Impact of Followup Visits on the Integrated Management of Childhood and Neonatal Illness Strategy Implementation in the Health Facilities of District Jamshoro

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ABSTRACT

OBJECTIVE: To compare the impact of monthly versus quarterly monitoring visits on the IMNCI case management skills of health workers in the health facilities of district Jamshoro.

METHODOLOGY: Comparative Cross-sectional study was conducted at 4 Health facilities of District Jamshoro, from January to December 2015. There were total four Integrated Management of Childhood and Neonatal Illness (IMNCI) trained staff, one at each health facility. Health facilities having Integrated Management of Childhood and Neonatal Illness (IMNCI) trained staff were included in this study; while Health facilitieshaving IMNCI untrained medical staff were excluded. Staff were trained by trainors during nine days IMNCI workshop. During training they were trained specifically about the detectoion of general danger signs, respiratory distress, dehydration, Throat / Ear infections, malaria and measles.

RESULTS: Monthly monitoring visits had better results than the quarterly monitoring visits; regarding the detectoion of general danger signs, respiratory distress, dehydration, Throat / Ear infections, malaria and measles. Out of 4 health facilities 2 health facilities were visited on monthly basis (Taluka head Quarters Kotri and Government Dispensary Lower Sindh Barrage) and other 2 on quarterly basis (Government Dispensary Petaro OPD and Government Dispensary Christian colony), competency of staff was assessed and compared. General Danger Signs (11.5±2.646 versus 8.67±3.367) Cough or Difficult Breathing (13±1.826 versus 8.83±3.070), Diarrhea (13±1.826 versus 8.83±3.070), Sore Throat (11.5±2.646 versus 8.67±3.367), Ear Problem (11.5±2.64 versus 8.67±3.367), malaria (12.25±3.096 versus 8.83±3.070) and measles (11.75±2.630 versus 8.75±3.223)

CONCLUSIONS: We concluded that monthly follow-up visits had very good impact on the IMNCI strategy implementation in health facilities. Monitoring progress and evaluating results are key functions to improve the performance of those responsible for implementing health services.

KEY WORDS: Integrated Management of Childhood and Neonatal Illness, Health Facilitiess.

INTRODUCTION

Childhood mortality is about 10 million all over the world. It includes 4-million neonatal death each year[1]. Most of these childhood deaths can be prevented by the training of health workers especially in poor developing countries[2]. Pakistan is also a poor developing country, there are consistently poor neonatal and child health indicators, and it is ranked 43 among high childhood mortality rate countries[3].

Infant mortality rate in Pakistan is 61.2-per 1000 live births. Pakistan is ranking third in Asian countries, having high <5 years old mortality. Under 5 years' mortality rate is 74.1-per 1000 live births[4]. High childhood and neonatal mortality rates are major global health challenges[4]. The fourth Millennium Development Goal (MDG-4) commitment was to reduce mortality in children younger than 5 years by two-third between 1990 and 2015[5], especially

neonatal mortality (38% of all deaths in children less than five) in high-mortality countries is needed[6].

Although between 1960 to 2000, there was reduction in child mortality (from 2 months to age 5 years); unfortunately, the neonatal mortality rate (NMR) could not be reduced desirably[7].

Individualized clinical care can reduce the mortality rate in < 5 years' age children including neonates[8].

For the provision of individualized care, WHO and UNICEF launched Integrated Management of Childhood Illness (IMCI) strategy during 1992 followed by Integrated Management of Childhood and Neonatal Illness (IMNCI) strategy to improve child and neonatal survival. Government of Pakistan adopted these IMNCI strategies in 1998 as National guidelines[9].

Our hypothesis is that the health workers who were trained in IMNCI case management, loose the competency with the passage of time and the impact of training is diminished. This study is conducted to

know the health care competence regarding the IMNCI case management after the frequent monitoring visits.

METHODOLOGY

This Comparative Cross sectional study was done at 4 dispenseries of district Jamshoro (having the IMNCI trained staff) by random sampling from January to December 2015. There were total four IMNCI trained staff, one at each health facility. There were total 22 health care facilities in district Jamshoro among them 6 have trained health personals. Four Health facilities having trained IMNCI staff were included in this study while, two health facility having trained (trained staff were unavailable during study period because of leave for higher studies) and 16 having untrained IMNCI medical staff were excluded from the study. Interview was taken from all trained health personnel on proforma (Pre designed by WHO) and their certificates of training were checked.

