

SYSTEMATIC REVIEW

EXPERIENCE OF VOUCHERS FOR REPRODUCTIVE HEALTH SERVICES IN DEVELOPING COUNTRIES: MAKING A CASE FOR PAKISTAN THROUGH A SYSTEMATIC REVIEW

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Among the healthcare financing techniques that exist, output-based financing or vouchers is a strategy that is growing in popularity. There is a need of an in-depth analysis of the impacts of vouchers on health indicators, particularly for Pakistan. Assessment of the existing evidence on how much the vouchers impact on health and healthcare utilization can be of greater value to the policy makers for informed decision making. This systematic review included 16 cross-sectional and quasi-experimental design studies. Service utilization, knowledge, service quality, cost-effectiveness of the programme and outreach of the population served were observed as outcomes. We found positive results in with regard to most of these outcomes. Physical accessibility, social mobility of women, security threats, and sustainability of the project after donor exit appear as serious challenges. Yet, lessons can be drawn for the scaling up of the reproductive health services in the country, through the use of vouchers.

Keywords: Vouchers, Reproductive health, Out-put based aid, Result based financing, Pakistan

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INTRODUCTION

Financing of maternal and child health has been a major concern for the policy makers for many decades; albeit all the efforts of the governments, donors, NGOs, and civil society in order to improve access to reproductive health services.¹ With one of the highest toll of maternal and child mortality in Pakistan, it is essential to provide easy access and better quality reproductive health services to poor women.² Financial barrier is linked directly to limited access and under-utilization of reproductive health (RH) services.³ In spite of community midwives and lady health workers programmes, Pakistan still has to go a long way to achieve respectable health indicators.⁴ The RH services offered are mostly supply-oriented, ignoring factors constraining the demand for, access to, and effective uptake of the same.^{5,6} An emerging high impact strategy is to offer the vouchers, where financial barriers impede the access and utilization of RH services. Vouchers are distributed to an underserved population on subsidized rates or free of cost for the utilization of a certain basket of healthcare goods and services to reduce the burden of out of pocket expenditure.⁷ The World Bank, USAID, Department for International Development (DFID), Department for Foreign Aid, Trade And Development (DFATD) and the German Government have supported the vouchers programmes in Kenya, India, Indonesia, Bangladesh, Uganda, Tanzania and Cambodia.⁸ Literature indicates that voucher programmes for RH can increase utilization of maternity services and have positive impacts on maternal and child health.^{5,9,10}

In Pakistan, few non-governmental organizations have recently introduced vouchers

programmes for the uplift of maternal health on a limited scale. However, there is a need of an in-depth analysis of the impacts of vouchers on health indicators and outcomes. Moreover, the local literature lacks a systematic assessment of its impact on health and healthcare utilization by the low income groups. The objective of this systematic review is therefore to summarize the existing knowledge base from projects implemented and evaluated in Pakistan as well as other developing countries to assess how much this output based financing model, i.e., vouchers have been successful in achieving the desired objectives. This review will be helpful in providing an insight to the policy stakeholders in making informed decisions for scaling up such interventions, particularly in case of Pakistan, for safeguarding the maternal and child health in the country.

MATERIAL AND METHODS

(a) Search Strategy for relevant literature:

The literature was searched using keywords vouchers for health OR “output-based financing” OR “performance based” OR “result based” OR “results based financing”. Other keywords used were “demand-side financing” OR “low income settings” OR “developing countries”. The following protocol was adopted for the study:

1. With the help of the selected keywords and without using any time frame, literature was searched by using bibliographic data bases, i.e., Google scholar, PubMed, BMC and Science Direct. The reference lists of the selected papers were also analysed in order to get more relevant references on Reproductive health (RH) voucher programmes.

2. In the second phase, various development organization websites were accessed in order to gather relevant literature. These included World Bank, USAID, DFID, DFATD and GIZ.

3. For collecting information on voucher programmes by NGOs in Pakistan, Health & Nutrition Development Society (HANDS), Greenstar Social Marketing and Marie Stopes Society (MSS) were contacted to share their respective reports. Information synthesized was eventually included in the systematic review. The plan is shown in figure-1.

