Effect of Social Marketing Campaign on Maternal Health Care Utilization (An Interventional Study in Rural Sector in Sharkia Governorate)

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Abstract

Background Family health care (FHC) facilities are widely distributed throughout Egypt but they often seem to operate at suboptimal level. Therefore this study was carried out in a trial to increase the rate of utilization of FHC in rural sector of Sharkia Governorate using a social marketing campaign.

Objectives of study: To assess the rate of utilization of maternal services in FHC units in rural sector of Sharkia Governorate andto assessss the effect of social marketing campaign on utilization of health services.

Method:Design: Pre- Post interventional study. **Setting:**El-Sharkia Governorate, Hehya district, El-Shabraween village. **Procedure:**The study evaluated the utilization of maternalhealth care services in El-Shabraween unit before and after a social marketing campaign using personal interviews of 205 households and the unit records.

Results: The household results showed that: the outpatient utilization rate of the FHC unit increased by 18.5%. While records results showed a 0.5% increase in outpatient utilization.The average number of ANC visits per registered mothersincreased from 2.7 before the campaign to 3.5 during the campaign andthe percent proportion of new FP clients to total FP clients increased from 8.7% to 11.1% after the campaign.

Conclusion and Recommendation: Social marketing can improve maternal health care utilization in rural sector, so it's recommended to disseminate the marketing materials on a wider scale to attract more customers and improve the primary health care utilization.

Key words: Utilization, Maternal Health Care, Social Marketing.
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Introduction

Family health care utilization is poorly understood in many parts of the developing world due to lack of informed decisions i.e. health service planning and policy decisions are often made without clear understanding of the characteristics of the current utilization. The lack of understanding of the current and past utilization often hinders improving the future family health care delivery in these remote developing world locations [1].

Despite of the Egypt's proposed reform agenda and although family health care facilities are widely distributed throughout Egypt, they often seem to operate at suboptimal

level with low utilization compared to available resources [2].

The health communications field has been rapidly changing over the past two decades. It has evolved from a one-dimensional reliance on public service announcements to a more sophisticated approach which draws from successful techniques used by commercial marketers, termed "social marketing". This technique has been used extensively in international health programs. Growing evidence and experience shows that when social marketing is applied effectively, and in the appropriate context, it can be a powerful tool for achieving tangible and measurable impact on behavior[3].

Aim of work

The aim of this study was to increase the rate of utilization of maternal health care services in rural sector of Sharkia Governorate. Specific objectives are: To assess the rate of utilization of maternal health services in rural sector of Sharkia Governorate and to assess the effect of social marketing campaign on the rate of utilization.

Subjects and Method:

Study design and duration: An interventional study with a Pre- Post testing technique was carried out over eight months starting from March 2012 to October 2012.

Study setting: The study was carried out at El-Shabraween village, Hehya District, El-Sharkia Governorate.

Study participants:

Sample size:

The sample from population was 205 households. It was calculated by using computer software Epi-info version 6. The estimated utilization rate of PHC in Egypt in rural sector as found by another study[4] was 27%. Assuming that the power of the test is 80% at 95% confidence interval and based on the expected improvement in utilization after the marketing campaign from 27% to 36% according to [5], who stated in a meta- analytic review that the average campaigns accounted for about 9% of the variation in their outcomes. So the total subjects were 392 multiplied by 2 to exclude the cluster error the total were 784 subjects ; hypothesized that each family contains 4 members the sample is: 784/4= 196 families. Taking into consideration 10% non-response rate, so the total sample size was 205 households.

Sampling technique:

The sample was chosen through multi-stage random sampling technique as follows:

- The primary sampling stage: El-Sharkia Governorate contains 13 districts one was chosen by simple random sample from all districts and it was Hehya District .

- The secondary sampling stage: In Hehya district there is 14 rural family health care units, El-Shabraween family health unit was chosen by simple random sample to collect the data and perform the campaign in the catchement area of it .

- The randomly selected village was divided by the main central street into two parts on each side of the street. Each side was divided into north and south. Then a central street is choosen to collect the data from the households on each side of the street and the whole house was taken as a cluster.

Inclusion and exclusion criteria:

- *Inclusion criteria:* all females were eligible provided that they are living in El-Shabraween

village since three years or more.

- *Exclusion criteria*: recently moved families to the village (three years or less).