Researcher filled the predesigned proforma at each visit at outdoor department of health facilities and observed the skills of health worker regarding assessment, classification and identification of treatment; while they were doing their routine work. Researcher encircled the "Yes" if health worker did it correctly and encircled "No" if done incorrectly. At the end of whole assessment, if health worker done correctly at 50% or more time than he was labelled as competent, otherwise labelled as incompetent.

Out of 4 health facilities 2 health facilities were visited on monthly basis (Taluka head Quarters Kotri and Government Dispensary Lower Sindh Barrage) and other 2 on quarterly basis (Government Dispensary Petaro OPD and Government Dispensary Christian colony). Assessment of health workers done during each visit.

After the approval by ethical committee of LUMHS (IRB Number 3484) the data was collected through a supervisory checklist for Monitoring / Supervision (Pre designed by WHO) for IMNCI Activities. Health personnel who fulfilled the inclusion criteria were assessed / interviewed at their facility of under-five year's OPD for their practicing of IMNCI approach. Data was analyzed by using SPSS version 17. All collected data (General Danger Signs, Cough or Difficult Breathing, Diarrhea, Sore Throat, ear problems, fever and measles) was entered on monthly and quarterly basis.

Operational Definitions:

Competency of Health Care Workers: We defined competency as 'having sufficient knowledge and skills to comply with predefined clinical standards.

Assessment of case management Skills of the health worker: Health worker correctly assessed a child <5 years (General Danger Signs, and checking of 5 main symptoms), Health worker correctly classified the child using the chart booklet, Health worker correctly treated and given appropriate pre-referral treatment at facility, Malnutrition and anemia assessed correctly, immunization status of all <5 years children's, Correct home advice on treatment and for follow up and checking of caretaker for correct treatment methods.

RESULTS

There was significant improvement during monthly visits as compared to Quarterly visit regarding the health workers assessment of children <5 years (General Danger Signs, and checking of 5 main symptoms).

Government Dispensary Lower Sindh Barrage visited monthly and OPD Government Dispensary Petaro visited quarterly, competency of staff was assessed

Table I: Health worker correctly assessed a child <5 years (General Danger Signs, and checking of 5 main symptoms) during Quarterly visits at OPD Government Dispensary Petaro (Health worker n = 1)

OPD GD Petaro						
Month	Jan	Apr	Jul	Oct	**Mean**	**Standard Deviation**
No. of Children	18	22	17	19		
	n(%)	n(%)	n(%)	n(%)		
Assessment						
Check for General Danger Signs	8(44)	13(59)	11(65)	14(74)	11.5	2.646
Does the child have Cough or Difficult Breathing?	11(61)	15(68)	12(71)	14(74)	13	1.826
Does the child have Diarrhea?	11(61)	15(68)	12(71)	14(74)	13	1.826
Does the child have Sore Throat?	8(44)	13(59)	11(65)	14(74)	11.5	2.646
Does the child have an Ear Problem?	8(44)	13(59)	11(61)	14(74)	11.5	2.646
Does the child have Fever? (Classify malaria)	8(44)	15(68)	12(71)	14(74)	12.25	3.096
Does the child have Fever? (classify measles)	8(44)	13(59)	12(71)	14(74)	11.75	2.630

and compared respectively. There were better results in monthly visits as compared to quarterly visits. General Danger Signs (11.5±2.646 versus 8.67±3.367) Cough or Difficult Breathing (13±1.826 versus 8.83±3.070), Diarrhea (13±1.826 versus 8.83±3.070), Sore Throat (11.5±2.646 versus 8.67±3.367), Ear Problem (11.5±2.64 versus 8.67±3.367), malaria (12.25±3.096 versus 8.83±3.070) and measles (11.75±2.630 versus 8.75±3.223) (Table I and III).

Taluka Head Quarters Kotri visited monthly and OPD Government Dispensary Christian Colony visited quarterly. There were better results in monthly visits as compared to quarterly visits respectively. General Danger Signs (9.75±3.304 versus 7.67±3.339) Cough or Difficult Breathing (11±2.944 versus 8.08±3.260), Diarrhea (11±2.944 versus 7.92±3.476), Sore Throat (10.5±3.697 versus 8.08±3.260), Ear Problem (10±3.651 versus 8.08±3.260), malaria (10.75±2.754 versus 8.08± 3.260) and measles (11±2.944 versus 7.67±3.260) (Table II and IV).

