Evaluation of Application of Quality Improvement Program Among a Samples of Primary Health Care Centers In Thi-qar Governorate

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Abstract:
According to collected data finding the Quality evaluating percentage for administrative units 87.7% & it's main weak indicators were for feedback & it is records , administrative guideline , administrative training , infection control guideline , alcohol , waste's cart ,waste's balance & log documentation of some record . 83.1% evaluating percent for medical units and main weakness points were in numbers of medical &serving staff , gynecological examination room ,waiting & examination time .Pharmacy unit had 89.5% ,main weak indicators were in number of pharmacist ,separated area between boxes of drugs and walls , smoke detector , number of trundle , doses & rout of drugs on recipe .Tuberculosis program had 92.1% and weak score only in health promotion folder for tuberculosis disease ,following of dropout patient from therapy. There are weakness in all immunization coverage in most centers but Vitamin A , storage of vaccine , training of immunization team , presence of records , infection control equipments had good score in immunization units which had 81.1%. Maternal units had lowest evaluating percentage was 74.6 % because there are weak indicators in female medical staff , units according to standard , home visit , presence of sonar ,1st & 4th maternal visit coverage .Health promotion unit had 91.6% ,there are weak score for community participation , halls. While IMNCH units had 88.4% average percentage and most weak indicators were for number of medical staff , adequate place for ARI equipments program ,Thermometer. The continuous training & psychological health services had 82.6% , 95.8% respectively .Laboratory units evaluating percentage was 76.6% & most weak indicators were in structure staff , shaker , balance , spirit lamp , dispenser , calibration, KLB , G , AFB & water bath .In this study the main weak indicators regarding health visitor program in internal net work , transport vehicle , health visitor's maps & bags ,updating numbering of houses therefore this program had 84.4%. Weak indicators regarding hotel services were in rights & duties list of patient , Rumba & special toilets for handicapped patients ,alcohol , cleanliness of gardens therefore the hotel services had 80.3% .Dental services units had 83.6% ,itis weakness score were in number of dentist , dental devices , XR dental devices , processing devices , debris removal devices , optical filler material , activation of dentists , dykal , amalgam , temporary filler material ,XR films & batting root .Emergency services units had 83.7% evaluating percent .While most weak scores regarding emergency services were for medical staff , laundry & serving staff .

Introduction :

The WHO's definition of quality improvement (QI) " is a continuous process for determining of errors ,

understanding the factors these leading to these errors , testing, planning, and implementing of special interventions to correct of errors , studying the effects of the interventions, and planning another actions in response." [1] Countries worldwide are started to application the concept of quality into their primary health care due to many

important of QI these are improve the quality of care , improve development of a service , to achieve of the desired outcomes through efficient and effective manner, meeting the needs &requirements of the customer . The result can be a balance of quality, efficiency, and profitability in its achievement of organizational goals when an organization implements an effective QI program .[2,3] Dr.Samie Jadhullah from Egypt & Dr. Mohammed Jabber were introduced the quality improvement program in Iraq

1997 through conducted & analysis of quality of health services. Followed by creating of a quality assurance section within the MoH Directorate of Preventive Health. After that creating of quality improvement units in each governorate. These units were finally established in 2011. [4]

Aim of the study:

1. To evaluate services of sample of primary health centers in Thi-Qar governorate by application of quality improvement program .
2. To identify the main weak indicators of primary health services in Thi-Qar governorate & determine the level of duties and responsibility of improvement of these weak indicators .

Subjects and Methods:

The current study was cross sectional study to multistage sampling of 32 PHC centers. There are 64 main primary health centers in Thi-qar distributed in 7 primary health sectors. Taking 32 centers (50% from total) randomly (by multistage sampling technique) from all sectors then taken randomly sampling from each sector according to sector catchment map.

Results :

Descriptive finding for Administration indicators shows the average (range) percentage was 87.7% & shows the main weak quality indicators including; no working with feedback rules , 37.5% of centers had no feedback record , 25% of study centers had no administrative & infection control guidelines ,75% of centers had no alcohol in their units , absence of carts for collect & transporting medical waste in 46.9% of centers & 34.4% had no balance for medical waste .

Table 4.1 Evaluating score for administration unit indicators.

