Quality Assessment of Performance of Health Workers in Health Facilities on District Level in Yemen

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Abstract:

Objective: To evaluate the performance of health workers in respect to the acute respiratory infections (ARI) & acute diarrhea in <5 children.

Setting: Rural health centers in 11 districts in the reform project in Republic of Yemen.

Method: Across sectional study involving 312 cases of ARI & diarrhea. Data were collected through direct observation using WHO algorithm for integrated management of child illness. Performance score was considered as: well done mean ± ISD or poor mean – ISD fair in between sides of SD according to correct element performed

Results: The mean score of workers had fair performance 30.4 ± 3.5, 89.4% of workers had fair performance 6.1% well done & 4.5% poor. The performance was better among in workers who received training courses in ARI/ Ad management. There was a decline in performance skills with time lapse after training.

There was a high percentage of irrational use of drugs irrespective of the. H workers category

Conclusion: There is a need for promoting health workers efficiency in ARI/ diarrhea management through basic training, refreshing courses & supportive supervision

Keywords: Quality, assessment, performance, health workers.

Introduction

Conventional methods of classifying causes of death suggest that about 70%of children (0-4years)worldwide are due to diarrheal illness, acute respiratory infection, malaria and immunizable diseases(1).Where ARI is responsible for 3.9 million deaths & diarrhea claims the lives of nearly 2 millions/year most of these are in developing countries[2,3,4].

In Yemen regional data suggest that ARI is the second leading cause of death after diarrheal dehydration [5,6].

Case management approach for diagnosis & treatment of childhood illness in developing countries often use a limited set of signs & symptoms & standardized measures for disease classification & treatment. The success of these disease specific approaches led WHO & UNICEF to incorporate them into a set of guidelines for the integrated management of child illness (IMCI).Such approaches have been documented to reduce both cause specific mortality, and at the same time reduce the irrational use of drugs which leads to reduced quality of therapy & waste of resources.[7,8,9].

A national programme for control of ARI in children <5 years was adopted by the Ministry of Health in Yemen in1995 (10).To evaluate the performance of health workers regarding ARI & diarrhea managment in health facilities in Yemen this study was conducted.

Patients & Method

A cross sectional multistage random sample was adopted, involving 11 districts of the reform Project in Yeman. One health center from each district & 30 encounters from each health center were taken, during the period from 2nd October 2001 to 15 Jan 2002. There was an average of 3-4 patients encounters/day, spending 6-8 days in each center depending on the attendance rate.

Direct observation to measure the performance of health workers at each encounter for a child with ARI or Diarrhea was considered. The variable for data collection followed the basic outline of WHO algorithm for IMCI.A check list for the different activities listed in guideline & were performed by the health worker. The activities included: clinical history taking, physical examination, diagnosis reached & prescribed drugs by the care provider. Each of these activities is subdivided into further measures that are supposed to be done according to the guidelines each measure is given a mark. Correct elements (points) were summed in order to obtain a case management score for the health worker. Scores of performance were considered as follows:

Poor= _1SD below the mean

Well done=+1SD above the mean

Fair=in between the two sides of SD

An independent assessment was carried out by a well trained physician after the exit of the child

from the care giver room, following the WHO guidelines & results were compared with the health care provider diagnosis written & the management given. Antibiotic prescription was considered as the indicator for the performance quality assessment of the care givers

Statistical analysis using SPSS version 10, χ^2 test was used& p value =or less than0.05 was considered significant.

Results:

A total of 312 cases (219 had ARI &93 diarrhea) were recruited in the study.

The care performance score ranged between (21-39) the mean was (30.04 ±3.5)

Poor= the mean-1SD=30.4-5.88=24.16

Well done = the mean +1SD (30.04 + 5.88= 35.92)

Fair= the range between poor & well done. (25-35)

The figure shows the shape of care performance score which was of normal distribution with a skewed character away from the negative side (poor performance).

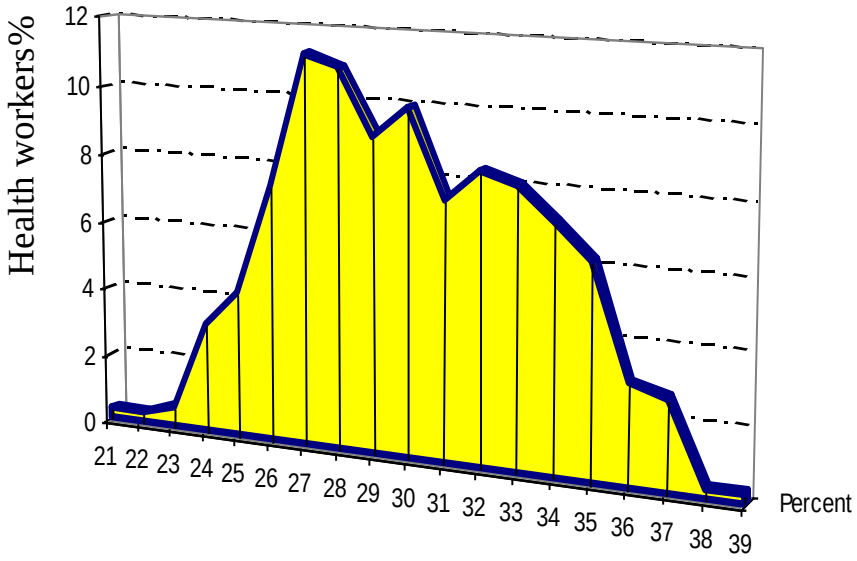

Figure 1: The final score distribution curve of case-management care for ARI and diarrhea children included in the study.