(b) Selection criteria for relevant literature:

1. Time frame: Since the first voucher programme was implemented in 1960 in Korea and Taiwan, the cut-off date for this review was taken as studies published from 1960–2012.

2. Type of study: Study designs that contained quantitative evidence such as quasi-experimental designs, time series, and cross-sectional analyses with a comparison group were included. Commentaries, descriptions and opinions on voucher programmes were not considered for analysis. Similarly, systematic reviews and all those published papers that only had description of the project implemented but did not

contain the outcome of the programme were excluded from analysis.

3. Type of voucher programme: Literature available on voucher programmes related to reproductive health or MNCH only was included; especially where a proper mechanism of distribution, provision of health goods/services and reimbursement existed.

4. Region: Studies limited to the low income settings were considered for analysis. The Human Development Index (HDI) was used to determine the development level of the countries and therefore voucher programmes located in a country having a “medium or low human development” were considered.¹¹ The results obtained from the review of these countries was eventually compared with evidence generated from Pakistan.

5. Language: Studies published only in English language are included in the systematic review.

6. Outcome of the intervention: Studies citing some impact of the voucher scheme in the form of a short term or a long term outcome were included. The outcome variables considered for this systematic review were increase in utilization, knowledge regarding need for service utilization, service quality, cost-effectiveness of the programme, and outreach of the targeted population.