Table II: Health worker correctly assessed a child <5 years (General Danger Signs and checking of 5 main symptoms) during Quarterly visits at Government Dispensary Christian Colony. (Health Worker n=1)

GD Christian Colony						
Months	Jan	Apr	Jul	Oct	Mean	Standard Deviation
No. of Children	16	24	18	21		
	n(%)	n(%)	n(%)	n(%)		
Assessment						
Check for General Danger Signs	6(38)	10(42)	9(50)	14(67)	9.75	3.304
Does the child have Cough or Difficult Breathing?	8(50)	13(54)	9(50)	14(67)	11	2.944
Does the child have Diarrhea?	8(50)	13(54)	9(50)	14(67)	11	2.944
Does the child have Sore Throat?	6(38)	13(54)	9(50)	14(67)	10.5	3.697
Does the child have an Ear Problem?	6(38)	12(50)	8(44)	14(67)	10	3.651
Does the child have Fever? (Classify malaria)	8(50)	12(50)	9(50)	14(67)	10.75	2.754
Does the child have Fever? (classify masles)	8(50)	13(54)	9(50)	14(67)	11	2.944

Table III: Health worker correctly assessed a child <5 years (General Danger Signs, and checking of 5 main symptoms) during Monthly Visits at Government Dispensary Lower Sindh Barrage

Government Dispensary Lower Sindh Barrage														
Months	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
No. of Children	10	13	9	11	12	11	13	10	12	11	14	13	Mean	SD
	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)		
Assessment														
Check for General Danger Signs	3(30)	6(46)	6(66)	9(82)	10(83)	10(90)	12(92)	3(30)	11(91)	10(91)	13(93)	11(85)	8.67	3.367
Check for General Danger Signs	3(30)	6(46)	6(66)	9(82)	10(83)	10(90)	12(92)	3(30)	11(91)	10(91)	13(93)	11(85)	8.67	3.367
Does the child have Cough or Difficult Breathing?	4(40)	6(46)	6(66)	9(82)	10(83)	10(90)	12(92)	4(40)	11(91)	10(91)	13(93)	11(85)	8.83	3.070
Does the child have Diarrhea?	4(40)	6(46)	6(66)	9(82)	10(83)	10(90)	12(92)	4(40)	11(91)	10(91)	13(93)	11(85)	8.83	3.070
Does the child have Sore Throat?	3(30)	6(46)	6(66)	9(82)	10(83)	10(90)	12(92)	3(30)	11(91)	10(91)	13(93)	11(85)	8.67	3.367
Does the child have an Ear Problem?	4(40)	6(46)	6(66)	9(82)	10(83)	10(90)	12(92)	2(20)	11(91)	10(91)	13(93)	11(85)	8.67	3.393
Does the child have Fever? (Classify malaria)	4(4)	6(46)	6(66)	9(82)	10(83)	10(90)	12(92)	4(40)	11(91)	10(91)	13(93)	11(85)	8.83	3.070
Does the child have Fever? (classify measles)	4(40)	6(46)	6(66)	9(82)	10(83)	10(90)	12(92)	3(30)	11(91)	10(91)	13(93)	11(85)	8.75	3.223

Table IV: Health worker correctly assessed a child <5 years (General Danger Signs, and checking of 5 main symptoms) during Monthly Visits at Taluka Head Quarters Kotri

	THQ Kotri													
Months	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	**Mean**	**SD**
No. of Children	16	13	15	9	12	11	13	14	12	11	14	13		
	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)		
Assessment														
Check for General Danger Signs	3(18)	4(31)	6(40)	4(44)	6(50)	6(55)	8(62)	9(64)	11(92)	10(91)	13(93)	12(92)	7.67	3.339
Does the child have Cough or Difficult Breathing?	4(25)	5(38)	6(40)	4(44)	6(50)	6(55)	9(69)	11(79)	11(92)	10(91)	13(93)	12(92)	8.08	3.260
Does the child have Diarrhea?	4(25)	5(38)	6(40)	4(44)	6(50)	6(55)	9(69)	11(79)	11(92)	10(91)	13(93)	12(92)	7.92	3.476
Does the child have Sore Throat?	3(18)	4(31)	6(40)	4(44)	6(50)	6(55)	9(69)	11(79)	11(92)	10(91)	13(93)	12(92)	8.08	3.260
Does the child have an Ear Problem?	4(25)	5(38)	6(40)	4(44)	6(50)	6(55)	9(69)	11(79)	11(92)	10(91)	13(93)	12(92)	8.08	3.260
Does the child have Fever? (Classify malaria)	4(25)	5(38)	6(40)	4(44)	6(50)	6(55)	9(69)	11(79)	11(92)	10(91)	13(93)	12(92)	8.08	3.260
Does the child have Fever? (classify measles)	4(25)	5(38)	6(40)	4(44)	6(50)	6(55)	9(69)	11(79)	11(92)	10(91)	13(93)	12(92)	7.67	3.260

