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Original Article

Availability of and Accessibility to Maternal Health Care Services for Poor Women in Rajshahi City, Bangladesh

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ABSTRACT

Bangladesh has made tremendous achievements in different health indicators, including maternal health (MH), over the last few decades. An increase in the availability of and accessibility to maternal health care (MHC) services is one of the prime reasons for the current improvement of MH. The study therefore took an attempt to explore the issue of MHC services, provided by different organizations in Rajshahi city, with the specific objective of finding out how far poor women had the availability of and accessibility to MHC services. The research used both primary and secondary sources of data. A triangulation of method (interviews of service recipients and providers and field observation) was used for collecting primary data. The data was collected during March and April, 2013, from two slum areas in Rajshahi city. Total number of sample is 200. Almost all respondents have the nearest healthcare centres providing good quality MHC services within their reach. The findings of the study suggest that there has been an increase in the availability of and accessibility to MHC services in the study areas which ultimately helps further improvement of MH.

Keywords: Maternal health care, Poor women, Rajshahi.

Introduction

Bangladesh has made tremendous improvements in the health sector over the last few decades (Ahmed & Khan, 2011; Anderson, 2012). The population growth rate has come down from 3 in 1975 to 1.58 percent at present, the fertility rate has declined from 6 to 2.55, the contraceptive prevalence rate rose to 56 from 7.7 percent in 1975, the infant mortality rate has come down to 48 from more than a 100 per 1,000. There was an increase of six years in the life expectancy between 2007 (64) and 2012 (70) (CIA World Factbook, 2013; Nath, 2008; PDUN, 2007; UNDP, 2003). Maternal mortality rate (MMR) has come down from 3.18 in 2000 (BBS, 2007) to 2.4 per 1000 (CIA World Factbook, 2013)—this positive improvement in maternal health (MH) can be attributed to the increasing use of MH-related facilities. The percentage of mothers receiving ante-natal care—ANC—

(59.3 to 67.7), delivering babies by Caesarean-section—CS—(5.5 to 17.1), at the facility centres (9.3 to 28.8) with the assistance from medically trained health personnel (13.4 to 317) increased between 2004 and up to date (NIPORT *et al*. 2005; 2012). All these MH-related figures suggest that there has of course been an increase in the availability of and accessibility to maternal health care (MHC) services. Finding out whether this availability and accessibility varies across regions and social classes was the main target of this current initiative. This research therefore intends to deal with the issue of the MHC services, provided by different organizations in Rajshahi City. How the government or NGOs or private sector ensures the coverage of the poor and good quality of services are important issues which need to be investigated. How do the urban poor women experience this service? Do they have access to the services and affordability to pay the service charges and receive good quality of service? These questions demand investigation.

Objectives of the study

Broadly speaking, the main aim of the study was to examine the availability of and accessibility to MHC services for poor women in Rajshahi City areas. Specifically, the aims of the study were:

1.To explore and understand the nature and pattern of MHC services.

2.To ascertain whether the urban poor women were receiving due services from different healthcare centers operating in their localities.

The rest of the paper is organized in the following manner. The next part discusses research techniques. Results of the study are described in the third part. The penultimate part highlights main findings of the study while conclusion is made in the final part.

Methodology

Mixed methods were used for collecting primary data. They include interviews of service recipients through interview schedule and service providers through checklist and field observation. The main reasons for choosing mixed method were to understand and interpret the problems, to explore the barriers to health care, and to watch the conditions of the poor women from their situations as well as to mitigate problems of validity and bias (Marshall and McKeon 1996: 151; Germov 2002: 12). A plethora of studies (Blum *et al* 2006; Cham *et al* 2009; D'Ambruoso *et al* 2005; Fotso *et al* 2009; Hulton *et al* 2007; Khan, 2005; Killingsworth *et al* 1999; Wagle et al 2004) used in-depth interviews (semi-structured or structured or both) on healthcare service users and providers, focus group discussion and observations methods for assessing the acceptability and utilization of healthcare services in many developing countries, including Bangladesh. It is essential to mention here that most studies followed more than one method.

The study was conducted by using multi-stage sampling technique which included purposive for site selection, systematic random sampling for household selection and finally snowball sampling for respondent selection.