Administration indicators	Score 0 (<50%)		Score 1 (50-74%)		Score 2 (>=75%)	
	No	%	No	%	No	%
External markers for primary health center	-	-	1	3.1	31	96.9
Internal markers for units	3	9.4	1	3.1	28	87.5
Queries & ticket room isolated	5	15.6	3	9.4	24	75.0
Present of general ticket record	-	-	-	-	32	100
General ticket record is maintenance & contain all information	-	-	1	3.1	31	96.9
Present of fingerprint or record for worker signature (if fingerprint not present)	-	-	-	-	32	100
Present of record for lating worker for a working time	3	9.4	-	-	29	90.6
Present of referral record	1	3.1	-	-	31	96.9
Working with feedback rules	28	87.5	-	-	4	12.5
Present of visiting card	1	3.1	-	-	31	96.9
Present of administration guideline	8	25.0	1	3.1	23	71.9
Administrative worker are get training for administrative guideline	3	9.4	7	21.9	22	68.8
Presence of exported & imported record	-	-	-	-	32	100
Present of files for all employers & daily worker	-	-	-	-	32	100
Worker file maintenance & contain all information	-	-	1	3.1	31	96.9
Presence of absence record	-	-	-	-	32	100
Log documenting accuracy of absence record	-	-	-	-	32	100
Presence of normal and sick vacation record	-	-	-	-	32	100
Present of infection control guideline	8	25.0	-	-	24	75.0
Presence of hand washing equipment (laundry with soap)	2	6.3	7	21.9	23	71.9
Present of alcohol in all unit	24	75.0	-	-	8	25.0
Present of sorting mechanism to medical waste	-	-	-	-	32	100
Presence of all type of bags	-	-	-	-	32	100
Presence of carts for collect & transporting waste	15	46.9	-	-	17	53.1
Present of medical waste record	-	-	-	-	32	100
Medical waste record is maintenance & contain all information	-	-	2	6.3	30	93.8
Presence of fuel exchange record	-	-	-	-	32	100
Regulating of fuel exchange record	-	-	1	3.1	31	96.9
Average (range) Percentage of administrative unit	87.7 (75-97.5)					

Medical unit indicators

The average percentage of medical unit indicators 83.1% .Regarding main weak indicators of medical unit including; 96.9% of centers had score 0,1 (<74%) of medical staff according to standard , 75% of study centers had no serving staff (score 0,1) , absence of sweet gynecological examination in 65.6% of centers , absence of torch & barafan in 15.6% , 18.8% had no medical practice guidelines & him sick .While other quality indicators in medical units had good score 2(>=75%) evaluating percentage . (Table 4.2)

Table 4.2 Evaluating score for medical unit indicators

Medical unit indicators	Score0 (<50%)		Score1 (50-74%)		Score2 (>=75%)	
	No	%	No	%	No	%
Medical staff according to standard (1 per 10000)	30	93.8	1	3.1	1	3.1
Health staff according to standard (1 per 10000)	5	15.6	4	12.5	23	71.9
Nursing staff according to standard (1 per 10000)	-	-	3	9.4	29	90.6
Serving staff (1 per unit)	20	62.5	4	12.5	8	25.0
Presence of medical practice guideline	6	18.8	-	-	26	81.3
Specific room per doctor for examination	3	9.4	-	-	29	90.6
Bed per room	1	3.1	-	-	31	96.9
Bedding	-	-	-	-	32	100
Sphygmomanometer	-	-	-	-	32	100
Sweet gynecological examination	21	65.6	-	-	11	34.4
Thermometer	1	3.1	-	-	31	96.9
Stethoscope	-	-	-	-	32	100
Tongue depressor	-	-	-	-	32	100
Torch	5	15.6	-	-	27	84.4
Barafan per unit	5	15.6	-	-	27	84.4
Him sick	6	18.8	-	-	26	81.3
Gloves	-	-	-	-	32	100
Official wear	1	3.1	-	-	31	96.9
Ear & tonsil scope	1	3.1	-	-	31	96.9
Presence of specific space for women examination	17	53.1	-	-	15	46.9
The doctor advising for 60% of patient about drug & how it use	1	3.1	3	9.4	28	87.5
Standard time for medical examination (5-10 min)	3	9.4	6	18.8	23	71.9
Standard time for waiting patient from entering unit until exam	-	-	10	31.3	22	68.8
Presence of laundry with soap & water	2	6.3	2	6.3	28	87.5
Presence of enough chairs	-	-	-	-	32	100

Pharmacy unit indicators:

The average percentage of pharmacy unit indicators 89.5% .There are 11 indicators from 32 indicators had good score 2(>=75%) including ; Presence of signal for each drug on trundle , Order of drug according to FEFO method , Matching of received drugs with receipt

documents , Daily relay for drugs , The name of patient on recipe , The age of patient on recipe, The name & signature of doctor on recipe , Pharmacist advising to not less then 90 % of patient , Presence of specific trundle for STD drugs in pharmacy . While other indicator had weak scores 0 ,1 (<=74%). (Table 4.3)

