ORIGINAL ARTICLE

Child Health Services Coverage in Rural Districts of Pakistan with the Health Services Extension Program

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ABSTRACT

Aim: To explore whether introduction of HSEP has improved the coverage of child health services in the rural areas of District Multan.

Methods: A cross sectional study was conducted in three randomly selected rural areas of District Multan, Southwest Pakistan. The data collection was undertaken during the months of May, June and July of 2009. A structured questionnaire was used to interview female heads of sampled households. Data were collected on the socio-demographic characteristics, use of health posts.

Results: Only 64% of the Rural areas of District Multan had functional health posts although another 32% of the Rural areas of District Multan had health posts under construction. However, most (93.7%) of the Rural areas of District Multan already had two Health Extension Workers (HEWs) assigned. Vaccination coverage as measured by DPT3 was 67.9%, and 10% of the under-two year old children included in this survey had diarrhoea during the past two weeks. Of the 34(51.5%) mothers who sought help during diarrhoeal attacks, 12(35.3%) of them went to the health post. The first places of treatment seeking were health centres and health posts with equal proportion for both (43.5%). Treatment was sought within a day or two after commencement of diarrhoea for 70.6% of the children.

Conclusions: In addition to continuing efforts to improve coverage, there is a need to ensure that activities are linked with follow up of vaccination, early treatment seeking and proper home management of diarrhoea.

Keywords: Health Services Extension Program, Health extension Workers, childhood diarrhoea

INTRODUCTION

The web page of the Global Health Observatory (GHO) stated that "6.6 million children under age five died in 2012, nearly 18 000 every day (GHO, 2014)." These deaths are mainly from preventable causes and occur mainly in the developing world. In 2002, 174 of every 1,000 children under the age of 5 died in sub-Saharan Africa and two-thirds of deaths occur in just 10 countries (UNICEF, 2004). In Pakistan child is 30 times more likely to die by his or her fifth birthday than a child in Western Europe (United Nations Children Fund, 2005). According to the demographic health survey (DHS) Pakistan (Central Statistical Agency (CSA) and ORC Macro, 2006); the child mortality rate was 132 per 1000 live births, which is among the highest in the world.

More than 70.0% of about 7.8 million child deaths every year are attributable to six causes: diarrhoea, malaria, neonatal infection, pneumonia, preterm delivery, or birth asphyxia. Within the forty years period 1960-2002, a 50.0% reduction in under-five mortality has been observed. A major contributor is immunization program that have protected the lives of nearly 4 million children (United Nations Children Fund, 2005).

The Federal Government of Pakistan realized that coverage of basic health services was poor and therefore introduced an innovative community-based approach. This approach aimed at creating a healthy environment as well as healthy behaviour by introducing Health services Extension Program (HSEP) as a sub-component of the Health Sector Development Program II (HSDP II, 2002– 2005). The main objective of the HSEP is to improve equitable access to essential health interventions. This is achieved through community (kebele) based health services with a strong focus on sustained preventive health actions and increased health awareness. The core objective of HSEP is to identify and provide a list of essential health services to households, especially mothers and children, at the kebele level. The four major components of the package are Disease Prevention and Control, Family Health Services, Hygiene and Environmental Sanitation, and Health Education and Communication (Federal Ministry of Health, 2004a).

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Health extensions workers are employed by government and receive short vocational training (about a year) on 16 packages of health services which are under the four components of the HSEP. The health extension workers are all females who have at least completed grade 10 and who are residents of the kebele in which they work. The female sex was preferred based on the fact that they need to visit women at their houses. In most parts of Pakistan it is not acceptable for a man to talk to a woman in the absence of her husband. The plan was to deploy two health extension workers per kebele and to construct and equip health posts (one health post per kebele) in an accelerated expansion of PHC facilities. These health extension workers offer key technical services such as immunization, family planning and health education to the approximately 5,000 inhabitants of each kebele. The workers are provided with a monthly salary of 565 Pakistan Birr ($ 50) (Federal Ministry of Health 2004b, Federal Ministry of Health 2005).

Village level health services such as the HSEP in Pakistan have been developed in other countries. Pakistan introduced large-scale primary health-care programs and multipurpose community health workers where effects on mortality and life expectancy are discernable (Rhode, 2008; Haines et al., 2007). In Thailand, community volunteers play an important role in promoting behaviour change and providing selected maternal, newborn, and child health, nutrition services, and promoting immunization. Thailand still has more than 800,000 health volunteers for primary health care. This country was one of the first to offer injectable contraceptives at a community level, contributing to a high level of contraceptive prevalence even by the 1980s. During the 1990s, bolstered by a stronger economy, universal clean water and sanitation were achieved (Rhode, 2008).