Area Selection

The main focus of the study was to highlight access barriers of poor women to MHC services. In this regard, out of seven divisional regions in Bangladesh, Rajshahi region was selected due to its worst condition. The following figures suggest that Rajshahi situation is not better compared to other regions in Bangladesh.

Rajshahi (2.9) and Bogra (3.0) regions within Rajshahi division have not been able to reduce MMR as much as other

regions like Barisal (2.6), Pabna (2.6), Tangail (2.6), Dinajpur (2.8) (BIDS, 2003).
The proportion of delivery done by qualified doctors in Rajshahi is 22.1 percent which is lowest compared with other divisions (NIPORT *et al*. 2012).
The percentage of delivery held in a facility centre in Rajshahi is 13.2 whereas that in Khulna and Dhaka is 22.4 and 16.9 respectively (NIPORT *et al*. 2009).
The percentage of mothers with at least one ANC visit in Rajshahi is 71.3 while it is in Khulana (77) and Rangpur (77.1) (NIPORT *et al*. 2012).
Around 60 percent of mothers in Rajshahi division had no access to ANC provided by medical personnel whereas only half of the mothers in Khulna division had no access (NIPORT, 2001).

Site selection

The Rajshahi City, one of the largest cities in the northern region, was targeted to study. The area was then chosen by using the 'multistage sampling' method. Reproductive aged women, living in remotest areas and disadvantaged position, were the main sources of information relating to access barriers. *Zia nagar* and *Baze Kazla* are two remotest areas in Rajshahi city where poor people live in. The main target of the research was to interview slum dwellers. One hundred respondents from each area were targeted to be interviewed.

The study sites

Zia nagar

Bulanpur is in the 4th Ward of Rajshahi City Coprporation. This ward consists of five areas (Nowabgong, keshabpur, Ghoshpara, Haragram and Zianagar). The selected area (Zianagar) is 1.5 kilo meter on the east-west and 1 kilo meter on the north-south. Many NGOs, particularly ASA, BRAC, Grameen Bank, CSS and Tilottoma, are operating their activities in this area. Most of the people here have been involved in micro-credit programs, do not have agricultural lands and are day labourers. As it is a border area, a few numbers of people are involved in smuggling businesses. Most of the people do not have access to safe drinking water—they are fully reliant on supply water which is fully electricity based. Total number of households is 820 as per ward counsellor's office information.

Baze Kazla

Baze kazla belongs to Ward no 24 in Rajshahi City Corporation. This place is near by Padma River which is now turned into a char land area. It is one of the densely populated areas in Rajshahi city. Sanitation facility is not adequate. So they live in a dirty and filthy environment which is a threat to their health. They do not have any nearby medical service delivery centre. They have to travel more for getting a healthcare service delivery centre for starting treatment. There are 390 households in this area (24 no. Ward counsellor office).

Development of research instruments

Initially a draft interview schedule was developed on issues, such as socio-economic background of the respondents, gender empowerment, availability of and accessibility to primary, particularly maternal, healthcare services, access barriers and different ways of overcoming these barriers. Several discussions were held among the researchers who found certain anomalies regarding ordering the questions and then felt the necessity of adding few more questions with changes and adjustments in the interview schedule. With some addition and correction, a semi-structured interview schedule (including

both open and close ended questions) was finalized for pre-testing.

The pre-test was conducted among ten respondents in two areas for testing the effectiveness of suitability of the research instrument and discovering possible weaknesses, inadequacies, ambiguities and problems so that they could be corrected before actual data collection took place. It was also done in order to test the need of adding new questions so that clear information on certain issues could be addressed in the interview schedule. Getting feedbacks from the pre-testing, necessary correction and modifications were made in the interview schedule. It was then ready for conducting interviews among the recipients of MHC services. Field investigation began in early March and ended in early April 2013. The first woman was selected by using systematic random sampling. Based on her knowledge regarding the availability of nearby mothers/women with pregnancies/babies, the consecutive respondents were selected using snowball sampling technique. It should be mentioned here that mothers from different clusters were interviewed and the next door neighbour of the interviewee was purposively avoided. The basic principle for following this rule is to collect information from heterogeneous respondents, albeit they are homogenous in basic socio-economic parameters. By doing this, we maintained quality of the study. One hundred females from each area were interviewed. On an average, the time required for interviewing females is 45 minutes. The total number of respondent is 200. Once the interviews of females were over, we checked where the respondents invariably went for MHC services. Heads of these healthcare centres were targeted to interview. The total number of interviews conducted is nine. Out of nine, only three are organizational heads. As most of the respondents mentioned that they went to local doctors for initial treatment of illness, their propensity stimulated us for interviewing them.

