Original Research Article

Evaluation of health care services in health centres attached to a tertiary care hospital in Northern India

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ABSTRACT

Background: India's achievements are lagging behind the proposed goals under National Health Mission or the Sustainable Development Goals. Studies shown that inconvenient and ineffective services in primary health care institutions are leading cause of non-utilization. The aim and objectives was to evaluate the adequacy of health services being provided to the patients by Urban and Rural Health Training Centres under GMCH, Chandigarh.

Methods: It was a cross sectional study was adopted among patients attending special clinics at Urban Health Training Centre and Rural Health Training Centre, attached with GMCH, Chandigarh. A stratified random sampling technique with proportional allocation was adopted. Based on this 50% anticipated satisfaction rate, 10% permissible error, and 95% confidence interval the optimum sample size was found to be 384. The data was collected using checklists, interview schedules, and consulting medical records at the centres as well as the records with the clients. Services were evaluated using checklists and exit interviews.

Results: Our study found that the filling of registration cards of antenatal mothers and blood investigations were done properly. Clinical components like measurement of pulse (14.1%), pallor (9%), oedema (12.8%), examination of breasts (33.3%), fundal height (46.2%) and foetal heart rate (15.4%) were not done as per protocol. Forty percent of patients were not compliant to iron folic acid tablets. Deliveries were conducted in less than 10% of total beneficiaries. Checklist was not filled in most of the cases; following of clean practices, partograph plotting and APGAR scoring was not done properly. Over all antenatal and postnatal counselling part was unsatisfactory.

Conclusions: It can be concluded that in spite of adequate manpower, utilization rates of services provided are not very good. The training and health education component had some gaps. Efforts should be made to fill the gaps by corrective measures like deploying counsellors and health educators, in-service training of the staff and strengthening of referral linkages to ensure optimum utilization of services and better manpower management.

Keywords: Evaluation of health services, Maternal and child health care, Skill development, Underutilization

INTRODUCTION

India's achievements in the field of health have been steadily improving. Indicators like Infant Mortality Rate has improved from 68 (NFHS II) to 57 per 1000 live births in 2005-2006 (NFHS III), and 47 in the year 2010

according to SRS Bulletin, December 2011.¹⁻³ Maternal mortality ratio has declined to 250 per 100,000 live births in the year 2010.⁴ Utilization of antenatal services has also increased to 77% as has institutional deliveries and immunisation coverage.² But we still lag behind the proposed goals under National Rural Health Mission or the Millennium Development Goals. Many of these

illnesses and deaths can be prevented and /or treated cost-effectively with primary health care services provided by the public health system.

The World Health Organization's World Health Report 2000⁵ and more recently, World Health Report 2008⁶ "Primary Health Care—Now More Than Ever," released on the 30th anniversary of the Alma-Ata International Conference on Primary Health Care refocuses global attention on importance of primary health care and related issues.^{5,6}

Studies all over the country have shown that the services in primary health care institutions are inconvenient and ineffective leading to non-utilization. The major lacunae found included long waiting time, non-availability of medicines, poor quality of health care, lack of dissemination of information and awareness, behaviour of the health providers and interpersonal quality, unanswered queries.⁷⁻¹⁰ The major reasons for choosing public health facilities have found to be inexpensiveness, infrastructure and proximity to the facility rather than quality of services. Such clients in majority are those without good financial capability because those who can afford, prefer big hospitals and private clinics in places where these are easily available.¹⁰ In a city like Chandigarh such a scenario can be compared with, as the city is well endowed with various hospitals and clinics.

The Department of Community Medicine of Government Medical College, Chandigarh runs Urban Health Training Centre (UHTC) and Rural Health Training Centre (RHTC).

Similar evaluation study has not been conducted at these centres before. This evaluation study was taken up to analyse the existing state of affairs and highlight scope for corrective action. Such periodic evaluation was deemed necessary to ensure a proper functioning of the centres, keeping a watch on effectiveness and efficiency. Furthermore, if these centres are optimally utilized, it would eventually lead to lesser burden on the tertiary care hospitals like GMCH and thereby optimum and efficient utilization of such tertiary care centres.

