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Determinants of Choices of Delivery Care in Some Urban Slums of Dhaka City

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Abstract: Appropriate delivery care is important for both maternal and newborn health. It is true that most women do not experience major problems during childbirth; complications that arise are sudden and unpredictable and require immediate attention. If such complications occur in a facility well equipped to handle such emergencies or in the presence of a trained medical attendant then maternal and prenatal outcomes can greatly improve. This paper is deliberated to identify the factors that influence the choice of delivery care of slum women in Dhaka city. Identification and analysis of determinants of choices of delivery care is quite important for a resource starved country like Bangladesh. Because analysis of the determinants will help the policy makers to design some new policy measures that overcome the shortcomings in the existing delivery system so that current utilization rate of modern delivery facilities by urban slum women is increased.

Key words: Delivery care, Urban slums, Dhaka city

Introduction

Historically women are in a unique position for having reproductive capability. Reproductive health care is a highly focused issue in the development of a country. It is not simply a matter of preventing diseases, because a women's ability to bear children is linked to the continuity of families, clans and social groups, the control of property, the relationship between man and woman and their expression of sexuality. Delivery service to the pregnant women is the most important component of reproductive health care. Safety of mother and children, even after the pregnancy period, depends highly on delivery care during pregnancy. Insufficient maternal care during pregnancy and delivery is largely responsible for the 515,000 annual total maternal deaths and the estimated 8 million infant deaths that occur either just before or during delivery or in the first week of life. During the pregnancy, regular contact with a doctor, nurse or midwife allows health personnel to manage the pregnancy; immunize the mother-to-be against tetanus to protect her and her infant; promote good nutrition, hygiene and rest; and detect potential complications making it advisable to give birth in a health facility equipped to handle high-risk deliveries and aftercare.

Delivery care can be taken at home with traditional methods or at modern health care facilities. Home delivery care is often performed in unhygienic condition in the absence of trained birth attendants (TBA) or midwives. As a result, the risk of having reproductive tract infections (RTI) is higher for them. In fact, women are most in need of skilled care during delivery and the immediate postpartum period, when roughly seventy five percent of all maternal deaths occur. Traditional birth attendants, whether trained or untrained, can neither predict nor cope with serious complications. Modern delivery care is given by private and public Hospitals and maternity. In some developing countries it is also offered by the NGO clinics. Its cost is higher than the traditional one. But it can ensure safe birth; reduce the risk of maternal mortality, infant mortality, under-5 mortality and other serious types of complicacy during and after pregnancy. Modern delivery care also draws special attention because of its higher net benefit than stated. Safe motherhood, by providing hospital delivery care to the poor quintile and the slum women, will generate secondary health benefit for children, other family members, neighbors and the future generation. Thus it can ensure a good reproductive health care and a good health status of mother and children, which is very important for the development of a country.

Different factors like income of household, education, cost and quality of care in hospital, family size, knowledge about modern facility, social taboo and traditional belief, access in media and family planning program etc play important role in choosing modern delivery care system. Poor people, if to choose modern delivery care, mostly go to public hospitals or maternity. Public hospitals and maternity provide delivery care for women under government control at a cheaper rate compared to private hospitals. But due to bad governance, administrative defaults and lack of responsiveness inside the public hospitals and maternity, quality of delivery care is very poor which is considered to be a major reason for women's not choosing modern delivery care.

Bangladesh is a developing country bravely fighting poverty, illiteracy and other accompanying ailments of a young third world country. Although Bangladesh achieves some remarkable success by declining infant mortality rate (IMR) from 153 in 1975 to 62 in 2000; reducing maternal mortality rate (MMR) from 7 per 1000 live births in 1980 to 3.2 per 1000 live births in 2000 and 53% contraceptive prevalence rate during 2000-2001 ,the reproductive care utilization is not satisfactory. The maternal and perinatal mortality rates of Bangladesh are still amongst the highest in the world. Recent studies have revealed very high mortality ratio and morbidity among the pregnant mothers in the country. The