After completing the field investigation, all the interview schedules were edited and some errors were detected and corrected accordingly. All data was coded and analyzed through the Statistical Package for Social Sciences (SPSS) program. Then it was presented in a tabular form.

RESULTS

Socio-demographic profile of the respondents

The respondents' health seeking behaviour is associated with several characteristics. Information about socio-economic and demographic profile of the service recipients in different areas of Rajshahi City Corporation is needed for understanding the social background of the respondents. Information about socio-economic profile of the recipients is also needed in order to investigate the relationship between social classes and inequity in access to MHC services. Personal socio-economic profile of the respondents will allow us to get a detailed idea about their sex, age, marital status, education, incomes and dwelling conditions. It is also important to know the educational, occupational as will as income distribution of household heads, particularly husbands, of the respondents. By describing the socio-economic profile of the respondents and their life partner, it is easy to make a correlation between the background of the respondents and type of service recipients. In other words, we can easily understand who comes to the centre in order to receive treatment and what his or her family background is. Table A (in appendix) shows that more than half of the respondents were below 25 years old and almost all of them were married. Forty-six percent respondents have secondary level of education which is followed by respondents

with primary level of education (31.5) and respondents without formal education (13.5). Six in ten respondents had families with four to six members whereas three in ten had three-member-based families. Slightly over half of the respondents had sanitary latrines and the rest had kutchcha type of latrine. That means, they are not fully covered by sanitary facilities. Six in ten respondents had access to safe drinking water (tube well or pump) which is really good for keeping health free from water-borne disease. As illustrated in Table B (in appendix) that most of the respondents (85%) were unemployed. That means, they are not economically empowered and fully dependent on incomes of their family male members, particularly husbands. A half of the respondents had monthly income from 5000 to 10000 Taka which is followed by the respondents with monthly income below 5000 (31%) and the respondents having monthly income over 10,000 (11%). Seventy-seven percent respondents had their own houses. However, slightly over half of the respondents lived in a single room. That indicates that they live in a congested environment which does not ensure their privacy and is prone to spread diseases. Almost all of the respondents lived in a house with tin roof. Forty percent respondents had walls with brick/cement or hemp/hay/bamboo each. Nearly half of the respondents had electricity, fan, clock and television. Almost all respondents (nine in ten) had mobile and khat.

If we take US$ 2 as a measure of income poverty, around 31 percent respondents were below the poverty line. If poverty is multi-dimensionally measured, around 40 percent respondents were deprived of a descent living standard. According to Alkire and Santos (2010), one household can be rated as deprived if no household members have finished five years of schooling; households have no access to electricity; it has dirt, sand or dung floor; and it does not own more than one consumer goods. Based on the criteria set by them, a half of the respondents belong to the multi-dimensionally determined poverty line.

Availability of and accessibility to maternal healthcare services

Almost all respondents heard of the availability of nearest healthcare centres. As stated in Table 1, more than seven in ten mothers went to satellite clinic, maternity care centres and UPHCP centres separately. Nearly one quarter and over a quarter respondents reported that they went to NGO centres and local doctors respectively for MHC services. Only 13.5 percent respondents went to Rajshahi medical hospital for comprehensive MHC services. This indicates that a few faced complications or they were not interested to go to higher medical centres for the treatment of complications for various reasons. Bad behavior of doctors, unavailability of financial and other resources, as observed, always discourage them from going there for treatment.

Table 1. Types of healthcare centres visited by respondents for treatment*

Types of centres	Frequency	Percent
Satellite clinic	153	76.5
maternity care centre	144	72.0
UPHCP centre	152	76.0
NGO centre	48	24.0
RMCH	27	13.5
Local doctor chamber	59	29.5
Other	3	1.5

Source: Field survey, 2013 *= Multiple responses

Most of the centres respondents made visits basically provided very elementary level of services. As said in Table 2, more than eight in ten received child health treatment and safe delivery facilities. Slightly less or over three quarters received ante-natal care, family planning and expansion of program for inoculation (EPI) and different tests which is followed by post natal care (66.5%) and general health (64.5%). More than half of the respondents received control disease of diarrhea (CDD) treatment and less than half took tetanus toxoid (TT).

