EFFECT OF SOCIAL MARKETING CAMPAIGN ON CHILD HEALTH CARE UTILIZATION IN RURAL SECTOR IN SHARKIA GOVERNORATE

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ABSTRACT

Introduction: Primary health care (PHC) 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 PHC in rural sector of Sharkia Governorate using a social marketing campaign. **Objectives of study:** To assess the rate of utilization of child PHC services in rural sector of Sharkia Governorate, to determine causes of underutilization and to assesss 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. **Sampling:** multi-stage random sampling. **Procedure:** the study evaluated the utilization of all provided PHC services in El-Shabraween unit before and after a social marketing campaign using personal interviews of 205 households and the unit records. It also highlighted the causes of underutilization of the PHC unit. **Results:** There is a significant increase in El-Shabraween outpatient consumers from 23% before to 58.8% after the campaign. The percent proportion of recorded diarrhea cases among (U5) children to total U5 sick children increased from 35.1% to 46.3% after the campaign. Causes of underutilization were: lack of different specialty consultants (62.4%), followed by deficient skills of doctors (51.2%) and irregular presence of female gynecologist (42.0%). **Conclusion and Recommendation:** Social marketing can improve health care utilization in rural sector, so it's recommended to disseminate the marketing materials on a wider scale to attract more customers, also better training of physicians in family units, continuous presence of a female gynecologist for better maternal care, a recommendation for the MOHP to financially support marketing campaigns for better results and further studies in this area should be carried out.
Key words: Utilization, Child Health Care, Social Marketing.

INTRODUCTION

Primary 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 primary health care delivery in these remote developing world locations [1].

Despite of the Egypt's proposed reform agenda and although primary 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 is to increase the rate of utilization of child's primary health care services in rural sector of Sharkia Governorate, through the following objectives: To assess the rate of utilization of child's health services in rural sector of Sharkia Governorate, To detect factors causing underutilization of family health care units and to assess the effect of social marketing campaign on the rate of utilization of primary health services.

Methodology:

Study design and duration:

A Pre- Post interventional study 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 subjects:

Sample size:

The sample from population 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% nonresponse 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 randome sample to collect the data and perform the campaign in the catchment 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 families 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).

The main study (The marketing campaign):

The intervention "social marketing campaign" passes through the following three phases:

Phase 1: Situation analysis including:

1. **Records:** Data was 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, barriers against utilization of the service (what will convince them to change their behavior). Then the same survey was repeated on the same households after six months to evaluate the post campaign phase.

Phase 2: Design and implementation of the campaign including:

Using the marketing mix "4 P's of marketing"(product, price, place, promotion), in addition to the additional P's (positioning, publics, partnership, policy and purse string):

Phase 3: Assessment phase:

By comparing the indices of utilization of the selected PHC unit before and after the social marketing campaigns. And 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

- The type of the family and the socio-demographic data. The socio-economic status of families was assessed by modified El-Sherbini classification.
- Health service use: curative services in the past 6 months, the choice of provider in each illness, the source of utilization of preventive services.
- Causes of underutilization of primary health care unit.

2) Marketing materials:

Booklets (80): contained detailed information about the services with their prices,

Fliers (500): contained pictures and enumeration of different services provided in the unit.

❖ **Data management:**

Through the use of Statistical Package of Social Science Software Program (SPSS) version 16.0. Mc Nemar's X2 test and paired t test were used to detect significance. 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, the interventional validity is doubtful due to the effect of confounding factors and the time effect and some indicators have inherent defects as coverage with antenatal services; it gives false high results so it was removed from the study results.

▪ It would have been better to get a representative sample from population of the seven villages served by the unit.

RESULTS

The study subjects were 205 households containing a total member's count of 879 including: 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)

Figure (1): Shows that: 43.9% of the households had three or four members only inside the house and only 8.3% of households had seven or more members inside the house.
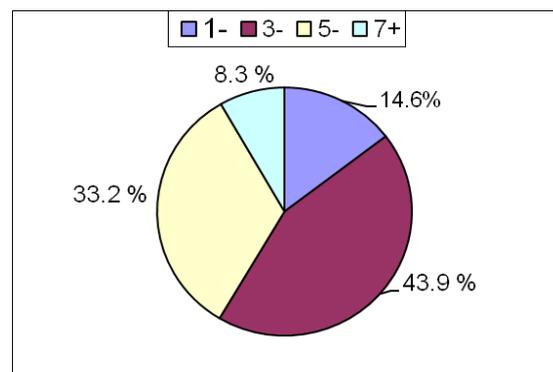

Figure (1): Distribution of Family Members Inside the Household

Table (1): Shows that there is a change in the choice of outpatient health care provision after the campaign as follows:

▪ There is a significant increase in El-Shabraween outpatient consumers from 23% before to 58.8% after the campaign.

