 2004. Thus, the study covered a wide range of issues to evaluate the impact of programme. The issue include water and sanitation, antenatal and postnatal care services, delivery practices, contraception, breast-feeding, child immunization, vitamin A, diseases among children, knowledge of the danger signs, and sources of services in 2003 and 2007. The study found that there is progress on some health indicators. Attention needs to be given in areas like ANC, PNC, management of diarrhoea and other childhood illnesses. While the findings are broadly representative of neighbouring districts in western Afghanistan, the result should not be extrapolated to other parts of the country.

Water and sanitation

Use of safe drinking water has increased in the last four years in Badghis province (MICS 2003, Ahmed *et al.* 2004) but accessibility to safe drinking water was not as much as Bangladesh (BDHS 2004). The scarcity of drinking water has still remained a major threat to health in the province. The use to safe sanitary practices has remained poor and the worst compare to many African countries like Gambia, Zambia, Malawi, Swazilan but has the similarity with sanitary practice in rural India and Nepal (WHO and UNICEF 2008, WSP 2005). A marked increased has been recorded in hygienic practices after defaecation. The importance of sanitation and protected water sources also is a major priority. Sanitation should receive more emphasis among the components of the current package. An incentive scheme should be attempted to promote the use of sanitation further.

ANTENATAL, DELIVERY AND POSTNATAL CARE

Among the maternal deaths that occur every year, a quarter to a third of all such deaths was the result of complications of pregnancy (World Bank 2005). Antenatal care (ANC) includes awareness of the danger signs of pregnancy and delivery, provisions of immunization against tetanus and antenatal checkup during pregnancy. Practices related to antenatal care during the pregnancy was much lower compared to Balkh province (Hadi *et al.* 2007) though BRAC started BPHS in the same period, but it is consistent with the findings in Bangladesh (Nasreen *et al.* 2006).

The objective of providing safe delivery services is to protect the life and health of the mother and her child by ensuring safe delivery. The practice of safe delivery and institutional delivery was poor in Badghis province (1%) which indicates negative attitude towards modern healthcare services. But institutional delivery was higher in other parts of Afghanistan (NRVA 2007, Kaartinen and Diwan 2002). Delivery practice at home remained unchanged during 2003 to 2007 which has similarity to that in Herat province (Ahmed *et al.* 2004). Involvement of TBAs during the delivery was higher and findings are consistent with the Heart study (Ahmed *et al.* 2004). TBAs are even popular in rural Nigeria and Bangladesh (Okafor and Rizzuto 1994, Nasreen *et al.* 2006). Proper medical care and hygienic condition during delivery can reduce the risk of complications and infections that may cause death or serious illness of the mother, the newborns, or both. The use of postnatal care (PNC) has remained poor in Badghis

province than Africa (Uyirwoth *et al.* 1996). This indicates that mothers were not adequately convinced about the importance of postnatal care.

FAMILY PLANNING KNOWLEDGE AND PRACTICES

The knowledge and practice of family planning increased in the last four years but prevalence of knowledge and practice was still lower than Bangladesh (BDHS 2004, Nasreen *et al.* 2006). While oral pill has remained the most popular method, the use of injections has also increased. But use of condoms by men was poor and finding indicates the necessity of involving men to promote family planning programme in Afghanistan.

BREAST-FEEDING PRACTICE

Every mother fed her breast milk to their newborn children in Badghis province and it indicates that mothers generally had a positive attitude towards breast-feeding. Almost the same practice among the mothers was observed in 2003 (MICS 2003). Most of the mothers began feeding their newborn within six hours after birth and the same trend was observed in Bangladesh, China, Thailand (Nasreen *et al.* 2006, Duong *et al.* 2004, Tontisirin *et al.* 1983) except among the women in Turkey (Ergenekon-Ozelci 2001). Breast-feeding campaign would be actively promoted to sustain the prevalence.

CHILD IMMUNIZATION

There has been significant improvement in BCG coverage among the under-five and the rate of coverage has similarity with Bangladesh, Japan, India (BDHS 2004, Yahata 2007, Bhatia *et al.* 2004). The improvement of DPT3+ coverage was inspiring but still lower than Bangladesh and Etiopia (BDHS 2004, Kidane and Tekie 2003). The coverage of polio 3+ was quite impressive but coverage of measles was not inspiring and lower than neighbouring countries such as India, Bangladesh (Deshpande *et al.* 2001, BDHS 2004). National measles campaigns carried out in Afghanistan seemed to have less impact in Badghis province. However, vitamin A coverage was not impressive and the coverage was lower than most developing countries.

ILLNESS OF CHILDREN

Diarrhoea is a major cause of mortality among children in Afghanistan (MICS 2003). The prevalence of diarrhoea was widespread (Ahmed *et al.* 2004 and Hadi *et al.* 2007) and it was quite higher compared to Bangladesh, India (BDHS 2004, Bhatia *et al.* 1999). The practice of using Oral Rehydration Solution (ORS) during diarrhoeal diseases was better than Bangladesh (BDHS 2004). Better practice may decrease the mortality rate due to diarrhea. The prevalence of cough or fever among the under-five children was quite higher in Badghis than neighbouring province Herat (Ahmed *et al.* 2004). The causes of such increase were not known. May be mother were much concerned about these diseases and reported accordingly. The knowledge of mothers about the danger signs during sicknesses of their children was quite high. It was also found the use of institutional services for children has increased.

BRAC played a significant role in promoting basic package of health services in Badghis province. It is expected that the findings presented in this report would help understand the prospect and constraints in achieving the project goals. In general, the health was poor in the rural communities in Afghanistan. It should be recognized that the basic health status of the population cannot be improved further without fundamental changes in education, income and the quality of life. If the targets, as shown in the country report of the Millennium Development Goals (MDG), are to be achieved by 2020, health policies in Afghanistan need to be considered within the broader perspectives of social development programme (UNDP 2005).

RECOMMENDATIONS

1. Sanitation should receive more emphasis among the components of the current package. An incentive scheme should be attempted to promote the use of sanitation further.
2. Improvement of health services is a continuous process and there is room for BRAC to continue this effort and improve it further on the basis social science research to prevent pregnancy related complications and is a crucial component of safe motherhood.
3. The programme should focus more on PNC to understand and reduce the neonatal morbidity and mortality. Emphasis, therefore, should be given to promote the needs of visiting health providers after birth even the newborns and mothers are safe.
4. Appropriate messages concerning child spacing and the adverse affects of frequent pregnancies on the health of mother should be included in health education initiatives. The necessity of involving men to promote family planning programme in Afghanistan.
5. Breast-feeding campaigns need to be actively promoted to sustain the prevalence.
6. Need intensified efforts on improving the DPT3 and measles. Immunization is a health output with a strong impact on child morbidity, child mortality and permanent disability. Emphasis must be given on immunization coverage.

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