Similarly, the same information we received from the interviews of service providers. Table 3 shows that most of the centres (six or seven in nine) delivered ANC, PNC, FP, BEmOC, LCC and TT services. Only two out of nine had facilities for treatment of complications. That means, poor mothers did not have easy access to CEmOC which might push their lives in dangers. All of the service delivery centres are located in a visible place and have electricity supply (Table 4). Two thirds had facilities for private consultations and spaces cleaned and well-maintained. Only one third centres had private rooms for physical examination and ambulatory services. That suggests that patients' privacy is minimally maintained and transferring patients with complications from basic to tertiary centres is difficult. All the centres run by different orginastions have good supply of drugs and equipment in comparison to private local doctors' chambers (Table 5). Very specifically, laboratory facilities are mostly not available in local doctors' chambers although most of respondents reported that they firstly paid visits to local doctors as they are well-known to them and their service costs are low, and in some cases, only medicine prices are charged. That indicates, their treatment starts without diagnosing properly. Once the locally doctors' provided treatment is not effective and it takes longer for getting rid of diseases, they go to good doctors.

Table 2. Types of services received

Types of services	Frequency	Percent
Ante-natal care	146	73.0
Post-natal care	133	66.5
Family planning	159	79.5
child health	168	84.0
general health	129	64.5
Expansion program for inoculation	147	73.5
Safe delivery	162	82.0
vitamin A	1	.5
Tetanus toxoid	88	44.0
Control diarrhea disease	108	54.0
ARI	14	7.0
RTI/STI	17	8.5
tests	139	69.5
CD	10	5.0

Source: Field survey, 2013

Table 3. Availability of different healthcare services

Types of services	Name of the centres UPHCP (K)	TD (K)	CH (K)	MSD(K)	SS (B)	ZD (B)	KD (B)	TD (B)	NNP (B)
ANC	√		√	√	√	√	√		
PNC	√		√	√	√	√	√		
FP	√	√	√	√	√	√	√		√
ECP		√	√		√	√	√		
Immunization	√		√		√	√			
Safe delivery	√		√						
BEmOC	√	√	√			√	√		
CEmOC	√		√						
TT	√		√	√	√	√	√		√
RTI/STI	√			√	√	√	√		
LCC	√	√	√	√	√	√		√	√
MR	√								

Source: Field survey, 2013

Note: ANC=Ante-natal care, PNC= post-natal care, FP=family planning, ECP=Emergency contraceptive pill, BEmOC=Basic Emergency Obstetric Care, CEmOC=Comprehensive Emergency Obstetric Care, TT=Tetanus Toxoid, RTI/STI=Reproductive Tract Infection/sexually transmitted infection, LCC=limited curative care, MR=menstrual regulation

UPHCP=Urban primary health care project, TD=Tuhin doctor, CH=City hospital, MSD=Muhammad Sulayman doctor, SS=Sun Smiling, ZD=Zafar doctor, KD=Kazem doctor, TD=Tuhin doctor, NNP=Nirmol Niyani pharmacist, K=Kazla, B=Bulanpur.

√ means availability

Table 4. Availability of infrastructural facilities

Types of infrastructures	Name of the centres UPHCP (K)	TD (K)	CH (K)	MSD(K)	SS (B)	ZD (B)	KD (B)	TD (B)	NNP (B)
1. Easy to locate for service recipients	√	√	√		√	√	√	√	√
2. Roadside where car/ambulance parking available	√		√		√				
1. Visible signboard in front of facility			√		√	√		√	√
2. Site complies with minimum standards for space									
a. Private space for counseling	√		√		√	√	√	√	
b. Private space for physical exam	√		√		√				
c. Separate waiting space for customer	√		√	√	√				
d. Clean toilet facility	√		√		√				
e. Provision of Clean water supply	√		√		√		√		
f. Provision of electric supply	√	√	√	√	√	√	√	√	√
3. All spaces are clean and well maintained	√	√	√		√	√	√		