In table (1)the performance level distribution according to the categories of health workers shows a highly significant association, as most medical doctors had fair performance(91.2%) compared to (71.4%) of health assistants. P=0.0001

The study revealed a statistically significant association p=0.02 between the health workers performance categories & the antibiotic prescribing table (2).

Table 1: The performance distribution according to category of health workers.

Performance	Category of health worker				Total	
	Medical doctor		Medical assistant			
	No	%	No	%	No	%
Poor	**7**	2.5	7	25	14	4.5
Fair	259	91.2	20	71.4	279	89.4
Well done	18	6.3	1	3.6	19	6.1
Total	**284**	100.0	28	100.0	312	100.0

*****χ^2=30.280, d.f. = 2, P= 0.0001

Table (2): The performance of health workers according to antibiotic decision.

Performance	antibiotic decision				Total	
	Wrong		Correct			
	No	%	No	%	No	%
Poor	10	6	4	2.7	14	4.5
Fair	151	91	128	87.7	279	89.4
Well done	5	3	14	9.6	19	6.1
Total	**166**	100	146	100	312	

*χ^2= 7.479, d.f. =2, P= 0.024

Table (3) illustrates that there is a significant difference between doctors & medical assistants in relation to perception of antibiotic where doctors were more likely to make a correct decision P=0.039.

Table (4) shows the relation between the lapse of time since last training course in ARI/CDD management & antibiotic use, There was a significant association between lapse of time & correct antibiotic decision P=0.oo8

Table (3): The relation between categories of health worker on antibiotic decision.

Category of health worker	Antibiotic decision				Total	
	Wrong		Correct			
	No	%	No	%	No	%
Medical doctor	**146**	51.4	138	48.6	284	100
Medical assistant	20	71.4	8	25.6	28	100

*X^2=4.103, d.f. =1, P= 0.039

Table (4): The relation between the time since last training in ARI/CDD (2 days at least) and antibiotic decision.

Time since last training in ARI/CDD	Antibiotic decision				Total	
	Wrong		Correct			
	No	%	No	%	No	%
Trained within <1 year	17	47.2	19	52.8	36	100
Trained within 1-5 years	40	41.7	56	58.3	96	100
Never trained	109	60.6	71	39.4	180	100

*χ^2 = 9.557, d.f. = 2, P= 0.008

In table (5) the relation between the performance categories & the decision on other symptomatic drugs, There is a highly significant association between these two variables ad shown in the table, P=0.001.

The study revealed that 133 (42%0 only of mothers had been given health advices by the H. workers other than drug prescription & this was for both doctors & other health workers as shown in table (6).

Table (5): The performance of health workers according to symptomatic drugs decision.

Performance	Symptomatic drugs decision				Total	
	Wrong		Correct			
	No	%	No	%	No	%
Poor	**10**	71.4	4	28.6	14	100
Fair	102	36.6	177	63.4	279	100
Well done	1	5.3	18	94.7	19	100
Total	113	100	199	100	312	100

*□ □=15.409, d.f. =2, P =0.0001

Table (6): Relation of the category of health worker according to measures other than drugs treatment taken.

Category of health worker	Any measures other than drugs treatment taken				Total	
	No advice		Advice			
	No	%	No	%	No	%
Medical doctor	167	58.8	117	41.2	284	100
Medical assistant	12	42.9	16	57.1	28	100
Total	179	100	133	100	312	

*χ^2=2.650, d.f. = 1, P= 0.104

Discussion

The current study is an attempt to describe the level of performance of health workers in health facilities on district level in Yemen in respect to two of the most prevalent childhood diseases in this country. as the quality assessment of care services (differences between expected and actual performance) aims to identify opportunities for improvement in most dimensions of quality, such as technical competence, effectiveness, deficiency, safety & converge[11].

The results revealed that the care provided by health workers was generally fair(89.4%),with small percentage of those who performed well & poor. this finding is similar to the quality assessment case study conducted by Lin & Tarrow where only 10% of the health workers performed complete assessment steps in the IMCI guidelines[12].There was a decline in the skills of health workers as the time passes since the last training in ARI/CDD management courses attended, and that was clear in the negative aspects of all tasks (history taking, physical examination, diagnosis & treatment).This may be due to the deficiency in follow up visits & supervision in this country. This finding is not unique to Yemen & is comparable to results revealed by studies in other counters [13, 14, 15].

The study showed that there is a high percentage of irrational drug prescriptions (91% for wrong antibiotic& 71% for other symptomatic drugs) prescribed for the management of the illness. The causes could be attributed to many reasons such as: patients demand, uncertainty in diagnosis, claim for prevention etc... This result coincides with findings of several other investigators [16,17,18,19]. As to measures other than drug treatment there was obvious deficiency in advice given to mothers (42%) of cases, this is similar to other researcher's studies [15, 18].

So in conclusion the performance is generally suboptimal optimal& there is a need to promote the performance of health workers categories, by adequate supportive supervision, stress on following the WHO guidelines in management of ARI/diarrhea, & the importance of the rational use of drugs.

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