total number of maternal deaths in 1995 for the world was estimated at 515,000. Of these deaths, nearly half (252,000) occurred in Sub-Saharan Africa, 30% (155,000) occurred in South Asia, about 10% in East Asia and the Pacific, 6% in the Middle East and North Africa, and about 4% in Latin America and the Caribbean. Less than 1% (1,200) occurred in the industrialized countries of the world. About 4% (20000) of this death occurred in Bangladesh, which is the third largest with respect to number of maternal death. According to WHO/UNICEF/UNFPA estimates, the country with the highest estimated number of maternal deaths is India (110,000), followed by Ethiopia (46,000), Nigeria (45,000), Indonesia (22,000), Bangladesh (20,000), Democratic Republic of Congo (20,000), China (13,000), Kenya (13,000), the Sudan (13,000), Tanzania (13,000), Pakistan (10,000) and Uganda (10,000). These twelve countries account for 65% of all maternal death. The factors that cause maternal morbidity and death also affect the survival chances of the foetus and newborn, leading to an estimated 8 million infant deaths a year occurring just before or during delivery or in the first week of life. Perinatal death (stillbirths and death in the first two weeks of life) per thousand live births is also very high in Bangladesh (85) compared to neighboring Sri Lanka (25), India (65), Pakistan (70), Nepal(75), Maldives(45) and many other developing countries like China(45), Burundi(60), Sudan(55), Myanmar(55). This very high ratio of maternal death and perinatal death may be due to traditional home birth practice which is not only unhygienic but also life threatening in case of emergency.

The GOB is entirely committed to ICPD, Nairobi and other such declarations. But in spite of the creation of excellent health infrastructure at the community level and a definite number of successes in family planning services, immunization and certain other fields, there has been very little improvement in the maternal and child health situation in the country. Recent studies by national organization revealed that the utilization of the existing infrastructure of the community level by the pregnant women is extremely poor. Utilization of well-equipped infrastructure designed specially for delivery care purposes of pregnant women is one of the lowest in the world. Only 23% pregnant women take antenatal care, 5% of women give child-birth at health facilities, during only 12% delivery cases skilled delivery attendant remain present which are surely very low in the world context (RHR, WHO-2003). This statistics strengthen the hypothesis that under-utilization of modern health facilities are key factor of high maternal mortality rate and low birth-weight babies. Delivery under trained birth attendant (TBA) is only 13% which is extremely low compared to India (35%), Sri Lanka (94%), Maldives (90%), Pakistan (18%), Kenya (45%) and slightly higher than Nepal (8%) and Somalia (2%) and Ethiopia (8%) and Afghanistan (8%). The data simply reveals that modern facility utilization for delivery in Bangladesh is one of the lowest in the world even in comparison to least developed countries. Table1 shows the status of Bangladesh in terms of maternal mortality ratio and modern facility utilization compared to other regions and world level aggregates.

To improve the maternal and neo-natal health and to increase modern facility utilization for delivery purposes GOB has taken some initiatives. For example, Skilled Birth Attendant (SBA) Training Programme in Bangladesh is launched which aims to provide skilled attendants at birth in rural Bangladesh. Starting mid 2003, the Government of Bangladesh implemented piloting of the SBA training program supported by WHO and UNFPA in six districts with the technical assistance from OGSB. WHO assisted in designing the competency based training for basic health workers (Family Welfare Assistants and Female Health Assistants) to conduct essential pregnancy care, childbirth, postnatal and neonatal services. It includes the certification and registration of those who completed the training successfully as SBAs by the Bangladesh Nursing Council. At present Bangladesh spent a total of tk54,700 million on health equivalent to 3.8% of GDP and US$ 14 per capita. But in order to satisfy millennium development goals (MDG), per capita health expenditure should be $35 (Report of the commission of macroeconomics and health, 2002). For countries like Bangladesh, an amount of $12 is needed for a package of public health, family planning and other curative services. But at present, Bangladesh has about $5 per capita available for all its population and health services (WHO-2000). It was therefore, decided to further prioritize a package according to need and capability of the country. Using interventions identified by World Development Report (WDR) 1993. Government introduced the concept of essential service package (ESP) and grouped it into following five areas: Behavior change communication, reproductive health care, child health care communicative disease control, simple curative cares. The most important approach of ESP is to produce one stop service facility for the reproductive health care. Government is trying to ensure these by creating excellent health infrastructure in all the levels. But utilization of these facilities is very low and especially it is in case of delivery care. Except for the family planning activities, overall reproductive health situation in Bangladesh is very poor .The situation is realized and government has initiated a dynamic program to improve the situation for the first time in Bangladesh. HAPP-S has incorporated the issues in a very well meaning structured program in its HPSP and ESP. But the task of improving the reproductive health situation in Bangladesh is an enormous one and there are many hidden obstacles. It is our task now to unearth these hidden obstacles and address them in a positive way to achieve a successful outcome. Specific objectives of this study are: to compare the choice of urban slum women between home and traditional delivery care, to identify the factors those determine the choice of delivery care, to compare the average cost of delivery care at home and hospital, to examine the information