Table (4.3) Evaluating score for pharmacy unit indicators

Pharmacy indicators	Score0 (<50%)		Score1 (50-74%)		Score 2 (>=75%)	
	No	%	No	%	No	%
Pharmacist according to standard (1 per 20000)	23	71.9	-	-	9	28.1
Assistant pharmacist according to standard (1 per 20000)	2	6.3	-	-	30	93.8
Presence of maintenance pharmacy room	1	3.1	-	-	31	96.9
The presence of the store pharmaceuticals enough space	4	12.5	2	6.3	26	81.3
Present of signal for each drug on trundle & contain all information	-	-	-	-	32	100
Order of drug according to FEFO method	-	-	-	-	32	100
Presence of enough platform with height not less than 10 cm	-	-	2	6.3	30	93.8
Separated area between wall & boxes not less than 30 cm	16	50.0	1	3.1	15	46.9
Order of drugs according to direction of arrow to the top	-	-	-	-	32	100
The height of boxes not above2.5 m	2	6.3	-	-	30	93.8
Presence of fire extinguisher	-	-	-	-	32	100
Presence of smoke detector	11	34.4	-	-	21	65.6
Sudden inventory record found in center manager	1	3.1	-	-	31	96.9
Sudden inventory record is regular and contain all information	1	3.1	1	3.1	30	93.8
Presence at least 10 trundle	12	37.5	4	12.5	16	50.0
Presence of refrigerator	2	6.3	-	-	30	93.8
Adequate ventilation & air conditioner	1	3.1	1	3.1	30	93.8
Presence of rely daily record	-	-	1	3.1	31	96.9
The name of patient on recipe	-	-	-	-	32	100
The age of patient on recipe	-	-	-	-	32	100
The diagnosis of patient on recipe	2	6.3	-	-	30	93.8
The doses &rout of administration on recipe	10	31.3	-	-	22	68.8
Name & signature of doctor on recipe	-	-	-	-	32	100
Presence of specific trundle for STD drugs in pharmacy	-	-	-	-	32	100
Average (range) Percentage of pharmacy unit	89.5 (70-96.8)					

Immunization indicators : The current study showed that the average percentage of immunization unit was 81.1% & the immunization coverage of all vaccine not reach to excellent score 2 (>=90%) but still in weakness score 0 ,1 (<=89%) .While other indicators had excellent score 2 (>=90%) including ; No exposure of MMR& measles vaccine to sun light , Present of permanent vaccination record for children & pregnant , Presence of daily vaccination record for pregnant , Giving Vit A to breast feeding mothers, Training of immunization workers & Putting of vaccines in carrier of vaccine during daily immunization .(Table 4.6)

Table 4.6 Immunization unit indicators

Immunization unit indicator	Score0 (<=74%)		Score1 (75-89%)		Score2 (>=90%)	
	No	%	No	%	No	%
Presence all type of vaccine (15 vaccine)	2	6.3	11	34.4	19	59.4
Immunization coverage of BCG	1	3.1	7	21.9	24	75.0
Immunization coverage of OPV3	6	18.8	8	25.0	18	56.3
Immunization coverage of quintet vaccine second dose	12	37.5	9	28.1	11	34.4
Immunization coverage of quartet vaccine first & second dose	17	53.1	2	6.3	13	40.6
Immunization coverage of measles	9	28.1	12	37.5	11	34.4
Immunization coverage of MMR	12	37.5	5	15.6	15	46.9
Following of dropout children from vaccination (monthly)	20	62.5	1	3.1	11	34.4
Working with infection control procedure by (hand washing, gowns, gloves, correct get rid of syringes)	-	-	1	3.1	31	96.9
Immunization coverage of TT to pregnant	2	6.3	-	-	30	93.8
Presence of permanent record for vaccination of children	-	-	-	-	32	100
Presence of permanent and daily records for vaccination of pregnant	-	-	-	-	32	100
Giving of Vit. A for breastfeeding mother	-	-	-	-	32	100
Immunization workers get training for at least three per year	-	-	-	-	32	100
Average (range) Percentage of immunization unit	81.1 (58.3-100)					

Maternal unit indicators : Average percentage of maternal care unit 74.6% . Some maternal care unit indicators had good evaluating score 2(>=75%) including; Following of pregnant & child & fill all items in card of them, Marking of risk pregnant by red color on card, Presence one recorder per unit, Checking blood pressure for all pregnants & Presence of sonic-aid . (Table 4.7)