Availability, accessibility and quality of care are important aspects to gain trust and retain client, which in turn improves participation of community finally culminating into better health outcome. A better health outcome at lower costs with equity in health is the basic philosophy behind the concept of primary health care. Not only this, increased utilization by the community also justifies the resources that are diverted in establishing and maintaining such centres.

The present study attempts to evaluate those components and characteristics of the health care system at the centres, which were considered to be most significant in affecting performance. The present study assesses.

Adequacy of health services being provided keeping in view the norms and guidelines by relevant authorities.

Aims and objectives: To evaluate the adequacy of health services being provided to the patients by Urban and Rural Health Training Centres under GMCH, Chandigarh.

METHODS

It was a cross sectional study was adopted among patients attending special clinics. The study was conducted at Urban Health Training Centre and Rural Health Training Centre, attached with GMCH, Chandigarh. For this study, approval from ethical committee of GMCH and informed consent from beneficiaries was taken. Study participants from ANC clinics with incomplete records were excluded. The study duration was from August, 2010 to December, 2011. A stratified random sampling technique with proportional allocation was adopted. Optimum sample size was calculated on the basis of a pilot survey result. The pilot survey had been carried out at UHTC and RHTC covering a representative sample of 20 clients availing different services available. The minimum satisfaction rate from either of the services in pilot survey was 50%. Based on this 50% anticipated satisfaction rate, 10% permissible error, and 95% confidence interval the optimum sample size was found to be 384. This optimum sample size was divided proportionately into different subgroups of patients availing different services based on annual attendance. Optimum sample size was divided in different subgroups as described in the inclusion criteria. Within each subgroup, a sample of predetermined size was attained by systematic random sampling on days on which the respective services were provided; selecting every third client who got himself registered at that particular day. The number of clients that were asked to participate in the study: Beneficiaries of Antenatal services= 172; beneficiaries of delivery services=11; beneficiaries availing family planning services=30; mothers of children under five attending under five clinics= 92; clients availing DOTs services=78; clients availing services in minor OT=37; clients with suspected malaria and dengue= 30. The data was collected using checklists, interview schedules, and consulting medical records at the centres as well as the records with the clients. Services were evaluated using checklists and exit interviews. Evaluation of the services was done by filling checklists of the patients in the clinic while they were availing the services by observation or checking records. Exit interviews of a random set of patients were also done for this purpose to compare their perception with that of the observer's. The checklists for antenatal check-up, children under five, delivery services and family welfare services are made in view of modules for integrated skill development training for medical officers in a PHC by national institute of health and family welfare as well as guidelines for the ANMs and LHVs.^{11,12} Services for tuberculosis patients were assessed in view of RNTCP guidelines.¹³ Services for patients of fever with suspected

malaria and dengue were assessed in view of guidelines of national programme for vector borne diseases.¹⁴

The observations were categorised into - History taking, management done, counselling done or not. The findings were labelled satisfactory, partially satisfactory or not satisfactory depending upon the necessary steps that should be followed depending on the prescribed guidelines for the said service.

The exit interview was done in the waiting area or in a place where the staff of the centre was not present to eliminate bias. The responses were also similarly grouped, like observations. Data were analysed using SPSS version 16. Frequencies were calculated.

RESULTS

All the pregnant ladies had properly filled antenatal card. It was found from the service components like pulse (14.1%), pallor (9%), oedema (12.8%), breasts (33.3%), fundal height (46.2%) and foetal heart rate (15.4%) were not examined adequately (Table 1). The results for investigations scores better, ranging from 76.9%-98.7% (Table 1). Regarding management, it was found that compliance is good except for iron folic acid Tablets IFA (60.3%).