of slum women about availability of modern delivery facilities, to identify the areas of hospital management that needs immediate attention and on going monitoring by higher authorities.

Materials and Methods

Primary data is collected through field survey in three slums of Dhaka city with structured questionnaire. 78 women who give childbirth within one year of the survey date are interviewed for the study. Slums are chosen in such a way that within three kilometer of the selected slums there exist a government maternity or hospital. 25 women are randomly selected from each slum of Babupura, Nilkhet and Koshaipara, Farmgate and 29 are selected from Shahidnagar, Beribadh. As a means of processing, classifying and presenting of data different statistical tools and concepts are used. The processed data is presented in tabular form to compare the relative impacts of different factors on the utilization of modern delivery care facilities and to identify the key factors that would explain the women's behavior for choosing home delivery care. In order to identify the determinants of choices of reproductive healthcare, all economic, social and behavioral factors have been included in the framework of analysis. Therefore, all these factors that affect the choice of delivery care are denoted as explanatory variable.

Findings of the Study: The findings are related to economic and socio cultural characteristics of household taking traditional and modern delivery care and to quality of care in modern facilities. Major areas of finding included (a) income of household, (b) education, (c) cost, (d) quality of care in hospital, (e) family size, (f) knowledge about modern facility, (g) social taboo and traditional belief, (h) access in media and family planning program, (i) receiving antenatal care.

Household Income: Income data shows that more than 70% of the sample population is very poor who have such a low income, which is not even enough to maintain their family. Thus they always face trouble to allocate little money income for different necessities of daily life. Therefore, the slum dwellers cannot give enough attention to their health care need due to monetary problems. They do not want to go to hospital unless they need it deadly. Moreover, women's health is secondary issue and ignored by their household head. Therefore, women do not get opportunity to use modern facilities for child delivery. In table 2, it is seen that 11.5% sample women give child delivery at modern facilities and 88.5% by traditional system - home delivery. The study depicts that lower income group (below 2500 taka per month) women choose hospital delivery at a smaller extent compare to high-income group women (income in range of 2500-4000 taka and above 4000). Despite the fact of little difference in household mean income of hospital delivery care recipient and home delivery care recipient (table2), income should be identified as crucial factor because modern facility recipient has higher mean income compared to that of home-delivery recipient. The argument behind this is that marginal value of income is significantly high to slum- dwellers as their income is too little.

Cost of Delivery Care: Cost of delivery care is another important factor affecting women's choice of delivery care between modern and traditional system. From table3, it is seen that in the home-delivery system, the delivery is done by family members (33.33%), midwives (58%) and trained birth attendant i.e.TBAs (8.7%) who charge very small amount for their services. Home delivery is dangerous in case of sudden and unpredictable complication because the probability of maternal and prenatal death greatly increased then .In this situation the only to improve the maternal and prenatal outcome is to take help from well-equipped facilities designed to handle such emergencies. However, the obstacle for the poor slum women is the cost of care. Table2 shows that average cost of home delivery is only 350.43TK whereas it is 3755.55TK for hospital delivery services. However, govt. hospitals offer free services but unofficial fees are very high there. From table-4 it is observed that 26.4%of sample population consider high expenditure in modern facilities is the prime factor behind their not utilizing these facilities .On the other hand, cost of delivery care by midwife or family members at home is simply gift and some daily necessities like soap, hair-oil, sari etc. Thus, high unofficial fees at the free cost hospital make it unaffordable for the urban slum women.