Table 4.7 Evaluating score for maternal care unit indicators

Maternal unit indicators	Score 0(<50)		Score1(50-74)		Score 2 (>=75)	
	No	%	No	%	No	%
No. of doctors according to standard (2 per unit)	29	90.6	1	3.1	2	6.3
Nursing staff according to standard (2 per unit)	1	3.1	-	-	31	96.9
Presence of checklist& ticket for child & pregnant	-	-	1	3.1	31	96.9
Marking of risk pregnant by red color on card	-	-	-	-	32	100
First visiting coverage percent 90% of target	21	65.6	7	21.9	4	12.5
Forth visiting coverage percent 90% of target	27	84.4	3	9.4	2	6.3
Making HB, Blood Group, HBS, VDRL, GUE, RBS for pregnants	1	3.1	7	21.9	24	75.0
Checking blood pressure for all pregnants	-	-	-	-	32	100
Presence of sonic-aid	-	-	-	-	32	100
Presence of ULS for second trimester pregnants	24	75.0	-	-	8	25.0
Weighing of pregnants and recording it in weighing charts	-	-	1	3.1	31	96.9
Average (range) Percentage of maternal unit	74.6 (55-91.6)					

Health promotion unit indicators : Average percentage of health promotion indicators was 91.6% .There are 7 health promotion quality indicators had good score 2(>=75%) , while other health promotion quality indicators had weak score 0 , 1 (<=74%) . (Table 4.8)

Table 4.8 Evaluating score for health promotion quality indicators

Health promotion unit indicators	Score 0 (<50%)		Score 1 (50-74%)		Score 2 (>=75%)	
	No	%	No	%	No	%
Health staff 2 for health promotion unit	1	3.1	2	6.3	29	90.6
Angely unit are trained for communication skill & other programs	-	-	-	-	32	100
Individual meeting , weekly lecture & quarterly session	-	-	-	-	32	100
Presence of Hall for lectures and seminars	19	59.4	1	3.1	12	37.5
Presence of health promotion equipment (computer, printer, scanner, CD, folder, plasma display screen, TV)	2	6.3	11	34.4	19	59.4
Presence of community commission	-	-	-	-	32	100
Presence of community participation record & contain all information	3	9.4	-	-	29	90.6
Regulation of community participation record	5	15.6	-	-	27	84.4
Photographic picturing for community participation actions	2	6.3	-	-	30	93.8
Presence of vertical library contain books& guidelines and wall library contain different posters in waiting place	-	-	1	3.1	31	96.9
Average (range) Percentage for health promotion unit	91.6 (73.3-100)					

IMNCH unit indicators : Average (range) percentage of IMNCH quality indicators was 88.4% , only three indicators had good quality score 2 (>=75%) were are available of ORS , log documentation of IMNCH record & making growth chart in follow up visit . all growth chart already making by computer in all centers in Thi-qar. (table 4.10) .

Table 4.9 Evaluating quality score for IMNCH unit

IMNCH Indicators	Score0 (<50%)		Score1 (50-74%)		Score2 (>=75%)	
	N	%	N	%	N	%
Adequate place for ORS & presence of it is equipment (classes, water, cup & spoon)	7	21.9	3	9.4	22	68.8
Medical trained staff for IMNCH according to standard (2 per unit)	16	50.0	-	-	16	50.0
Presence of ARI equipment (nebulizer, Ventolin, DW) available in any time	1	3.1	3	9.4	28	87.5
Log documentation & regulation of IMNCH record	-	-	-	-	32	100
Balance	-	-	1	3.1	31	96.9
Thermometer	7	21.9	-	-	25	78.1
Head circumference tape	8	25.0	-	-	24	75.0
Making of growth chart in all follow up visits	-	-	-	-	32	100
Available of guidelines for medical and nursing staff	2	6.3	-	-	30	93.8
Average (range) Percentage of IMNCH	88.4 (65.3-100)					

Hotel services indicators : The present study showed that the highest percentage of hotel quality score 2(>=75%) was 96.9% for 31 centers about presence of citizen complaints Fund and panel Hotline numbers in the Office of the Inspector General , while the lowest score 2 percentage was 3.1% (one center) for presence of specific toilet for handicaps . The highest & lowest score 0 percentage is reverse symmetry with score 2 percentage .(Table 4.19)

Table 4.19 The Hotel services quality indicators

Hotel services indicators	Score0 (<50%)		Score1 (50-74%)		Score2 (>=75%)	
	No	%	No	%	No	%
Presence of citizen complaints Fund and panel Hotline numbers in the Office of the Inspector General	1	3.1	-	-	31	96.9
Presence of the list of rights and duties of the patient to the health institution	7	21.9	-	-	25	78.1
Enough of chair	-	-	2	6.3	30	93.8
Handicap chair in entering of center	3	9.4	-	-	29	90.6
Cleaner of rooms	-	-	1	3.1	31	96.9
Cleaner aisles	-	-	1	3.1	31	96.9
Presence of Rumba for Disabled patients	16	50.0	-	-	16	50.0
Garden of center is clean & regular	4	12.5	10	31.3	18	56.3
Presence of enough recycle bin	-	-	1	3.1	31	96.9
Enough number of toilet for male & female	-	-	8	25.0	24	75.0
Presence of specific toilet for handicaps	31	96.9	-	-	1	3.1
Cleanness toilet	-	-	5	15.6	27	84.4
Average (range) Percentage of hotel services	80.3 (56.6-100)					