The counselling part was not satisfactory, because only 44.2% of them knew that when to consult a doctor. Almost one third (39%) of them were aware about the danger signs. Only twenty-one (26.9%) women knew about family planning or any contraceptive use. Unfortunately, only one (1.3%) among them was counselled regarding breast feeding.

Eighty-six antenatal beneficiaries were also interviewed to assess the client's perspective on adequacy of services and compare it with the provider's perspective. All measures have taken care of for avoiding any bias.

Table 1: Components of routine management in antenatal clinic.

Service components	n= 78	Percentage
Examination		
Weight at each visit	70	89.7
BP	76	97.4
BP at each visit	69	88.5
Pulse	11	14.1
Pallor	7	9.0
Oedema	10	12.8
General physical examination	54	69.2
Examination of breast and nipples	26	33.3
Fundal height	36	46.2
FHR	12	15.4
Investigations		
Hb	77	98.7
Blood group	77	98.7
Rh factor	77	98.7
Albumin	77	98.7
Sugar	77	98.7
VDRL/HIV	68	87.2
USG	60	76.9
Management		
TT administered	78	100
IFA given	78	100
IFA compliance checked 50%?	47	60.3
Calcium tabs given	75	96.2

Table 2: Comparison between the checklist and exit interviews in ANC beneficiaries.

Between the checklist and exit interviews in ANC beneficiaries				
	Checklist		Exit Interview	
	Yes	%	Yes	%
Variable	n (78)		n (86)	
History taken	57	73.1	77	89.5
Examination done	71	91	50	58.1
Weight at each visit	70	89.7	76	88.4
BP	76	97.4	78	90.7
BP at each visit	69	88.5	78	90.7
General physical examination	54	69.2	50	58.1
Management routine	77	98.7	80	93.0
IFA given	78	100.0	80	93.0
TT injections administered	78	100.0	78	90.7
Investigations	77	98.7	78	90.7
Health education	36	46.1	46	53.5
Counselling about diet and rest	58	74.4	41	47.7
Danger symptoms of pregnancy	31	39.7	38	44.2
Breast feeding	1	1.3	4	4.7

Table 2 shows comparison of various components of service delivery between the antenatal beneficiaries who were observed in the clinic and those clients who were interviewed. It shows that various components of examination done like weight taken or blood pressure monitored was more among those who were observed. The percentages are less among those interviewed, and lesser number of beneficiaries reported of these components being followed. Counselling was done in half of the beneficiaries in both the groups. While majority (74.4%) were counselled in the clinic about diet and rest. Very few were counselled regarding breast feeding.

During the study period, 125 clients reported to the maternity ward in RHTC. About 50% of them were referred. Deliveries were conducted less than 10% of total beneficiaries. Checklist was not filled in most of the cases, partograph and APGAR scoring was not maintained properly. Five cleans were followed in all of them.

The females availing the oral contraceptive or intrauterine contraceptive options were observed in the clinic and equal number interviewed, to see that whether all the necessary components of service delivery were followed or not. History taking was satisfactory. All the options

were properly explained to 80%; and only half of them were told about the advantages and disadvantages of the family planning methods they opted. Of those opting for oral contraceptives, all of them were explained about the schedule and what to do in a case missed dose. But side effects were explained in only one fourth of the clients. All the clients taking oral contraceptive were explained where to contact for resupplies. Similarly, all the clients who opted for intrauterine device were explained how to check the thread and when to consult the doctor. Among the 87 children included in the subgroup, checklists, perinatal record and immunisation card was made almost in all cases.

Table 3: Components of counselling/ health education in antenatal clinic.

Components	n=78	%
Place of delivery planned	54	69.2
Counselling about diet and rest	58	74.4
When to consult a doctor	38	44.2
Danger symptoms of pregnancy	31	39.7
Signs of labour	15	19.2
Family planning/contraceptive use	21	26.9
Breast feeding	1	1.3

Table 4: Comparison between the checklist and exit interviews in children (under five).