Methods:
Intervention:
The intervention "social marketing campaign" passes through the following three phases:
Phase 1: Situation analysis including:
1. **Records:** Data were collected from the records of the randomly selected family health care unit to calculate the utilization indices.
2. **Household interviews:** Data collection from the households was conducted in El-Shabraween village for about one month, the aim is to find: the different kinds of diseases in the past six months, the places selected to provided different services. Then the same survey was repeated on the same households after six months to evaluate the post campaign phase. The utilization was expressed as (the number of services used per year per 100 or per 1000 persons eligible for the service).
3. **Quality check list:**The percent achievement of quality items in the FHC was evaluated by a quality checklist[6].

Phase 2: Design and implementation of the campaign including:
Using the marketing mix "4 P's of marketing:
Product: PHC services,**Price:** Represents a balance of product benefit and cost to a consumer,**The place**: is El-Shabraween family health unit,**Promotion:** the communication channels included printed materials (booklets, fliers) and one-to-one interview.
Also the additional P's (positioning, publics, partnership, policy and purse

string).

Phase 3: Assessment phase:
By comparing the indices of utilization of the selected FHC unit before and after the social marketing campaigns evaluating the change in utilization from the household interview sheet in the catchment area of the chosen facility.

Tools of the study:
1) Household interview sheet which includes:
- The type of the family and the socio-demographic data. The socio-economic status of families was assessed by modified El- Sherbini classification[7] using education, occupation, income and crowding index.The high socio economic class was >75%, middle was from 50- 75% and the low class was < 50% of the score.
- Health service use: curative services in the past 6 months, the choice of provider in each illness, the source of utilization of preventive services.

2) Marketing materials:
(80) Booklets were distributed containing detailed information about the different services inside the unit with their prices,
(500)Fliers were distributed contained pictures describing the different services which were provided in the unit.
❖ **Data management:**
Through the use of Statistical Package of Social Science Software Program (SPSS) version 16.0, the results were considered significant at p<0.05.

Limitations of the study
- Financial difficulties: It was out of reach to cover every person in El-Shabraween village and seven other villages with the promotion materials.

- Transportation problems: There was a problem in reaching every area in El-Shabraween village as there is no possible transportation mean.
- Competition: From the private sector in El-Shabraween village. The charity health center of (25 January) from the social affairs and the central hospital of Hehya.
- The study design: Pre- Post interventional studies can't prove causal association between intervention and the outcome as the interventional validity is doubtful due to the effect of confounding factors, the time effect and some indicators which have an inherent defects as coverage with antenatal services coverage; it gives false high results so it was removed from the study results.

Results

The study subjects were 879 members coming from 205 householdsincluding: 382 head member (180 husbands + 202 wives), 33 Grand's (19 grandmothers + 14 grandfathers) and 464 siblings (457 at the start of the study + 7 born during the study)

The majority of households 82.4% were simple families included (a husband, wife and siblings only inside the house), while 17.6% were extended families with grand's living inside the house **(Figure 1).**

About 42% of households are in the middle socioeconomic status **(Figure 2).**

The utilization usually expressed as (the number of services used per year per 100 or per 1000 persons eligible for the service).

From records: the utilization of outpatient is very low this may be attributed to the distance of the unit from the seven villages other than El-

shabraween and these villages are close to the highway reaching other facilities more easily. So there is a slight increase in outpatient attendance in the unit records.

From households the percentage was calculated as follows: numerator was (outpatient visits in different illnesses + outpatient visits of children U5 with diarrhea and ARI) and the denominator was all the individuals inside the households. The percent shows marked increase in the household attendance to outpatient as the households are all inside El-Shabraween village close to the unit **(Figure 3).**

The indicators of maternal care includes:

-The average number of ANC visits per registered mothers which shows a fluctuation in records data and household data, still increased during the campaign than before and after the campaign.

-The averagenumber of postpartum home visits per live birth shows an increase in the period during the campaign than before and after the campaign in records**(Table 1).**

Service output indicators of family planning services:

- Percent proportion of new FP clients to total FP clients; there is continuous increase in the data from record and fluctuation in the data from households with increase during campaign than before and after the campaign.

- Percent of low parity clients to total FP clients: there is a fluctuation in both data of records and households with higher percentages during the campaign than before and after the campaign.

- Percent change in the number of total FP clients over time: there is gradual increase in this indicator in records data**(Table 2).**

The indicator of immunization service:

- Tetanus Toxoid coverage for pregnant mothers: there is a

progressive increase in this indicator in the households' data, while in the records data the percentage during the campaign is higher than before and after the campaign **(Table 3)**.