Emergency services indicators : The average percentage of included centers was 83.7% , 78.1% of sampling (25 centers) were not included or not given emergency services only centers in areas not serving by hospital , 4 centers 57.1% had score 0 for emergency structure , 2 centers with score 0 for One A-service employees , 3 centers represent 42.9% had no separate entrance for emergency department (score 0) , 2 centers had score 0 (<50%) for Presence of a light mobile device Emergency , three centers had score 0(<5%) for presence of laundry with soap& water . While other emergency quality indicators had good quality score 2(>=75%) .(Table 4.21)

Table 4.21 Emergency services quality indicators

Emergency unit indicators (25 represent 78.1% were NI/NA)	Score0 (<50%)		Score1 (50-74%)		Score2 (>=75%)	
	No	%	No	%	No	%
Emergency structure: (presence of emergency specialist or general doctor)	4	57.1	-	-	3	42.9
The presence of a nurse/2	-	-	-	-	7	100
The existence of a separate entrance for the emergency health center.	3	42.9	-	-	4	57.1
The presence of ECG	-	-	-	-	7	100
Lobby department is contain patient's bed	-	-	-	-	7	100
Trundle shock and which contains a life-saving drugs, and relief pain as directed by the Department of Pharmacy	-	-	-	-	7	100
Presence of dressing trolley contain gauss, cotton, various bandages, tools for initial surgery	-	-	1	14.3	6	85.7
Presence of electric shock device DC Shock	-	-	-	-	7	100
The presence of a withdrawal fluids device	-	-	-	-	7	100
Presence of a light mobile device Emergency	2	28.6	-	-	5	71.4
Laundry with soap or alcohol-based gel.	3	42.9	1	14.3	3	42.9
Nebulizer	-	-	-	-	7	100
Average (range) Percentage of emergency unit	83.7 (67.9-96.4)					

Discussion:

Current study showed that there are weak in application of referral and feedback system in all PHC centers in Thi-qar governorate because the Iraqi MOH & DOHs had no rules for referral & feedback system and not providing essential equipments regarding this system such as emergency vehicle , telephone , reports . There are similar picture showed in study by Al Taha 2006 in Basra HCs and study in Baghdad HCs 2010 by AL-Kadeerii that showed that the Iraqi health system had lack in an effective two way referral and feedback system [5,6] .But results in current study different from other reported study in Bagdad by Easa 2014 that showed that the feedback system had 50% evaluating percentage.[7]

There are weak score for presence of administrative and infection control guidelines & presence of carts for collect and transport waste these because of poor in providing of financial source for PHC sectors. Also there are weak in presence of isolated ticket room in 15.6% of study centers and this disagree with results in

study by AL-Kadeerii 2010 that showed that there are good evaluating score for

ticket room in Bagdad HCs.[5] Average percentage of administrative units in current study was 87.7% . The results also different from other reported studies in Kuwait , KSA(gada) , sawmill , India , Palestine which had weak administrative quality indicators because the administrative indicators in Iraqi PHC centers were simple and not complex therefore had highest percentage 87.7%. [8]

Most important weak indicators in medical units in PHC centers was absence of doctors according to standard and most of patients treated by paramedical staff in HCs , but some of paramedical staff no eligible for medical tasks & most of patients not dissatisfaction for services provided by paramedical staff. Also some centers had one doctor but he is usually busy inside or outside the centers due to he is usually the manager of center. The results not agrees with results in study by AL-Kadeerii 2010 that showed that mean number of doctors in Bagdad HCs was 4 per center.[5] and this is slightly lower than Iraqi MOH 2009 which confirmed the mean number of doctor 5-6 per center .[9] While agrees with results in study by AL Taha that estimated the number of doctor to be poor in Basra HCs. [6] The current study showed that there are clear deficiencies in presence of paramedical staff because of misdistribution , most of paramedical staff like to working in same his living area & some of paramedical staff carry strong effort in delegate of medical tasks because absence of doctors and this leading to their desire to transfer them to another centers. This results in current study similar to results in study by AL-Kadeerii that showed there are deficiencies in medical assistant and

nurse in Bagdad HCs 2010.[5]   Also there are weak indicators conducted in

current study regarding long waiting time. Before the high light of sun , most of patients come early to health centers leading to overload of patients in early working hours ,shortage examination room , not presence of enough doctors all these reasons lead to long waiting time. Similar results in study by AL-Kadeerii in Bagdad HCs 2010 [5] and study by AL-Taha in Basra HCs 2006 that showed most of clients suffering from long waiting time .[6] Also long waiting time in rural Bangladesh HCs was found by AL-Deen et al considered one of most important cause for dissatisfaction of patients that lead to short medical examination.[10] But different results conducted in study 2010 in Mosul HCs that showed that the available of medical examination equipments were enough , medical staff had 40.5% , nursing staff 77 % [12].