Between the checklist and exit interviews in children under five				
Variable	Checklist		Exit Interview	
	Yes	%	Yes	%
Perinatal record taken	44	95.7	39	95.1
Immunisation card	45	97.8	39	95.1
Missed dose	9	19.6	10	24.4
Contacted by the health worker in that case	-	-	Nil	Nil
Immunisation only	16	34.8	21	51.2
General examination done	14	46.7	10	24.4
Pallor	Nil	Nil	Nil	Nil
Anthropometric measurements	Nil	Nil	Nil	Nil
Weight	46	100	33	80.5
Height	Nil	Nil	Nil	Nil
ORS given to those with diarrhoea	11	100	4	100
Instructions for using ORS	Nil	Nil	Nil	Nil
Medicine given	30	100	19	95
Prescribed medicine available in pharmacy	13	43.3	8	42

Table 5: Comparison of components of counselling in under five clinic.

	Checklist		Exit interview	
Breast feeding	13	39.4	14	34.1
Importance of clean water	2	4.3	16	39
Hand washing	Nil	Nil	13	31.7
Covering food and water	1	2.2	13	31.7
Making salt and sugar solution	Nil	Nil	6	14.6

Table 6: Comparison between the checklist and exit interviews in RNTCP.

Variable	Checklist		Exit Interview	
	Yes	%	Yes	%
	n=39		n=30	
Proper record keeping	39	100.0	30	100.0
History taking	39	100.0	30	100.0
Address verification done	39	100.0	13	43.3
Management (acc. to type and category)	34	87.2	16	53.3
Counselling/Health Education	20	51.3	3	10.0
Side effects explained	9	23.1	3	10.0
Nature of disease explained to you	22	56.4	16	53.3
Dose given in presence of health worker	35	89.7	17	56.6

On checking the immunization cards it was found that approximately (20-24%) of them had missed a dose. Weight of the child was routinely measured in all cases. Anthropometric measurements, pallor and counselling were not done. Details are given in (Table 5). In order to compare our observation with that of client's perspective on the services they availed, 41 mothers of children under five attending under five clinics on immunization days were interviewed. Out of the 41 mothers interviewed, 95.1% had immunization cards with them, 24.4% reported of having missed a dose as scheduled. It is pertinent to note that none of them were contacted by the health worker in that case. Awareness among the mothers was far from satisfactory. Out of the 41 mothers interviewed, only one third was aware of exclusive breast feeding, one third was aware of the importance of using clean water source. Thirty-one percent were aware about hand washing and covering food and water.

Thirty nine clients were observed while availing the DOTS services at the centre. Out of these 19 were patients of pulmonary tuberculosis and rest were of extra pulmonary cases. Details are given in Table 6. It was observed that Proper record keeping, history taking, address verification done in almost all cases. The areas like case management (acc. to type and category), counselling, health education and side effects of drugs were not explained properly. It was observed during exit interview that in 50% of cases the dose was not given in the presence of health worker.

DISCUSSION

Rural and remote communities in India are characterised by poorer health outcomes compared with urban areas. Integral to improving rural and remote health outcomes is the provision of appropriate, accessible and effective health care services relevant to the needs of communities. This requires a mechanism to monitor and evaluate the impact of health services on improving health outcomes for communities. For this reason, the study was conducted.