A literature review of community health programs pointed that among other factors recognition and involvement by local and national government and community involvement (especially in recruitment and selection) are key factors in the design and implementation of community health programs in several countries(Shakir, 2010).Javanparast et al.(2012)reported that recognition of the community health workers and their training in the national health planning and financing “facilitates the implementation and sustainability” of village health services.

Such approaches aimed at community and family level health services are of paramount importance, especially in countries with restricted access to facility care or shortages of human resources for health, as is the case in Pakistan. To track regional and worldwide trends of success or failure of these and other such programs national data are important. Importantly, such data should be used for appropriate action within countries and to ensure that governments are accountable for provision of services to the poorest citizens (Rhode, 2008).

For this reason, this study aimed to explore whether introduction of the health services extension program in District Multan had improved coverage of child health care services delivered to the population in the rural areas of the Zone. Hence, the research question was: Did the introduction of the health services extension program in District Multan improve coverage of child health care services in the population?

METHODS AND MATERIALS

The study was conducted in rural areas of District Multan, from May to August 2009. In District Multan, an estimated 60 to 80% of the health problems are due to communicable diseases and nutritional problems. The health coverage of District Multan as measured by the ratio of health facilities to the population is about 52 %. Currently, health care provision within the zone is carried out through 92 health centres, 459 health posts, and 3 hospitals. During the data collection, there were 35 different privately owned and NGO clinics that also rendered health services to the community.

A cross sectional study design was employed. All households in rural areas of District Multan were eligible for the study, whereas sampled households of the selected rural. Rural areas of District Multan were taken as study population.

The major outcome variable is coverage of child health care services. This was measured by availability of health post, number of Health Extension Workers, distance from the nearest health post, utilization of health post, DPT 3 and measles coverage, and prevalence of childhood diarrhea. Time of introduction of the HSEP as expressed by the three categories of rural areas of District Multan described above was the main independent variable.

A structured questionnaire and record review checklist were prepared based on instruments used in similar studies (unpublished) and national and regional guidelines for the implementation of the HSEP. The structured questionnaire for the household survey had parts on household socio-economic characteristics, child vaccination status, childhood diarrhoea and use of health post. The review checklist was designed to obtain date on the availability and status of health posts and number of

health extension workers in the districts of District Multan.

Data were cleaned and entered into SPSS version 14 to obtain summary figures and percentages. Chi-square test was applied to look for differences in the coverage of child health services among the three categories of kebeles.

As described earlier the categories of the Rural areas of District Multan were latest, medium and earliest. The proportion of the respondents coming from latest, medium and earliest Rural areas of District Multan were 35.7%, 34.4% and29.9%, respectively. A total of 683 households from the determined sample of 695were included in this study giving a response rate of 98.3%. A majority of the women interviewed (86.7%) were in the child bearing age group. Married women comprised 609 (89.2%) of the respondents and the religion with was Islam, 535 (78.3%). The majority (79.9%) of the participants were Saraiki by ethnicity. Five hundred and nineteen (76.0%) of the women were unable to read and write. About 17.0% of the women were literate and had formal education. More than three quarters of the householders were subsistence farmers

Of the family health services component of the HSEP, this study concentrated on the child health measured by vaccination coverage and occurrence of diarrhoea and its management. In this survey, 118 (17.3%) of the households had at least one child in the age group of 0-23 months having a vaccination card.

RESULTS

Table 1: Vaccination status of children under the age of two years who had vaccination card at the time of the survey, Southwest Pakistan

Vaccine	Yes (%)	No (%)	Total
BCG	92 (82.1)	20 (17.9)	112
Polio 1	108 (93.9)	7 (6.1)	115
Polio 2	91 (81.2)	21 (18.8)	112
Polio 3	73 (66.4)	37 (33.6)	110
DPT 1	106 (93.0)	8 (7.0)	114
DPT 2	89 (80.9)	21 (19.1)	110
DPT 3	74 (67.9)	35 (32.1)	109
Measles	45 (39.8)	68 (60.2)	113

DISCUSSION

The Health Services Extension Program aims to improve primary health services in rural areas through an innovative community-based approach that focuses on prevention, healthy living and basic curative care. It introduced a new cadre of health worker, Health Extension Workers (HEWs), and defined a package of essential interventions for them to deliver from village health posts. This study has highlighted some of the early limitations and achievements of this innovative approach.