▪ There is a significant decrease in center of 25 January consumers from 29.8% before to 16.2% after the campaign, a significant decrease in private doctor consumers from 27.4% before to 11.9 % after the campaign and a significant decrease in Hehya central hospital consumers from 12.1% before to 7.3% after the campaign.

Table (1): Health Facilities for Provision of Care in Different Diseases before and after the Campaign (Except Acute Respiratory Illness and Diarrhea in Under Five Children) .

No. and % Choice of provider	Before the campaign		After the campaign		P
	No.	%	No.	%	
A) Inside El-Shabraween					
El-Shabraween health unit	87	23.0	233	58.8	0.000*
Center of 25 Jan.	113	29.8	64	16.2	0.000*
Private doctor	104	27.4	47	11.9	0.000*
B) Outside El-Shabraween					
Private hospital in Hehya	3	0.8	0	0	-
Zagazig university hospital	22	5.8	23	5.8	1.000
PHC outside El-Shabraween (El-Edwa family health unit)	4	1.1	0	0	-
Hehya central hospital	46	12.1	29	7.3	0.000*
Total	379	100	396	100	

Table (2): Service Output Indicators of Child's 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
2- BCG vaccine coverage for infants in the first 3 months			
From records	100%	100%	100%
From households	100%	100%	100%
3- DPT vaccine coverage for the registered children			
From records	100%	98%	100%
From households	100%	100%	100%
4- HB vaccine coverage for the registered children			
From records	100%	98%	100%
From households	100%	100%	100%
5- Polio vaccine coverage of the registered children			
From records	99%	100%	100%
From households	100%	100%	100%
6- Measles vaccine coverage for the registered children			
From records	97%	96.7%	99%
From households	100%	100%	100%

Table (3): Service Output Indicators of Sick-baby Care Services of El-Shabraween Health Unit

Indicators	Before the campaign 1st quarter of 2012	During the campaign 2nd quarter of 2012	After the campaign 3rd quarter of 2012
1-Percent proportion of recorded diarrhea cases among (U5) children to total U5 sick children			
From records	12.5%	12.8%	7.0%
From households	35.1%	42.9%	46.3%
2- Percent proportion of recorded ARI cases among (U5) children to total U5 sick children			
From records	47.5%	30.5%	36.7%
From households	54.1%	77.1%	75.6%
3-Average number of ORS packets dispensed per case among recorded cases with diarrhea			
From records	9.6	10.0	10.0
From households	8.8	10.0	10.0
4- Percent proportion of recorded pneumonia cases among the recorded ARI cases			
From records	13.1%	25.7%	18.1%
From households	5.0%	0	0
5- Percent proportion of recorded pneumonia cases received antibiotics among the recorded ARI cases diagnosed as pneumonia cases			
From records	84.1%	85.7%	100%
From households	100.0%	0	0
6-Percent proportion of recorded common cold cases with antibiotics abuse among the recorded ARI cases diagnosed as common cold case			
From records	0	4.2%	4.9%
From households	15.4%	18.5%	14.3%

Table (3) Shows the causes of underutilization according to the opinion of the interviewed member mostly the wife, the provider causes were at the top causes of underutilization were the lack of different specialty consultants rated 62.4% followed by deficient quality of doctors with 51.2%, irregular presence of the female gynecologist with 42% then the lack of trust in governmental services as a consumer cause with 37.6%.

Table (3): Causes of Underutilization of El-Shabraween Family Health Unit.

Causes		No.	%
Provider causes	Lack of respect from staff members	57	27.8
	Deficient skills of doctors	105	51.2
	Female gynecologist is not always available	86	42.0
	Lack of different specialty consultants	128	62.4
Consumer causes	Lack of trust in governmental services	77	37.6
	Habit and cultural basis	4	2.0
	Fear from family planning products	28	13.7
	Family and work responsibilities	13	6.3
	Non cooperative or refusing husband	15	7.3
Service causes	Price of the service	0	0
	Service is not provide on 24 hours	70	34.1
	Deficiency of drugs and equipments	68	33.2
	Length of stay	20	9.8
Place causes	Long distance from the unit	63	30.7
	Uncomfortable place for waiting	26	12.7
Total Score	**265**	**188**	**70.9**

DISCUSSION

This study is an interventional study aimed at increasing primary health care utilization from 27% to 36%, 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 expected from [5].

Out of 205 households 43.9% have three or four members only inside the house, which was higher than previous data from (EDHS) 2008 stating that 30.7% of households in rural areas of Egypt have 3-4 members [6].