Our study revealed that most of the essential components of ANC were satisfactorily followed during antenatal check-up like history taking, weight and B.P measurement, laboratory investigations, distribution of IFA tablets and administration of TT, it shows better services as compared to NFHS 3 survey.² Still some gaps were noticed, as we know that counselling about the place of delivery is an important component of ANC and the client's visit should be taken as an opportunity to encourage institutional deliveries by counselling them. The significance cannot be undermined in country like India where a number of initiatives are taken to encourage institutional deliveries. However, in the present study, we did not find the same. Although the new ANC registration at the RHTC was average 50-60 per month according to the records, only 11 deliveries were conducted at the centre throughout the study period. In UHTC, delivery services are not provided to the population. Some of the clients in the centres under the present study, are referred to nearby civil hospital which has specialists available. This has two implications. It not only shows underutilization of the available services, we might also lose clients who would prefer to be registered in other health facilities where they would be dealt with throughout the pregnancy and also for delivery to avoid the harassment/ phobia to a new place also. Steps to improve this would not only improve the maternal and child health outcomes, but also ensure optimum utilization of the resources available at the centre for institutional delivery. One of the cost effective method to do so would be counsel the ANC clients as well as those who accompany them, while they avail the ANC services. The components of the counselling were found to be the weakest point in this health care delivery system. It is similar to findings in other studies where major deficiencies were observed in the provision of essential information like information on danger signs during pregnancy and delivery, advice on breast feeding, subsequent nutrition after delivery.^{9,15} This kind of ignorance can prove fatal for mother as well as child. Where Government of India is committed to achieve the Sustainable Development Goals, this kind of approach is not acceptable at all.

Evaluation of delivery services and family planning services further it revealed that the necessary steps were followed in delivery services at RHTC and family welfare services. In both these services, most of the components of service delivery were satisfactorily followed. All the steps in normal delivery were followed except the fact that the partograph was not maintained during labour and APGAR score was not determined. The findings of this study are similar to those found by Monica et al.¹⁶ Among those taking oral contraceptives only 26% were told about the side effects. Data from NFHS-3 shows a similar picture.¹⁶

Evaluation of under-five clinic revealed that some crucial components (growth monitoring) of the service delivery were not up to the mark. While weight of the child was routinely measured in all the clients, other anthropometric measurements (height, mid arm circumference) were not done and growth chart was also not maintained properly at both the centres. Not doing anthropometry is not acceptable at any level. So we have to identify the root cause of it because it has a practical implication. If we skipped the anthropometry then how can we detect the nutritional status, growth monitoring etc.?

It was observed that counselling component scored low in this group of beneficiaries similar to the antenatal beneficiaries. Similarly, observations of less counselling and insufficient imparting of health education on various aspects have been noted in other studies as well.^{9,17}

The results of the present study to evaluate the DOTS service are somewhat comparable to another study done to assess the quality of service delivery of tuberculosis care. Health education given to patients with tuberculosis was very poor.¹⁷ The major drawback detected in the study was lack of counselling and health education imparted to the clients, although this is an important dimension of primary health care. Counselling component scored low in all the groups of beneficiaries observed and interviewed.

In a context of financial constraints and high burden of disease it is essential to maximise resources and the potential of health services to meet the needs of the community in a sustainable manner. Here the problem emerged from our study was attitude problem of the health workers. Here we have to understand the dilemma of the health workers for omitting the counselling and anthropometry portion, so that effective training /behaviour change strategies can be adopted and implemented. For this reason, further qualitative studies are required and the problem can be solved by subsequent training and retraining.

CONCLUSION

On the basis of the findings of the present study, it can be concluded that the services being provided by the centres proved to be satisfactory in terms of manpower. But as

far as the utilization rates of services provided, training of manpower and health education component is concerned, there were some gaps. Efforts should be made to bridge these by corrective measures to ensure optimum utilization of services and better manpower management. The study also suggests the need of deploying counsellors and health educators, in-service training of the staff and strengthening of referral linkages. The need for employing regular medical officers is also felt for inculcating confidence among the clients.

Recommendations

- Family welfare clinic may be established for better counselling.
- Capacity building and training of medical and nursing staff in labour room of GMCH on a regular basis for proper utilization of health services in UHTC.
- Improving communication skills and counselling components is another area which needs improvement.

Limitations

The study suffers some drawbacks in terms of intragroup comparisons due to non-availability of sufficient number of cases in each of the subgroups to be studied. The study also has limitations in terms of studying different groups of patients while taking exit interviews and filling checklists. This was due to restrictions imposed due to time constraint and manpower for conducting the interview simultaneously.

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