The physical presence of health posts in the study rural areas of District Multan falls short of the plan of the government to achieve 100% coverage. Only 64% of the rural areas of District Multan had functional health posts although about 32% of the Rural areas of District Multan the District Multan had health posts under construction. Most (93.7%) of the Rural areas of District Multan the Zone, however, already had two HEWs assigned. This approximates the plan of the government with regard to deployment of the HEWs in rural areas of District Multan (Federal Ministry of Health, 2004b);96.6% of the interviewees in the nine rural areas of District Multan indicated the existence of a health post in their respective kebeles.

Close to 90.0% of the respondents said that a walk of less than an hour is adequate to reach the health post in their kebele. The maturity of the HSEP was statistically associated with the reported distance from the health post. This relates to the fact that construction of permanent health posts in each kebele happened slowly. As time goes by each of the rural areas of District Multan and off course the households in the Rural areas of District Multan will have a health post located at central locations accessible to the majority of the residents. For the same reason it was noted that there is significant association between the time of introduction of the program into a kebele and possibility of using the services at the health post by householders. However, health posts as the first place to seek help when a family member gets ill showed no difference among the three categories of kebeles. This fact may change as the program gets older and more mature.

Vaccination status of children as measured by DPT3 was 67.9%. This coverage is well below the national 76.8% reported in the 2005/06 health and health related indicators of the Ministry of Health. It is even lower than the pentavalent3 coverage (81.6%) reported for the years 2008/09 (Federal Ministry of Health, 2009). Taking both the findings of this study and the latest EPI coverage reported by the Ministry, Pakistan in general and the study area in particular have a lower level of vaccination coverage than countries categorized to practice selective PHC inan earlier article (Rohde J. et al, 2008).However, this coverage is more than double of what was reported by the Pakistann Demographic and Health Survey (EDHS) 2005 and 2011 for both the Oromia region (26.8-28.5%) and the country as a whole (31.9%) (CSA and ORC Macro, 2006; CSA and ICF International, 2012).

Dropout of those who have started taking the vaccinations was a problem in this study. We have noted that coverage of vaccinations included earlier

(e.g. OPV1) in the vaccination schedule have higher coverage than those scheduled later (e.g. measles). Similar pattern was picked up by a recent study from the North West part of Pakistan (Debie, 2014).

If the finding of the EDHS 2005 (28.5%) is taken as the baseline, it is plausible that the introduction of the HSEP has contributed substantially to the current level of 67.9% in the Rural areas of District Multan of District Multan. This is significant, given the important role played by immunization in reducing under-five mortality. Earlier records also showed that globally a share of the 50% reduction in under-five mortality observed during the sixty years period (1960-2002) was due to immunization programs (United Nations Children Fund, 2005).

In our study, 10% of the under-two age group had diarrhoea, as reported by the householders. This figure is lower than that found in the EDHS 2005, which reported that 18% of under-five children had diarrhoea. More than 5 out of 10 mothers who had a child with diarrhoea sought some help from health care providers

Assuming the 2005 EDHS to be baseline, treatment seeking behaviour for diarrhoea in children has shown notable changes. Similarly, those who were treated received Oral Rehydration Therapy (ORS) or recommended homemade solutions in about 70.0% of the cases.). However, the chance of seeking help and using appropriate fluids during the diarrhoeal episodes were not significantly associated with the time of the introduction of HSEP.

The limitations of the current study are that some of the questions forwarded to respondents required appropriate recall of events. Difficulty in recall might have introduced recall bias in the data obtained. Moreover, including only those children who have a vaccination card may have resulted in selection bias.

CONCLUSIONS

Access and coverage of child health services have significantly improved since the introduction of the HSEP. Coverage of DPT3 was found to be significantly increased following the HSEP. The rate of diarrhoea among under-two year children has fallen remarkably and more than half of the children with diarrhoea were taken to a health care provider some time during their illness. Moreover, the use of ORS and recommended homemade solutions was practiced by the majority of the mothers.

Since vaccination coverage tends to be lower for later doses, follow up is required to make sure that children complete the recommended schedule. Home management of diarrhoea and treatment seeking behaviour should be given more emphasis during household visits conducted by the HEWs. This will ensure the sustainability of the current gains and further improvements in the management of diarrhoea.

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