Antenatal Care Utilization: Antenatal care utilization is strongly associated with delivery care. The chance of hospital delivery was about 4% higher for those who have taken antenatal care compared to those who do not take any antenatal care. It is estimated that of the nine women who took hospital delivery care had also taken antenatal care. But among the twenty-four sample women, who didn't receive any antenatal care, only one gave birth of child at hospital. The reason behind this strong association is that during the antenatal consultation, women get concerned and get to know about the necessity of hospital delivery. From the data analysis, it is seen that almost 70% of pregnant slum women took antenatal care and around 40% of them receive antenatal care only in the form vaccination, which indicates the possibility of women not consulting with the trained specialist during pregnancy. About 30% of sample, women went for non-vaccine consultation. More then 72.6% of the women who took antenatal care relied on govt.

hospital or maternities, whereas NGO is the second largest source of reliance (21%). But it is true that still 30% slum women do not take any form of antenatal care. From the analysis, antenatal care can be reasoned as a strong factor for inducing women to take hospital delivery care and reducing maternal mortality and morbidity simultaneously.

Perceived Quality of Care: In order to enhance women's utilization of modern facilities the issue that comes first is that if the quality of health care is not satisfactory then utilization of facilities cannot be boosted up. Nevertheless, the underlying fact along with the quality is that the term "quality" is not quite clear to the urban slum women .In this study 55.5% of women who gave childbirth at hospital was satisfied with the quality of care received. The statistics is contradictory because almost all of these satisfied women had a lot of complains against hospitals and maternities. The most frequent complain is against service provider's negligence towards the patient (40%). Unavailability of medicine is another complains by 20% of the hospital delivery care recipient, which also explains the reason of high cost care in a free cost system. About 40% of the hospital delivery care recipient faced problem in the hospital by mismanagement and unfriendly environment inside the hospital. Actually, the responsiveness in the hospital is very low which seems to be a prime factor for women not choosing modern delivery care.

Education: Education is an important determinant in deciding delivery care alternatives. It is believed that educated people can perceive their health and health related problem better than illiterate people. In many cases, illiterate people remain out of access to the health care despite of having well-off economic standing and good social conditions and due to illiteracy they suffer from various misconceptions and chose the traditional home delivery system driven by superstitious and traditional beliefs and other social taboo. From the study it is clear that increasing maternal education status is closely associated with a significant decrease in the chance of home delivery. Women who have at least primary education have higher incidence of hospital delivery compared to those women with no education. It is seen that some education (primary education) has greater impact on urban slum women in choosing hospital delivery care. With no education, only 6% women in the slum utilize hospital delivery system and with primary education, the facilities are utilized by 21.7% slum women. But higher level of education doesn't imply greater impact here, as only 16.7% women choose hospital system with a high school education. Therefore the hypothesis of increasing modern delivery care utilization by consistently increasing education level is not supported by data set though it is true that some level of education (life oriented education)) can play a great role to increase the modern facilities utilization for child delivery.

Family Size: Family size has a great impact on the allocation of household income in the various income necessities, especially for the poor slum or rural women. The slum women with very large family size have little opportunity to take delivery care at hospital or other modern facilities. Because the latter child are unwanted or due to unconsciousness about family planning or may be accidental. So, household head may not be willing to spend for this unwanted new comer by letting the mother to take hospital delivery system. Even in the complicated case, it is found that the household head with large family size don't let the women to take hospital delivery care. The study reveals that for women with a family size less than 5, the hospital utilization rate for delivery purposes is 14%. Moreover, as the family size increases, the home delivery incidences increase. So, family size is surely identified as another prime factor.