The percent achievement of. The total achieved score for quality items included in the PHC quality standard checklist is 70.9%. Both antenatal, postnatal care and immunization services reached 100% score followed by health unit work environment and infection control with 91.6% and 90.9% achievement respectively. The referral services is 0% as there is no referral services in the unit**(Table 4).**

Discussion

This study is an interventional study, it was carried out over 8 months using a social marketing campaign in a rural village El-Shabraween from Hehya District of Sharkia Governorate.

The target aim was reached as the outpatient utilization from households increased from 18.5% to 37 % more than the expectedin **Snyder and Hamilton 2002.**

Out of 205 households 43.9% have three or four members only inside the house, which was the same as previous data from (EDHS) 2008 stating that 30.7% of households in rural areas of Egypt have 3-4 members [8].

The utilization rate of outpatient services was as follows:

♦   **From records:** The utilization of outpatient was very low: 1.8% before the campaign and 2.3% after the campaign. This may be attributed to the far distance of the unit from the seven villages other than El-shabraween and these villages are close to the highway reaching other facilities as El-Edwa family health unit which is an accredited health unit in El-Edwa village close to the high way accessed more easily. This explains the

slight increase in outpatient attendance in the unit records. This rate is much lower than the outpatient consultation in rural areas in Egypt 27% that was reported by **Berman et al in 1998.**

♦   **From households:** The percent showed marked increase in the household attendance to outpatient from 18.3% to 37%. This may be attributed to the fact that all the households in the study were from inside El-Shabraween village close to the unit selected.

Health service output indicators of El-Shabraween family health unit:
A)   Maternal health care output indicators
■   Average number of ANC visits per registered mothers:
Showed a fluctuation in both records and household data; still increased during the campaign than before and after the campaign. The results during the campaign was supported by the results of **Abdel -Razik et al 2012** study which reported average 4.6 ANC visits.
■   Average number of postpartum home visits per live birth:
Showed fluctuation in records data and increase in households' data by 0.3% during campaign. The decrease in households' data below one visit before the campaign is attributed to the small number of post partum home visits in relation to the live births in this quarter.
Before the campaign the records data of postpartumaverage home visits was (2.3) visits which was very similar to that in 2012study (2.6) postpartum visits [6].

B) Family planning Service Output Indicators
■   The percent proportion of new FP clients to the total FP clients:
Showed a continuous increase in the data from record and fluctuation in the

data from households; still increased during the campaign than before. It was noticed that before the campaign the indicator was (8.7%) in records and (15.1) in the households and both are less than their match in 2012 study (20%) [6].

■   The percent of low parity clients (having less than 3 children) to total FP clients:
Showed an increase during the campaign than before and after the campaign in both households and records data. But before the campaign the households' result (43%) is close to the 2012 study results (40%) [6].

■   The percent change in the number in total FP client's overtime:
As noticed from the records data, it showed a gradual increase in this indicator. Before the campaign the results from records were (16.1%) which is close to the results in 2012 (14%) [6]. The household results could not be calculated for this indicator because of the recall bias.

C)Immunization service output indicators

■   Tetanus Toxoid coverage for pregnant mothers:
There is a progressive increase in this indicator in households data , and fluctuation in records data. Before the campaign the results of the households (33.3 %) was close to their match in 2012 study results (30.0%) [6].

Quality items:
The present study showed the percent achievement of quality items included in the FHC quality standard checklist. The total achieved score was 70.9%, this was slightly lower than the score achieved from Non Accredited Rural Health Units(NRHUs) in 2007 which was: 77% and in 2008 which was:79% [6]. Both antenatal, postnatal care and immunization services reached 100% score which was higher than their

matches in 2007: 87%, 94% and in 2008: 91%, 94% respectively. The referral services is 0% in this study as there is no referral services in the unit, while it scored 78% and 73% in 2007, 2008 respectively in the results of 2012 study[6].
The family planning services achieved 84.6% score which was far less than their match in 2007, 2008 (100%) in both years in 2012 study[6].

Summary and Conclusion
A social marketing campaign was used to increase the utilization of El-Shabraween family health unit in El-Shabraween village from Hehya district of Sharkia governorate.
Although the outpatient utilization rates from records was so low in comparison to the calculated from households, but there was an increase in both rates after the campaign.