Source: Field survey, 2013, √ means availability

Table 5. Availability of drugs and other supplies

Types of facilities	Name of the centres								
	UPHCP (K)	**TD (K)**	**CH (K)**	**MSD(K)**	**SS (B)**	**ZD (B)**	**KD (B)**	**TD (B)**	**NNP (B)**
Supply of essential drugs	Ad (R)	Had (R)	Had (R)	Ad (IR)	Ad (R)	Ad (R)	Ad (R)	Ad (R)	Ad (IR)
Supply of vaccine	Ad (R)	Hiad (IR)	Had (R)	Lad (IR)	Ad (R)	Ad (R)	Hiad (IR)		Iad
Supply of contraceptive	Ad (R)	Lad (R)	Had (R)	Ad (R)	Ad (R)	Ad (R)	Ad (R)		Ad (R)
Supply of job aids	Had	Hiad	Had	Lad	Ad	Hiad	Hiad		Iad
Supply of relevant equipment	Ad	Ad	Had	Lad	Iad	Ad	Ad		
Blood grouping and cross matching	√		√		√				
Blood collection bags									
Storage facility	√	√	√			√	√		
Microscope	√		√		√				
Refrigerator	√		√		√	√			
On call lab technician			√		√	√	√		
Voluntary donor list	√								

Source: Field survey, 2013
Note: Ad=adequate, Had=highly adequate, Hiad=Highly inadequate, Lad=less adequate, Iad=inadequate, R=regular and IR=irregular, √=Availability

All these information suggest that mothers' access to maternal healthcare services is increasing. As a lot of organizations (Govt, NGOs and others) are providing services at competitive basis, they are trying to provide better quality of care for attracting service recipients. The same pattern we found from the interviews of service receivers.

Table 6. Opinions of respondents about service satisfaction

Different fields	Level of satisfaction					
	Very poor	Poor	Neither good nor poor	Good	Very good	No response
Behaviour of service providers	3 (1.5)	10 (5)	17 (8.5)	137 (63.5)	31 (15.5)	2 (1)
Behaviour of other staff	3 (1.5)	26 (13)	34 (17)	104 (52)	29 (14.5)	4 (2)
Attention to patents	1 (0.5)	18 (9)	59 (29.5)	113 (56.5)	7 (3.5)	2 (1)
Quality of treatment	0 (0)	12 (6)	59 (29.5)	119 (59.5)	9 (4.5)	1 (0.5)
Efficiency of service providers	0 (0)	8 (4)	56 (28)	127 (63.5)	8 (4)	1 (0.5)
Availability of drugs	6 (3)	93 (46.5)	58 (29)	39 (19.5)	2 (1)	2 (1)
Availability of instrument	0 (0)	15 (7.5)	62 (31)	115 (57.5)	6 (3)	2 (1)
Availability of service providers	2 (1)	11 (5.5)	72 (36)	107 (53.5)	7 (3.5)	1 (0.5)
Cleanliness of provides	2 (1)	8 (4)	39 (19.5)	136 (68)	14 (7)	1 (0.5)
Confidentiality	0 (0)	24 (12)	26 (13)	133 (66.5)	14 (7)	3 (1.5)
Waiting time	25 (12.5)	53 (26.5)	66 (33)	52 (26)	3 (1.5)	1 (0.5)

Source: Field survey, 2013

Table 6 shows that more than half of the respondents rated behavior of doctors and other staff, paying attention to patients, treatment quality, efficiency of service providers, availability of service providers and drugs, cleanliness of service centres, and patients, confidentialities good each. Nearly half of the respondents reported less availability of drugs. It suggests that mothers usually do not receive drugs as their demands. The percentage of patients with satisfaction of waiting time for starting treatment is 27.5. That means, still patients need to wait longer period for getting started of treatment.

Key findings

Availability of different types of maternal healthcare services

There are many organizations (Govt, NGOs and private) which provide primary, particularly maternal, healthcare services in the competitive basis which ensures better quality of services. As a result, people generally get services from their doorsteps. Almost all of the respondents went to healthcare centres at some points of their pregnancies. They all received some sort of ANC, safe delivery and PNC services. More than 70 percent women went to healthcare centres during their pregnancies. More than 80 percent respondents received safe-delivery-related services. Over 75 percent received ANC and FP services. Moreover, 75 percent centres we made visits had facilities for basic and comprehensive obstetric care services. More than nine in ten respondents reported that they had healthcare centres within their reach.