There was a significant change in choice of health care providers for outpatient services before and after the campaign. There was a significant increase in El-Shabraween outpatient attendance from 23% to 58.8%, a significant decrease in center of 25 January attendance from 29.8% to 16.2% and a significant decrease in private doctor attendance from 27.4% before to 11.9 % after the campaign. There is also a significant decrease in Hehya central hospital attendance from 21.1% before the campaign to 7.3% after the campaign.

In another study conducted by [7] in Iraq it was found that: adults who were ill in the past 2 weeks sought treatment outside home in about 86% of cases, 20.8% utilized the PHC and 60.1% preferred the private doctor's clinic.

Health service output indicators of El-Shabraween family health unit:

A) Immunization service output indicators

■ Coverage of infants with compulsory immunization:

It is obvious that the unit succeeded in keeping the momentum of coverage of infants with BCG, DPT, Oral Polio, HBV, and measles vaccine at the level of 96 % to 100%. This is close to 2008 study who stated that the coverage was 94 to 100% [8].

The 2008 EDHS found that that 92 % of children 12-23 months were fully immunized against the six major preventable childhood illnesses (tuberculosis, diphtheria, whooping cough, tetanus, polio and measles). In addition 96 % of young children also had

the recommended three doses of the hepatitis vaccine [6].

The rural vaccination for one year children were as follows: BCG vaccine 98.6%, DPT vaccine 3rd dose 97.3%, hepatitis 3rd 95.7%, Polio 4th 78.1% and Measles 96.6% [6].

In Iraq immunization coverage, it was found to be complete for age for measles in 69% of children 23 months and under and 65% for DPT3 by immunization card. This is lower than reported values for Syria, Iran and Jordan [7].

The **WHO** stated that: immunization coverage among one year in 2009 were: Measles: 95%, DPT: 97% and Hep B: 97% [9].

B) Sick-baby care service output indicators

- Percent proportion of recorded diarrhea cases among (U5) children to total U5 sick children:
  This indicator showed fluctuation in records data and gradual increase in the households' data. The records percent before the campaign (12.5%) is less than the data evaluated in 2008 (17%) [8].

- Percent proportion of recorded ARI cases among (U5) children to total U5 sick children:
  This indicator also shows fluctuation in records data and households' data. The records percent before the campaign (47.5 %) is higher than the recorded non accredited unit data evaluated in 2008 (38%) and close to the accredited percent (50%) [8].

- Average number of ORS packets dispensed per case among recorded cases with diarrhea:
  This indicator after the campaign is equal in both records data and households' data and equal also to the recorded data evaluated in 2008 (10 packets per case) [8].

- Percent proportion of recorded pneumonia cases among the recorded ARI cases:
  This indicator from records before the campaign (13.1%) is slightly lower than the same indicator from the data evaluated in 2008 (17%) [8]. From the households there were no recorded pneumonia cases in the unit among the studied households so the indicator is zero after the campaign.

- Percent proportion of recorded pneumonia cases received antibiotics among the recorded ARI cases diagnosed as pneumonia cases:

Showed a gradual increase in records data. The calculated indicator from households (100%) is equal to the same indicator from the data evaluated in 2008 (100%) [8].

- Percent proportion of recorded common cold cases with antibiotic abuse among the recorded ARI cases diagnosed as common cold case:
  This indicator showed fluctuation in households data, while the records data before the campaign (0%) was equal to the same indicator evaluated in 2008 (0%) [8].

The demonstrated causes of underutilization in El-Shabraween health unit were: lack of different specialist consultant 62.4%, deficient quality of doctors 51.2%, absence of female doctor in regular bases 42%, lack of trust to the governmental services 37.6%, deficient drugs and equipment 33.2% followed by long distance from the unit 30.7%. This was different from the main causes in 2008 survey stating problems in accusing health services in rural sector were: no drugs 67.4% , no provider at all 67.3%, no female provider 44.6%, transport 23.8%, distance 20.4%, have no money 51.2%, getting permission to go for treatment 8.3%, [6]. It is noticed that the absence of female provider is close in both studies.

SUMMARY AND CONCLUSION

The aim of this study was to direct the attention of rural residents to the family health care unit and trying to convince them that the care provision in this unit is superior to the other sources of health care as its quality is high and the cost is far less than the other sectors of care provision.

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.

There is highly significant increase in outpatient utilization of the unit after the campaign, accompanied by a significant decrease in utilization of other competitors represented by the private sector and center of 25 Jan.

As a whole the campaign achieved the target increase in outpatient utilization of the

rural health unit in the households of the study mainly, but the increase in utilization data from the records was minimal, that may be attributed to the fact that the campaign did not reach the whole consumers eligible to the service in this unit.

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