Most of important weak score for pharmacy units were in 71.9% of study centers had no standard number of pharmacist due to random distribution of pharmacist , most of pharmacist desire to working in same living area . Also there are weak in some centers for separated area between walls of storage & boxes of drugs because most of these centers had no maintenance & enough storage room for drugs & oldest building . The current study showed that there are missing of pharmacy equipments in some centers such as smoke detector in pharmacy , enough number of trundles, enough number of fire distinguisher these are due to less financial source for districts & weak Technical Section in districts . Also there are important weak indicators in 31.3% of study centers for written of completed dose on recipe that is responsibility of doctors in centers and

this due to some reasons such as not presence of doctors, overload of patients.

The results of current study agreed with results of study which evaluate quality services of al Russafa PHC centers by Hamed 2013 that showed there are weak indicators in number of pharmacist , storage room , number of trundle in 53% of al Russafa PHC centers [13] .There are clear weakness in all vaccination coverage in most study PHC centers especially in centers which serving rural areas due to some factors including; Most families living away from PHC centers , Lack of parents knowledge, There are no active following of drop out children from immunization schedules, Less immunization complains except polio & measles, No available of transport vehicle for immunization team , less activation of health visitor program for home visit & SMS message .The results in current study different from results in study by AL-Kadeerii in Bagdad HCs 2010 that showed there are good immunization coverage >90% for OPV, HepB , Measles & TT. While acceptable score 70-90% for BCG & DPT coverage .The results shows the average percentage of immunization units was 81.1% comes from other quality immunization indicators but no from vaccination coverage . While similar picture in results of Al- Russafa PHC centers 2013 that shows there are weak in most vaccination coverage [13]

65.6% & 84.4% of study centers had weakness in 1st & 4th antenatal visit respectively. This is because most pregnant women think there are poor maternal services providing in health centers , absence of female medical staff , no available of sonar & long waiting time ,therefore these pregnant women visit private doctors or hospital & all these factors can effect on maternal visit to PHC centers .Similar picture was seen by study in Basra & Baghdad city which shows there are poor of same weakness in

current study [13].Also this results agree with low ANC visit coverage in Bagdad HCs reported in study by AL-Kadeerii 2010.[5] And agree with study by AL-Taha in Basra HCs 2006 found that less than half clients for ANC units made 1-2 visit only .[6] AL-Deen 2009 also showed the average ANC visit in all study centers was three visit , while the recommended MOH should be at least five visit .[10] But disagree with USAID project reports that recorded the maternal units had very good quality score in brazil , new Mexico , Italia , Emirate .[14] And different from results of study of Quality of primary services in health centers in al kudos health directorate which shows there are good quality percentage for maternal units [15].

Most weak indicators were in presence of halls for lecture & seminars because most of centers had designed according to oldest PHC services & programs but PHC services & programs in continuous development therefore most of these oldest centers either had no halls or presence of halls but used in more impotent services .This is similar to results in other reported study in Mosul 2010 [12] . 15.6% of centers had weakness in community participation committee & it is action and the improvement of this weakness within these centers . This results disagree with results in study by Hamed 2013 which shows there are good community participation & intersectoral cooperation in Russafa PHC centers [13] .While Abd al Kareem had 50% quality percentage to community participation , 77.5% to health promotion nearly similar to results in current study [7]. The results also disagree with results of other reported

studies which evaluate quality of health promotion units in Rengrandi 64% , Kenya 72% , India 65% [8] .

The current study showed that there are weak indicators in presence of isolated place for ARI services this weakness is PHC centers responsibility & need to simple separated place in any units or rooms for ARI equipments .This weakness not due to oldest & narrowing building of centers . The results shows 50% of study centers had no trained medical staff for IMNCH services because of random distribution of medical staff between centers & hospitals .25% of study centers had no tape for head circumference this considered within PHC sectors responsibility & this tape not achieves and available in any place and can it bought .the results of present study is similar to what had been reported by Tofiq in AL – nagaf PHC centers which shows that the main causes of less IMNCH child visiting due to absence of medical staff & poor equipments. [14]

Most of primary health centers in present study were not included with X-R units only in these which away or not serving by hospitals especially in districts & rural areas .The results showed all included centers had no radiographic doctor specialist because there are only 6 specialist doctors in Thi-qar governorate distributed in hospitals only. And this agree with results in reported study by AL-Kadeerii 2010 that showed there are clear deficiencies in radiographic specialist [5] . Most of study centers had no acidification solution , chips films , wash basin rkat acidification . All these weakness due to these units using automatic acidification films .5 centers had X-R units but had no ray machine & fit for work . The results agree with results in reported study by AL-Kadeerii 2010 that showed presence of operational ray machine only in 65% of centers .[5]