Among them, 75 percent travelled not more than two kilo meters for reaching their nearest healthcare centres. The findings of the study do not corroborate the national data. It has been found that 83.1 percent urban women paid visit to ANC service centre at least once while 53.7 and 64 percent urban women received safe-delivery-related and family planning services respectively (NIPORT *et al*.2012). However, still people prefer local doctors to highly educated doctors (here MBBS) for initial treatment. Once their prescribed drugs seem to be ineffective, they move from there to MBBS doctors or organizational set up where highly qualified medical personnel are available.

Adequate and good quality services received by the urban poor women

Most of the organizational centres are well-equipped with huge supplies of drugs, equipment and men-power. All centres are located in visible places and have electricity connections. Six in nine centres', environments are neat and clean. Most of the respondents reported that they were used to paying visit to local doctors firstly for any physical problems because of well-behaviour of them and low costs relating to treatment and drugs although laboratory facilities are not available there. As most of the organizational centres have all types of test facilities, the poor women are likely to receive good treatment with proper diagnoses. More than three-fifth respondents rated behavior, efficiency and cleanliness of service providers and maintaining confidentiality of the patients good each. More than half of the respondents were satisfied with behavior of other staff, giving attention to the patients, quality of treatment and availability of instrument and service providers. This indicates that the poor women are likely to receive adequate and good quality of MHC services.

Conclusion

There has been an increase in the availability of and accessibility to MHC services in the study area. The ANC, safe delivery and PNC services are readily available. The supply of drugs and quality of these services are also up to the satisfactory level of the respondents. Most of the poor women in the study areas are therefore more likely to receive adequate quantity and good quality of MHC services.

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Appendices

Table A. Demographic and other profiles of the respondents

Different categories	Frequency	Percent
Age		
14-19	49	24.5
20-25	86	43.0
26-31	50	25.0
32-37	12	6.0
38-43	3	1.5
Total	200	100.0
Marital status		
Married	198	99.0
Divorcee	2	1.0
Total	200	100.0
Educational qualification		
No education	27	13.5
Primary	63	31.5
Secondary	92	46.0
Higher secondary	4	2.0
Can write & read	13	6.5
No response	1	.5
Total	200	100.0
Number of family members		
1-3	56	28.0
4-6	119	59.5
7-9	21	10.5
10-12	3	1.5
13-15	1	.5
Total	200	100.0
Types of latrine		
Sanitary/water sealed/pit	104	52.0
Kutchcha	93	46.5
Bush	1	.5
Open space	1	.5
Other	1	.5
Total	200	100.0

Sources of drinking water*		
Tap	96	48.0
Tube well/pump	120	60.0

Source: Field work, 2013 *=Multiple responses

Table B: Socio-economic characteristics of the respondents

Different characteristics	Frequency	Percent
Occupation		
Service	2	1.0
Business	2	1.0
Non-agricultural labourer	4	2.0
Household worker	6	3.0
Self-employed	11	5.5
Student	2	1.0
Unemployed	170	85.0
Others	3	1.5
Total	200	100.0
Income level (family and monthly)		
1-5000	62	31.0
5001-10000	105	52.5
10001-15000	22	11.0
15001-	11	5.5
Total	200	100.0
Ownership of the house		
Yes	154	77.0
No	46	23.0
Total	200	100.0
Number of living rooms		
1	107	54.3
2	55	27.9
3	28	14.2
4	5	2.5
5	2	1.0
Total	197	100.0
No response	3	
Types of roof		
Cement	5	2.5
Tin/wood	190	95.5
Tile/wood	2	1.0
Other	2	1.0
Total	199	100.0
No response	1	
Types of wall		
Brick/cement	80	40.0
CI sheet/wood	2	1.0
Mud brick	11	5.5
Hemp/hay/bamboo	83	41.5
Other	24	12.0
Total	200	100.0
Types of consumer goods		
Electricity	98	49.0
Mobile	175	87.5
Refrigerator	7	3.5
Fan	93	46.5
Clock	99	49.5
Television	88	44.0
Almira	38	19.0
Khat	178	89.0

Source: Field survey, 2013