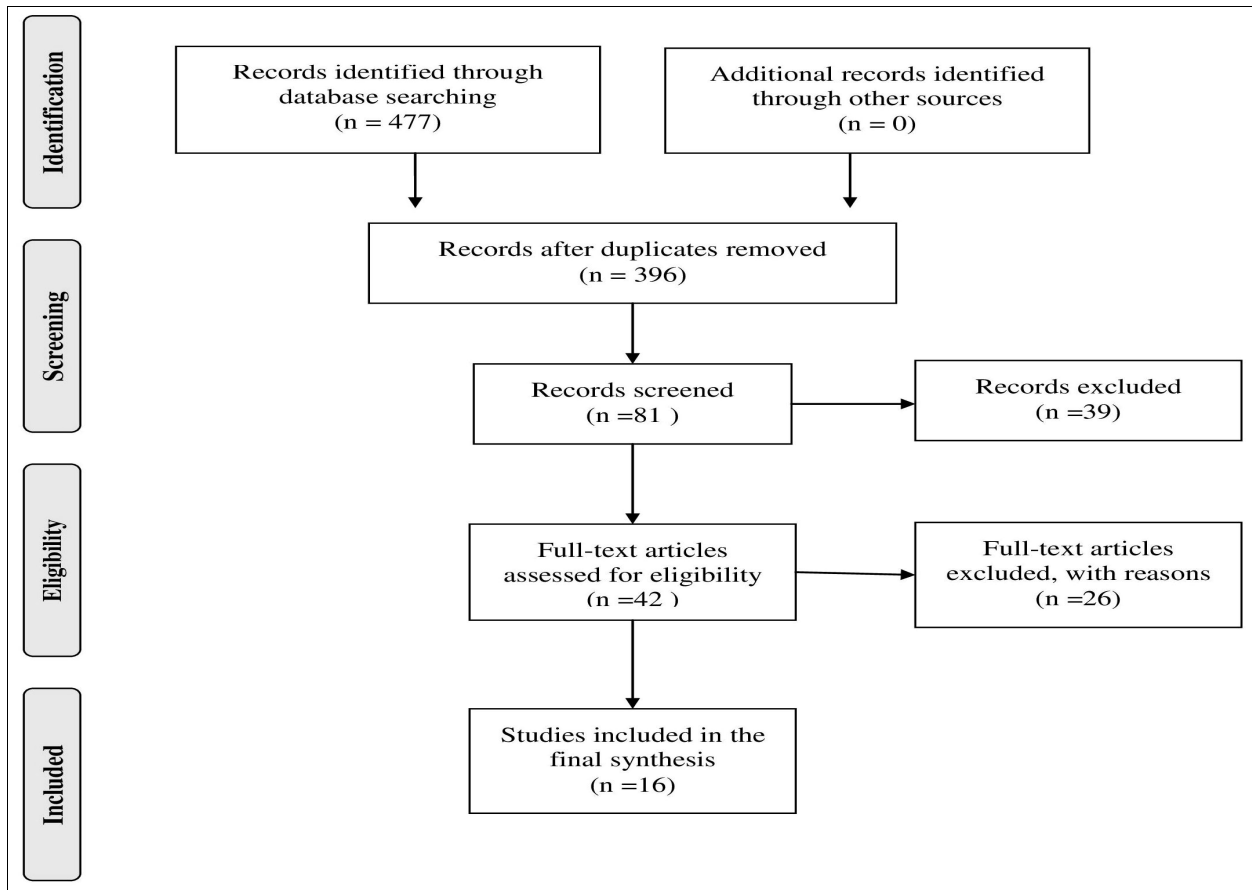


Figure-1: Flow diagram for the selection of relevant literature on RH vouchers programme

RESULTS

All the relevant literature that was found through the search protocol defined earlier was summarized in terms of the type of the programme, region, target population, methodology used and outcome variables. A total of 16 studies were analysed for the review out of which mostly represented Africa, South East Asia and Latin America; and three were from Pakistan. Special emphasis was given to the identification and analysis of the vouchers programme for RH in Pakistan. Table-1 represents the summary of the results. Most of the vouchers programmes were operating on a public private partnership mode with external funding agencies including USAID, German Development Bank and World Health Organization except one programme in Bangladesh which was solely sponsored by the government.

Given the utilization of the RH services in the areas where vouchers were introduced, a significant amount of evidence was found, showing an increase in the use of healthcare services. During the decade of 60s, even a developing country like Taiwan at that time showed significant improvement in the utilization of intrauterine contraceptive device (IUCD) by the women, once they were offered vouchers to avail the services.¹² Lately, in Kenya, Cambodia, Bangladesh, India, Indonesia and Pakistan, the deliveries with skilled birth attendants and utilization of a health facility for delivery raised significantly, however, in Pakistan, the use of family planning services still remains low among the poor women.¹³⁻¹⁸ In Uganda, the programme was very successful in increasing the utilization of treatment and diagnosis of STIs.¹⁹ In two other studies conducted in Kenya and Pakistan, the number of antenatal care (ANC) visits increased.^{20,21} In an intervention introduced in Nairobi, the percentage of women coming for ANC visits was recorded as 95%.¹⁵

Vouchers may address the issues of quality of services provided. In Nicaragua, the user satisfaction among the voucher users was found higher vis-à-vis the quality of care received.²² Similarly, in Bangladesh the facility based deliveries increased with evidence on increase in trust on the quality of care provided.²³ In Indonesia, the trust that the women of the target area developed in midwives assured continued use of their delivery services as well as increase in the use of other services provided by them.¹⁷ In Pakistan (Sindh and Punjab), the provision of quality family planning

services was made available to the poor women of the rural areas through output-based financing.²⁴

Moreover, in Bangladesh, it was found that the out of pocket payments were reduced with regard to seeking the ANC, safe delivery & post delivery services in the intervention areas.¹⁵ Similarly, in Nicaragua, the voucher programme was successful in reducing out of pocket expenditure for services related to sexual & reproductive health.^{25,26} In Indonesia, utilization of maternal health services increased for the fact that women of the target area had easy access to midwives and they did not have to travel to other villages to receive the services.

This significantly reduced the out of pocket expenditure.¹⁷ Pakistani women seeking IUCD services were not only saved from spending the amount on transport fare (IUCD provided free by the government centres), but vouchers also inculcated a behaviour change toward long term contraceptives.²⁴ It would be worthwhile to distribute vouchers through lady health workers or community midwives while they are doing antenatal or postpartum family planning counselling.

Accessibility of quality healthcare services at lower cost, or in some cases even free of cost is one of the prominent features of the demand-side financing which makes it possible to increase the outreach to the population to be served. In three of the studies, it was found that the voucher programme was successful in targeting the marginalized population. For example, in Taiwan, the family planning programme was successful in outreaching the population having high fertility rates.