Information and Choice of Delivery: Information is another prime factor that influences choices. From the economic theory, it is found that whenever there is information problem in terms of uncertainty or asymmetry, choices are affected. In the case delivery care, if slum women have information gap about modern delivery facilities then it should be a serious matter of concern. The study shows that around 96% of the sample women have some form of information about modern delivery care facilities in govt. hospitals, NGO's and private clinic. Table-4 depicts that only 4% told about lack of information. In spite of this indication of no information problem, only 11.5% took delivery care at hospital. Thus information is not a serious constraint for choosing modern delivery care by urban slum women.

Reliance on Traditional System: Most women do not experience major problems in childbirth and complications that do arise are sudden and unpredictable. So women and also their household head do not want to take the child delivery at hospital unless the complications are serious and out of control. This behavior is major cause of under-utilization of modern health care facilities. In addition to this, there is some inherited belief and tradition. Most of the women in the slum of Dhaka city expressed at the time of survey that they feel it safe and secured to give childbirth in the presence of their family members at home. Table-4 indicates that 15.5% of the sample women showed their reliance on traditional system. One of the reasons behind this finding is that hospitals give little privacy in treatment,

almost no dignity to patient and little opportunity to meet relatives.

Social Taboo and Religious Belief: Different social taboos and wrong explanations of religious believe impede slum women's access to delivery care facilities. As the slum women are mostly illiterate, they are affected by these social taboos highly. From table-4, it is seen that 14% of slum women identified different social taboos as key constraint to their access to modern delivery system.

Access to Family Planning Program in TV / Radio: Consciousness can be increased and information gap can be removed by social-support program in the mass media like TV/ Radio. Of the total sample women about 47.8% have TV/Radio at home and most amazing finding is that around 62.8% slum women have access to Family Planning program transmitted in TV/Radio. This high percentage implies that households who do not have TV/Radio may have access to the program transmitted from neighbors' TV/Radio. As the slum dwelling places are small, transmission is automatic. It is observed that 18.36% of the slum women who have access to family planning program have chosen hospital delivery care. And none of the women chooses hospital delivery from the group who do not have any form of access to family planning program in TV/ Radio (27.2%). This emphasizes the impact of family planning program and TV/Radio on choices of delivery care.

Summary and Policy Suggestions: In the survey, it is found that most of the slum women in Dhaka city still rely on traditional home delivery system (89.5%). Only 11.5% of the women get childbirth in the hospitals after being faced by serious complication. Only one fifth of the child delivery was in the presence of the trained birth attendant (19.23%). Midwife and family member are the provider of delivery care for most of the slum women (79.74%).

Average cost of delivery in hospital is around 11 times higher than that of home delivery. This is due to unofficial fees at the govt. hospital, though theses services are to be provided at a lower cost or at free of cost High cost in hospital delivery care (26.4%) and traditional belief (15.5%) are the key factors that determines women choices of delivery place. Actually, unaffordable cost at govt. hospital reinforces women's' reliance on traditional delivery at home by unskilled attendant.

Income is considered to have a significant impact on choice of delivery care. Higher income group among the slum women tend to utilize modern facilities more compared to lower income group. Family size and education levels are other two factors having considerable effect on women choices. Women with at least primary education and small family size have much higher rate to seek hospital delivery care than women with no education and large family size. High frequency of antenatal care utilization has strong association with choosing modern delivery care. Women who receive antenatal care more than three times (29.48%) tend to have higher utilization of modern delivery. Major proportions of slum women still do not take any antenatal care (30.76%) and naturally, their frequency of utilization of modern facilities is very low. Half of the slum women who are hospital delivery care recipient are satisfied (55.5%) about the quality of care in spite of having no idea about quality of care. But the entire hospital delivery care recipient had complaint against providers' negligence (40%), mismanagement and unfriendly environment (40%). Antenatal care recipient also recommended the service satisfactory with complains against providers, which seems to be confusing.

Public medical hospitals (which are specially) designed for maternity services could not provide medicine to the delivery care recipient. Most of the women responded unavailability of medicine in govt. hospital as a deterrent factor for choosing hospital services. Family planning program and possession of TV/radio are associated with choices of delivery place. Around 63% women had responded positive to the above criteria and showed relatively high tendency of seeking hospital care compared to those with no TV/Radio access. As choices for modern delivery care(by slum women) is low which is reflected from the survey result suggest for some policy suggestions that can lead slum women to choose modern delivery systems and thus greater utilization of modern delivery care services. The policy suggestions are mostly study oriented though some are generalized.