DISCUSSION

Frequent monitoring and evaluation of health care workers showed favorable results in many countries[10]. This study has been conducted to deteremine the impact of frequent follow-up visits on the IMNCI strategy implementation in the health facilities of district Jamshoro. In our study significant positive impact was found on improvement of health facilities of the Jamshoro district as; all foure hospitals Government Dispensary Petaro, Government Dispensary Christian Colony, Government Dispensary Lower Sindh Barrage and Taluka Head Quarters Kotri. In this study when compared the monthly monitoring with quarterly montring, there was a significant good improvement was assessd in monthly monitoring as compare to quarterly monitoring. Comparable results have been recorded in other world health organization study[11]. In an Indonesian study, there was improvement in the competency of nursing staff after frequent supervision and motivation. They became perfect in recognising the emergency and priority signs after the monthly supervision[12]. In a study from Kenya, health workers were assessed after 2 years of initial assessment. There was not much improvement in follow up results. Initially 18 were correctly classified while after 2 years 20 children were correctly classified. Initially 60 received correct treatment while after 2 years assessment 70 children received correct assessment[13]. Lack of improvement in followup visit may be due to a huge gap of 2 years between first and last visit.

In this study quarterly visit done at OPD Government Dispensary Petaro and Govenment Dispensary Christian Colony. It was checked whetherhealth worker correctly assessed a child for General Danger Signs and 5 main symptoms. On the initial visit only 8 (44.44) and 6(37.50) children were correctly assessed for general danger sign, Cough was correctly assessed in11(61.11) and 8(50.00) children; while on the last visit it was improved and 14(73.68) and 14 (66.67) children were correctly assessed for general danger sign and 14(73.68) and 14(66.67) children correctly assessed the cough. Our results are similar to a study which showed that regarding cough, 91 children were correctly assessed for the presence of fast breathing and 89 of children were correctly assessed for four general danger signs[14]. In a study from Rawanda, > 60 health workers correctly identified general danger signs and nutritional status of child in all 4 districts, while in Ruhango only 45 health workers correctly made the classification of diarrhea. Fever and cough was correctly classified by >60 health workers in all four districts[15].

Regarding the assessment of Diarrhea on initial visit 11(61.11) and 8(50.00) children were assessed correctly, while on final visit 14(73.68) and 14(66.67) children were assessed correctly. In a study from South Africa results were similar to our study, 31 could not assessed dehydration, 51 could not assessed fever, 63 could not assessed malnutrion and 36 could not correctly made any serious classification[16]. In a study from Abbottabad 65.2% health workers correctly identified the general danger signs, while 60.8% correctly identified the plain for severe dehydration, 73.9% health workers correctly identified

pneumonia[17].

Regarding Fever/Malaria on initial visit 8(44.44) and 8 (50.00) children were assessed correctly, while on final visit 14(73.68) and 10.75 children were assessed correctly. Regarding Measles on initial visit 8(44.44) 14(66.67) and 8(50.00) children were assessed correctly, while on final visit 14(73.68) and children were assessed correctly. In an international study only 28 nurses were aware of the IMNCI approach that is how to assess and manage the five target diseases, which include pneumonia, diarrhea, malnutrition, measles, and malaria[18]. While in an indian study 68 nurses were competent in the detection and management of common conditions like acute diarrhoea, acute respiratory tract infection, fever and malaria[18].

CONCLUSION

We concluded that follow-up visits, especially monthly visits had very good impact on the IMNCI strategy implementation in the health facilities. Monitoring progress and evaluating results are key functions to improve the performance of those responsible for implementing health services.

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