The percentage of couples wanting no more children significantly increased after the introduction of the programme.¹² Similarly, in Nicaragua, 94% of women over 25 years of age and 100% under 25 years, received diagnostic services and treatment for cervical cancer.²⁶ In Pakistan (Sindh & Punjab), poor married women of reproductive age in need of family planning services were reached and provided with the required health services.²⁴

In Nicaragua, knowledge regarding modern contraceptives increased significantly among the female adolescents from low-income groups.²² In Uganda, there was 18% increase in the knowledge regarding STI among the poor women which ultimately resulted in significant reduction in the prevalence of Syphilis in the intervention area.¹⁹ Similarly, in Pakistan (Dadu), knowledge regarding the danger signs of pregnancy, during delivery & post-natal period increased significantly.²¹

Table 1: A comprehensive comparative review of the studies included in the systematic review

Country/Region	Target group/selection criteria	Commodity/Type of service provided	Source of Funding & providers (Public or Private)	Study Design	Outcome Variables	Main Findings	Reference
Kenya (2006-present)	Women of Reproductive Age (Poverty grading tool)	Reproductive healthcare services	German Development Bank	Quasi-experimental design	Utilization of ANC, PNC, Family planning services and facility based deliveries	Skilled birth attendance and delivery at a health facility was significantly higher in intervention area (odds ratio 2.1).	Obare <i>et al.</i> (2012)
Cambodia (2005-08)	Expecting mothers (pre-defined eligibility criteria)	ANC, Safe delivery & Post delivery services	Public Private partnership	Mixed methodology	Utilization of maternal healthcare services	Increase in facility based delivery from 16.3% to 44.9%. Beneficiaries accounted for 40.6% of the expected number of births among the poor.	Ir <i>et al.</i> (2010)
Bangladesh (2007-09)	women experiencing their first and second births or using any family planning services in between.	ANC, Safe delivery & Post delivery services	Public Private partnership	Before & after multistage sampling design with multi-variate & DID regression models	Service utilization & Reduction in cost	46.4 % higher probability of using a qualified provider, 13.6% higher probability of institutional delivery by women & 34% lower OOP payment in intervention areas.	Nguyen <i>et. al</i> (2012)
Bangladesh (2007-present)	Women who have delivered within the year preceding the survey	ANC, Safe delivery & Post delivery services	Funded by Government of Bangladesh	Cross sectional study design	Service utilization	Skilled birth attendance increased by 3.6 times, with a 2.5 times increase in delivering at a health facility. ANC, PNC visits & treatment for obstetric complications increased by 2%, 2.8% & 1.5% respectively. For Poor voucher recipients, skilled birth attendance increased by 4.3 times, with a 2% increase in delivering at a health facility.	Ahmed & Khan (2011)
Nicaragua (2000-2002)	female adolescents from low-income groups	Sexual and reproductive health	Public private partnership	community-based quasi-experimental design	Quality of services, user satisfaction & improvement in knowledge	User satisfaction was significantly higher in voucher users compared with non users [Adjusted odds-ratio (AOR) = 2.2; 95% Knowledge regarding modern contraceptives increased.	Meuwissen <i>et al.</i> (2006)
Kenya (2004-08)	Expecting women from low income groups (poverty grading tool)	Reproductive healthcare services	German development bank in partnership with government	Multivariate analysis	Service utilization	Higher odds ratio for facility based delivery, ANC visit remained above 95% of all reported pregnancies. Women with higher parity had lower odds of using a voucher.	Bellows <i>et al</i> 2012
Nicaragua (1995-1999)	High risk group	Sexual health	Public-private partnership	Cost analysis	Reduction in costs	Voucher programme was successful in reducing out of pocket expenditure from \$200 to \$118.	Borghi <i>et al</i> (2005)
Bangladesh (2007-	Poor women (poverty assessment through land holding & family income)	ANC, Safe delivery, Post delivery services & financial assistance for travel costs	World Health Organization	Mixed methodology	Service utilization & Quality of care	Increase in facility based delivery by 4% in DSF areas. No over emphasis was found on surgical delivery due to the financial incentives to providers.	Schmidt <i>et. al</i> (2010)
Taiwan (1964-1967)	Poor women of child bearing age	Family Planning services	USAID	Cross-sectional study	Outreach of the target population/service utilization	Voucher users had higher utilization of IUCD (no. of acceptors rose by 7%) and the percentage of beneficiaries who wanted no more children as compared to non-users, rose by 9% in first ten months.	Cernada & Chow (1969)