The deteriorated economy in Iraq caused by sanction and continuous wars in Iraq leading have truly effecting on financial supplying to health directorates leading to no excellent building of PHC centers or not building of these centers according to global specification lead to weak suffixes of these building such as not absence of handicapped toilet , absence of rumba for handicapped patient , irregular garden , not enough number of toilet .These results nearly similar to results by another reported study by AL-Kadeerii in Bagdad HCs 2010 that showed some party building not designed for PHC services were changed to health centers then rehabilitated by the MOH & foreign donors.[5] Also similar picture recorded by Hamed in AL-Russafa centers 2012 which shows there are weakness in duties & right list of patients , cleanliness of gardens , not available enough recycle bins , not presence of handicapped toilet [13] .While not agreement with AL- Taweel 2010 give intermediate score for hotel services in Mosul's centers [12]. The present results similar to results of study in Halp PHC centers which evaluate hotel services and take 82% evaluating percentage & shows the lowest percentage were for cleanliness toilet room but highest percentage for gardens & duties list [16] . In current study there are 20% of study centers had no adequate waiting place these due to poor building or old building of these centers which had been designed according to previous PHC services ,but there continuously developments in programs in PHC services and most of the waiting place for patients occupying for some units and programs especially as ticket room .similar picture conducted in other reported study by AL-Kadeerii 2010 in Bagdad health centers that confirmed there are inconvenient waiting place for two third of patients .[5] 78.1% of study centers were not included with

emergency services only in centers in areas away from or not served by hospitals especially in rural areas .Most important weak indicator showed in current study was absence of doctors for emergency services and most of patients admitted to emergency department treated by paramedical staff, but some of paramedical staff no eligible for medical tasks & most of patients not dissatisfaction for services provided by paramedical staff. Also some centers had one doctor but he is usually busy inside or outside the centers due to he is usually the manager of center ,this is truly effecting on medical examination and make it poor .There are similar results conducted in another reported study by AL-Taha 2006 in Basra HCs that showed there are clear deficiencies in medical staff for emergency services in emergency department in Basra HCs that were in areas not served by hospital services.[6] In current study the average evaluating percentage of emergency department was 83.7% and this results different from results of another reported study which evaluate emergency services in PHC centers in India which had excellent percentage was 93% , these high percentage due to available of enough numbers of doctors & presence of all tool& emergency equipments [8] . While the results agree with results in study by AL-Taha 2006 in Basra HCs that in which the evaluating percentage for emergency services was 85.3% because missing of doctors and some of emergency equipments and drugs .[6]

6.1 Conclusions

1. In spite of poor and weak indicators, the mean percentage for all units and programs is 87.3% and this considered adequate percentage for overall PHC services in spite of poor and weak indicators.

2. The current study shows there are clear deficiencies in standards medical staff, gynecologist, pharmacist and radiologist.

3. Poor 1st and 4th antenatal visit coverage rate .It results from cumulative effect from absence of gynecologist, absence of sonar, long waiting time and home visit.

4. Low coverage rate of most immunization and this is PHC centers duties, while the presence of all types of vaccines is PHC sectors duty.

5. In spite of newly developing of health visitor program in Thi-qar, it had adequate evaluating percentage.

6. Wars ,sanction and poor financial sources lead to clear deficiencies in some instruments and devices such as portable sonar , light mobile ,sucker , water bath, dental chair, Xylocaine ,dykal ,amalgam…etc.

7. Half of study centers (50%) had no halls for lectures, separated area between wall and boxes of drugs, rumba for disabled patients, separated entrance for delivery room, and newborn care protocol.

8. Quarter of study centers (25%) had no health visitor map, administrative and infection control guidelines, Rose Bengal test, B-urea test, incubator, water bath, and home visit after delivery, family planning drugs and head circumference tape.

9. The highest evaluating percentage is for communicable disease control units, while the lowest percentage is for maternal units.

6.2 Recommendation

These recommendations are considered keys for PHC services quality improvement:

1. High quality training and supportive supervision are considered the gold standard for the development of quality improvement program.

2. Quality improvement program needs providing roles from MOH for how to assesses, measure and evaluate PHC services quality.

3. Leadership is one of important factors for improving of PHC services, therefore the quality improvement program need to have PHC center's manager as one of QI team.

4. The current study suggest holding a monthly meeting between QI teams the General Director of Health Directorate to discuss all weakness points and rout for solution.

5. The Health Directorates are preferably to consider the adopted checklist and PHC services quality guidelines suggested in this study .