Legislation should be enacted to make at least five years education compulsory for women slum women that may be conducted by NGO's (Satellite school model of BRAC can be followed) and the education must consists of reproductive health issue for the women.

Slum dwellers both men and women should be concerned about the necessity of safe-motherhood and they must be informed about existing healthcare facilities at modern public as well as private facilities.

The political leaders and religious persons (such as Imam) have greater influences on slum dwellers. So, they can be trained to induce slum dwellers to go for higher utilization of modern facilities. Appropriate family planning program (covering reproductive health care) should be designed that can influence slum women to seek modern delivery care.

Most of the slum women have access to Radio/TV programs, so media can play a great role here.
Cost of care is too high in public hospitals due to unofficial fees which lead women to take home delivery care. So, govt. should strictly control the mismanagement of public hospitals.
Attitude towards the slum women is humiliating in public hospitals. This draws special attention of health authority of govt. to have a modification of existing hospital environment.
Slum midwives should be appropriately trained under govt. supervision and government can appoints these midwives in the slum area to provide slum women with better modern delivery services and for referral in case of emergency.

Conclusions

The overall delivery-care seeking behaviors of urban slum women are far beyond satisfactory level. It is established that underutilization of modern health facilities is due to interaction between socio-economic cultural and behavioral factors. Amongst these, major factors which have adverse impact on women choices of delivery care place are poverty, powerlessness, low social status, malnutrition, high fertility, lack of access to health care due to high cost and poor quality of health care in govt. hospitals. The future challenges in developing effective urban health program lies in understanding self-reliance among communities specially the poorer sections of slums, developing simplistic and multicultural interventions and improving greater accessibility to better quality health services. Thus, there is a continuing need to strengthen the health infrastructure with utilization and application of comprehensive delivery care services package. It is also necessary to concurrently assess the feasibility and effectiveness of the various health interventions in the service package in order to document lessons learnt for planning new program. The study has some limitations in the sense that the sample size is small covering only some selected slum women of Dhaka city. This small sample study gives us an idea about the current situation only but not a generalized picture.

Annex

Table1: Estimates of maternal mortality ratio, number of maternal death and delivery attended by skilled birth attendant in different regions of the world and comparison with Bangladesh

Regions	Maternal mortality ratio	Number of maternal deaths	Birth under skilled birth attendant
Bangladesh	300	20000	13
Sub-Saharan Africa	1,100	252,000	39
Middle East/North Africa	360	33,000	67
South Asia	430	155,000	35
East Asia/Pacific	140	49,000	66
Latin America/Caribbean	190	22,000	84
CEE/CIS and Baltic States	55	3,500	92
Developing countries	440	511,000	53
Least developed countries	1,000	230,000	27
Industrialized countries	12	1,200	98
World	400	515,000	57

source: maternal mortality in 1995: estimates developed by who, unicef and unfpa, Geneva 2001

Table 2: Percentage distribution of slum women by delivery place, antenatal care utilization and average income and average cost of home and hospital delivery care recipient

Delivery place	percentage of sample women (no)	Antenatal care utilization	Mean income (taka)	Average cost of delivery (taka)
Home delivery	88.5%(69)	65.21%(45)	3250	3755.55
Hospital delivery	11.5%(9)	88.88%(8)	3800	330.43

Table 3: Percentage distribution of home-delivery care recipient by the provider of home delivery care

Provider	Services taken by the patient in percentage
Trained birth worker	8.7(6)
Midwife	58.0(40)
Family member	33.3(23)

Table 4: Percentage distribution of home-delivery care recipient by the reason of not choosing modern facility

Reason	Percentage as per respondents
High expenditure	26.4
Unconsciousness	15.5
Reliance on tradition system	15.5
Social taboo	14
Distance	6.2
Religious barrier	4.7
Unavailability of modern system	5.2
Family heads objection	4.7
lack of information	4.1

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