Country/Region	Target group/selection criteria	Commodity/Type of service provided	Source of Funding & providers (Public or Private)	Study Design	Outcome Variables	Main Findings	Reference
Nicaragua (2003-2005)	High risk women with age group of over and under 25	Cervical cancer prevention	Public-private partnership	Time series analysis based on secondary data	Out-reach of the target population	94% for women over 25 yrs and 100% for women under 25 yrs with abnormal results received diagnostic work-up and treatment with ratio of 1.9 to pre-invasive disease to invasive disease.	Howe <i>et al.</i> (2005)
Uganda (2008-2012)	Poor pregnant women identified through poverty grading tool	STI diagnosis/treatment and safe motherhood services	German Financial Cooperation	Quasi-experimental study	Increase in utilization, knowledge, health impacts	200% rise in STI clients, 18% increase in knowledge regarding STI, significant reduction in the prevalence of Syphilis in intervention area.	Bellows <i>et al.</i> (2009)
India (2007-2009)	Marginalized women	Maternal health & family planning services	USAID	Cross sectional study design	Increase in service utilization.	22% increase in ANC visits & utilization of diagnostic tests. Half of the targeted women receive delivery & PNC services.	Donaldson <i>et al.</i> (2008)
Indonesia (1998-2004)	Low income expecting women	Maternal health services	World bank	Cross sectional mixed methodology	Increase in access to high quality maternal healthcare services	Coverage of target group was 95%, where 40% of deliveries were assisted. Equity of access to midwives increased overall.	Tan <i>et al.</i> (2005)
Pakistan (2010)	Low income expecting mothers (Poverty score card)	Maternal health services	Public-private partnership (Greenstar Social Marketing)	quasi-experimental design	Service utilization	ANC visits increased by 15% in fifth and by 18% in fourth wealth quintiles. Institutional deliveries rose by 16% & 21% and PNC use rose by 6% and 13% respectively in both quintiles.	Agha (2011)
Pakistan (2008-2009)	Marginalized women with complicated pregnancies	Emergency Obstetric and Neonatal Care Services (EMoNC).	USAID-HANDS foundation	Household survey with cluster sampling	Change in Knowledge of clientele, referrals & Health Impacts	The improvement in knowledge regarding danger signs of pregnancy increased.	HANDS (2010)
Pakistan (2008-2012)	Poor married women reproductive age	Voucher scheme for IUCD (family planning services)	Marie Stopes Society	Mix method pre and post-test study design	Increased knowledge, outreach and quality of services	Awareness regarding modern contraceptives rose by 7%, whereas use of modern contraceptives increased by 22%. Provision of easy access to quality FP services to women living in underserved rural areas was also made possible.	Azmat <i>et al.</i> (2011)

As Pakistan faces many obstacles in the provision of healthcare coverage to its people, more than 73% of the population has to pay out of pocket to finance its health expenditures.^{27,28} There are examples where a small proportion of people are receiving healthcare coverage which includes armed forces personnel and their dependents, industrial/commercial establishments through a vertically-integrated health insurance system of Employees Social Security Institution or other forms of public and private insurance.²⁹ The situation seems worse when one talks about the status of reproductive health in Pakistan particularly for the poor segment of the society. Talking specifically in terms of gender, Self-rated health which is a robust predictor of perceived health status shows that in Pakistan over 7 in 10 women (77.2%) rated their health as poor/fair. Some well-known reasons are complications during pregnancy & child birth, postnatal depression and delayed treatment.³⁰

There are many factors behind underutilization of reproductive healthcare by women in Pakistan. To name a few, geographic accessibility, availability of quality healthcare, affordability and women's autonomy in decision making are major obstacles to consider.³¹ However, there is need to have a greater focus on affordability as statistics reveals it to be the most common cause of underutilization of healthcare.²⁸ This limited capacity to pay results in "catastrophic expenditure" which for many women if borne puts burden on male members of the family, who are the main wage earners. Low quality of the services and medicines at government facilities are some of the contributing factors for lower utilization rates. At least two thirds of Pakistani women have a clear preference of delivering at an expensive private facility which is perceived as of better quality.³²