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تقييم تطبيق برنامج تحسين الجودة لعينة من مراكز الرعاية الصحية الأولية في محافظة ذي قار

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الموجز: تبعا إلى تحليل البينات ، كانت النسبة المئوية لمعايير جودة الوحدات الإدارية ٨٧,٧% و ابرز نقاط الضعف كانت : التغذية الاسترجاعية وسجلاتها، دلال العمل الإدارية ، التدريب الإداري ،دلائل السيطرة على التلوث ، الكحول ،عربات للنفايات ،ميزان النفايات ، دقة توثيق بعض السجلات . ٨٣,١% كانت نسبة تقييم الوحدات الطبية وابرز نقاط الضعف كانت:أعداد الأطباء والكادر الخدمي ،غرفة الفحص النسائي ،الزمن القياسي للفحص والانتظار .وحدات الصيدلة كانت نسبة تقييمها ٨٩,٥% وابرز نقاط ضعفها كانت: أعداد الصيادلة ، المسافة الفاصلة بين صناديق الأدوية والجدران ،كاشف الدخان ، أعداد الدواليب ، الجرعة وطريقة استخدامها على الوصفة .برنامج التدرن حصل على ١.٩٢% وكانت مؤشرات ضعف فقط بخصوص فولدرات تعزيز الصحة حول مرض التدرن ،ومتابعة المتسربين من العلاج . سلسلة التبريد حصلت على أعلى نسبة تقييم مئوية ٩٨,٤% وكانت نقاط ضعفها فقط في وجود مراقب الانجماد وتسجيل درجة حرارة الثلاجة . أوضحت الدراسة إن هناك ضعف في نسب تغطية كل اللقاحات ولكن إعطاء أ فيتامين أ طرق خزن اللقاح ، تدريب فرق التحصين ،توفر سجلات التحصين ، توفر معدات السيطرة على التلوث حصلت على نسب تقييم جيدة ولذلك حصلت وحدات التحصين على ٨١,١%. إما وحدات رعاية الأم حصلت على اقل نسبة تقييم لمعايير الجودة حيث كانت ٧٤,٦% بسبب هناك ضعف في وجود الكادر الطبي النسوي ، عدد الوحدات حسب القياسي ، الزيارات البيتية ، معدات ولوازم التخطيط العائلي ، وجود سونار وضعف في نسبة تغطية الزيارة الرابعة والأولى للحوامل .بينما وحدات تعزيز الصحة حصلت على ٩١,٦% وكان هناك مؤشرات ضعف بخصوص الشراكة المجتمعية ، قاعات للمحاضرات . بينما وحدات الرعاية المتكاملة لإمراض الطفولة حصلت على ٨٨,٤% وابرز نقاط الضعف كانت في أعداد الكادر الطبي ، مكان مناسب لمستلزمات الأري ،محارير درجة الحرارة . برنامج التدريب المستمر وخدمات الصحة النفسية حصلت على ٨٢,٦% و ٩٥,٨% على التوالي .أما وحدات الصحة المدرسية كانت لديها ضعف في كادر الهيكلية القياسية ووجود ناظور شبكية لذلك كانت النسبة المئوية لتقييم مؤشرات الجودة ٨٥,٩%. وكانت نسبة تقييم وحدات المختبر ٧٦,٦% وابرز نقاط ضعفها كانت : كادر المختبر ، جهاز الخلط ، ميزان ، حساس ، معايرة الأجهزة ، فحص الخناق ، صبغة كرام ، الصبغة المقاومة للأحماض ، حمام مائي . وأوضحت الدراسة أن اغلب نقاط الضعف المتعلقة ببرنامج الزائر الصحي كانت بخصوص توفر شبكة اتصال داخلية ، توفر خرائط وحقائب الخاصة بالبرنامج وتحديث ترقيم الدور وعدم توفر وسائل نقل الكادر لذلك البرنامج حصل على ٨٤,٤%. معايير الضعف المتمثلة بالخدمات الفندقية كانت وجود لائحة بحقوق وواجبات المريض ، رمبة للمعاقيين ، توفر مرافق خاصة للمعاقين ، توفر الكحول ، نظافة الحدائق لذلك حصلت على ٨٠,٣%. أما وحدات الأسنان حصلت على ٨٣,٦% وابرز نقاط الضعف المتعلقة بها تمثلت بأعداد أطباء الأسنان ، أجهزة الأسنان ، أجهزة أشعة الخاصة بالأسنان ، جهاز خلط الحشوات ، جهاز إزالة التكلسات ، مادة الحشوة الضوئية ، فعالية طبيب الأسنان ،دايكل ، أملغم ، مادة الحشوة المؤقتة ، رقائق الأشعة وحشوات الجذر . أما خدمات الطوارئ حصلت على ٨٣,٧% وابرز معايير الضعف الخاصة بها تمثلت بالكادر الطبي والكادر الخدمي .