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Table (1): Service Output Indicators of Antenatal, Natal and Postnatal Care of El-Shabraween Health Unit.

Indicators	Before the campaign	During the campaign	After the campaign
	1st quarter of 2012	2nd quarter of 2012	3rd quarter of 2012
1-Average number of ANC visits per registered mothers			
From records	2.7	3.5	3.2
From households	3.3	4.6	3.7
2-Average number of postpartum home visits per live birth			
From records	2.3	2.8	2.3
From households	0.7	1	1

Table (2): Service Output Indicators of Family Planning Services of El-Shabraween Health Unit
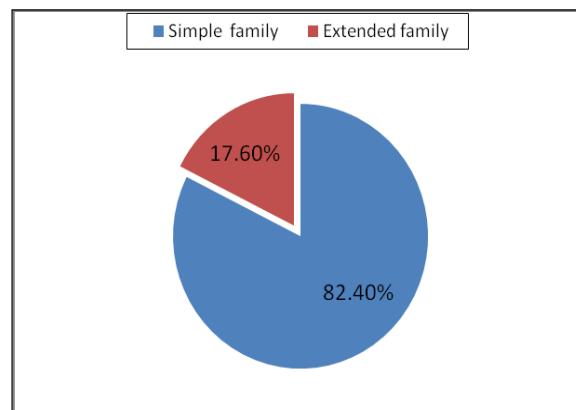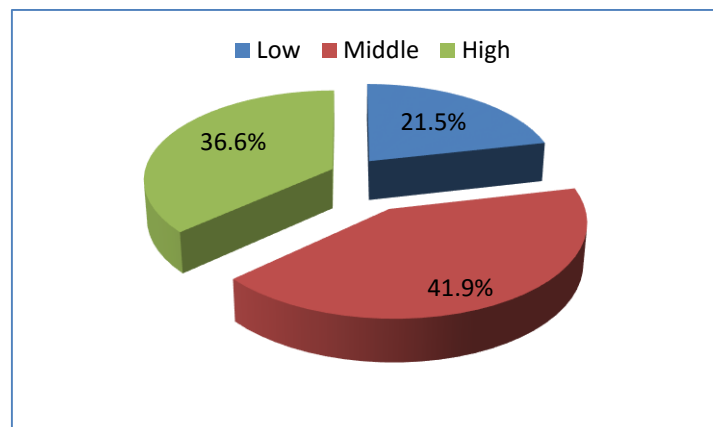
Indicators	Before the campaign	During the campaign	After the campaign
	1st quarter of 2012	2nd quarter of 2012	3rd quarter of 2012
1-Percent proportion of new FP clients* to total FP clients			
From records	8.7%	10.9%	11.1%
From households	15.1%	24.5%	16.0%
2-Percent of low parity clients* to total FP clients			
From records	57.4%	58.4%	57.7%
From households	43.0%	59.6%	53.2%
3- Percent change in the number of total FP clients over time			
From records	16.1%	26.3%	30.8%

Table (3): Service Output Indicators of Immunization Services of El-Shabraween Health Unit

Indicators	Before the campaign	During the campaign	After the campaign
	1st quarter of 2012	2nd quarter of 2012	3rd quarter of 2012
1- Tetanus Toxoid coverage for pregnant mothers			
From records	24.0%	32.6%	29.4%
From households	33.3%	66.7%	75.0%

Table (4): The achieved score values after the intervention versus the standard quality checklist total score values of El- Shabraween family health unit.

Service Item	The Standard Checklist Score Values	El-Shabraween Health Unit Score	The Percent Achieved Score Values of the Unit %
1- Health Service Resources	16	6	37.5
2- Health Unit Work Environment	12	11	91.7
3- Infection Control	11	10	90.9
4- Laboratory Services	38	25	65.8
5- Pharmacy Services	34	22	64.7
6- Outpatient Services	7	3	42.9
7- Referral Services	15	0	0
8- Antenatal and Postnatal Care Services	28	28	100.0
9- Natal Care Services	13	8	61.5
10- Family Planning Services	13	11	84.6
11- Well-Baby Services	9	6	66.7
12- Sick-Baby Services	8	5	62.5
13- Immunization Services	39	39	100.0
14- Health Office Services	22	14	63.6
Total Score	**265**	**188**	**70.9**

Figure (1): Type of the Families among 205 Households

Figure (2): Socioeconomic Status of the Households of the Study

Figure (3): The Utilization Rate of Outpatient Service from Records and Households.