Since for majority, easy access to health facilities and affordability are the most important factors

that determines the utilization pattern of healthcare, exploration of alternate forms of financing is essential. Consequently, the money reimbursed to providers against the patients' vouchers can be used to improve the quality of their services at the facility. Evidence suggests that with up-scaling strategies such as vouchers focusing on women's reproductive health, the morbidity could be reduced by as much as 57%.³³

The present review has also summarized three extensive studies based on output based financing projects conducted in Pakistan. These projects were implemented in different regions of the country to target marginalized women mostly of rural areas by HANDS foundation in Dadu & Johi (Sindh), Population Service International in Jhang (Punjab) and by Marie Stopes Society in four districts of Punjab and Sindh.^{13,21,24}

For increasing utilization of reproductive healthcare services, women's formal education or at least knowledge regarding pregnancy, child birth, postnatal health as well as child spacing techniques is very critical.^{21,34} Given transport and money as major constraints for accessing healthcare services outside the village, HANDS voucher scheme increased the clientele at public sector facilities, of which 80% of the population was classified as ultra-poor.²¹

Another project aimed at providing maternity and family planning services to 4,000 women in the two poorest quintiles of a district in Punjab. The package included three ANC visits, a normal delivery visit, a referral in case of a caesarean section and a PNC check-up along with family planning services. The initiative resulted in significant increases in the institutional delivery and PNC utilization among poor women. It is noted that the vouchers are not only successful in increasing the institutional delivery rates, but is also a good tool to considerably bring down the out of pocket expense associated with such treatments.¹³

Population growth rate of 1.9% per annum in Pakistan is much higher as compared to other South Asian countries. There is a 25% unmet need for modern contraceptive among married women of rural areas.³⁰ Social franchising and vouchers have shown to increase the use of contraceptives and long term birth spacing by the underserved women of rural area of Sindh and Punjab. One such initiative was successful in creating awareness regarding the significance and use of family planning techniques.

Highest change was recorded in the use of modern contraceptive methods, i.e., IUCD. This project therefore not only increased demand for contraceptive use, but also addressed the supply gap by making the services available through social franchising.²⁴ Needless to say that voucher is just a vehicle, and therefore other pre-requisites still have to be fulfilled to make a positive impact in the family planning programme *per se*.

DISCUSSION

The popularity of the vouchers programmes has generated considerable interest among the donors and philanthropic institutes in sponsoring, promoting and up scaling such strategies.⁶ Since many of the developing countries including Pakistan have now tested vouchers, the results show that the same could be scaled up further for promoting reproductive health. Studies from Pakistan showed a significant improvement in the utilization of RH services, particularly facility based deliveries, albeit restrained social mobility of women and difficult physical accessibility.^{13,20} Simultaneously, user satisfaction and improved quality of RH services could lead to the popularity of the vouchers programme.²²⁻²⁵ Voucher programmes seem to be more effective in reaching out poorest of the poor indicating the dismal need.⁹ Similarly, women experiencing their first pregnancy prefer to go for the facility based delivery, where quality of services provided and the attitude of the care provider is par excellence.²⁰ Evaluation of vouchers programmes confirm that the behaviours of the population served can possibly be modified, once their financial constraints are addressed.^{35,36} Moreover, raising awareness among the community gatekeepers should be considered too en route. On the other hand, the service providers should be trained to provide counselling on family planning. Sustainability of the vouchers project funded by donors can be challenging, once they exit.^{7,12,20} Hence, government must consider introducing vouchers for reproductive health as one of the safety nets for the poor.³⁷ Private and corporate sector can play a vital role in the implementation and functioning of this innovative yet effective mode of financial safety net to improve reproductive health access, utilization and coverage in Pakistan.

CONCLUSION

Since poor segments of population are more likely to struggle in terms of accessing RH services, vouchers sounds to be an effective tool in bridging the gap between the demand and supply of RH services, for improving the maternal and child health in Pakistan. Vouchers can actually help in changing the health care seeking behaviours and utilization of RH and MNCH services. Nevertheless, a sound and dedicated management system ought to be in place to operate the vouchers programme.

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