

## Estimation of Measles, Mumps & Rubella immunization coverage in Tikrit district from January 2008 December 2010

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### Abstract

The Measles vaccination is one of most effective vaccine that exist ;one jab is enough to protect for life. It is also thought to be the most cost-effective public health intervention in the world, which is why, it is used as a component of the MMR vaccine to this day. The World Health Organization (WHO) applied the vaccination schedule in major developing countries as follow: Measles vaccine at 9months, single dose of MMR vaccine at 18months & booster dose for  $\leq 59$ months. In Iraq, after 1990 vaccination coverage declines gradually due to international sanction, no reliable data are available to show current level of immunization coverage. Official reported data in 1990 tends to overestimate coverage. Information on immunization coverage is used for a variety of purposes; to monitor the performance of immunization services at local, national & international levels, an accurate historical representation of immunization coverage is important to assess trends in immunization system performance, to better establish the relationship between immunization service delivery & disease occurrence to provide a framework for setting a future goals for coverage a achievement. A cross-sectional descriptive study done in Tikrit district- Salah aldeen government in Tikrit city. An official agreement taken from the manager before starting data collection from the records(from Jan. 2008- Dec. 2010) in department of health protection. Our research study was located in Tikrit district- Tikrit city, which is, the biggest city. The region is heterogeneous. The region still receives a high rate of immigration from different parts of the country. The annual –total population/ year for Tikrit district in Salahaldeen among routine immunization group of (1-2) years old children of MMR vaccination coverage were 67.8%, 127% & during 2008, 2009 & 2010, respectively. There are discrepancy in available data although in 2010 Apr. 0(0%) from total vaccination group & Jun. 716 (109.3%) which exceeds the total number of monthly target coverage rate (602). All the results obtained from MMR vaccination campaigns carried out in salahaldeen government accepted, achieved the goals of MOH This clue a good acceptance for vaccination from the community . There are (may be), some explanation for this discrepancy in that ,most vaccination teams did not scrutinize properly the previous vaccination status of the children, so extra efforts demand to channelize information, education, administration in order to achieve the desired vaccination coverage.

### Introduction

vaccine to this day. The MRC continue to study the basic biology of the virus with aim of further reducing the number

The Measles, Mumps & Rubella (MMR) contributed toof cases especially in developing countries (2,3).In 1988 , the significant degree of mortality & morbidity in developingMRC funded atrial of three-part vaccine for MMR, the results countries (The Measles vaccination, which Medical Royallindicated the most suitable age for vaccination early in the College (MRC) in United Kingdom (UK) tested in clinicalsecond year of life-necessary to eliminate the three diseases trial in the 1960s, is one of most effective vaccine that exist;(2,3) administered subcutaneous injection(4).The World one jab is enough to protect for life. It is also thought to beHealth Organization (WHO) applied the vaccination schedule the most cost-effective public health intervention in their major developing countries as follow: Measles vaccine at world, which is why, it is used as a component of the MMR9months, single dose of MMR vaccine at 18months & booster

dose for ≤59months (1,4,5). When MMR vaccine was levels, an accurate historical representation of immunization introduced in 1988, vaccination uptake rose to above 90% in coverage is important to assess trends in immunization the UK. In 1992, there were fewer than 10 000 notification & system performance ,to better establish the relationship an average of one death from Measles each year in UK (between immunization service delivery & disease occurrence 2).In Umaraniye region of Istanbul a study done in 2006 (6),to provide a framework for setting a future goals for coverage while the population of the researched area nearly 72 000, the achievement( 10,11,12) Aim of this study to evaluate the immunization coverage was low (79.3%) rate. They explained coverage of MMR vaccination in Tikrit district –Salah aldeen the causes as follow: the people being in the village & government-IRAQ FROM Jan2008.-Dec.2010 .Objectives of couldn't reach the health care services , have no Knowledge the study are: to identify the proportion of children who have about vaccination, intercurrent illness of child during MMR vaccination among the target group in Tikrit district, to vaccination time & missed opportunities like not to shave off identify the coverage rate of MMR vaccination in relation to a vial for only one child(6, 7)In Iraq ,after 1990 vaccination annual or monthly target of coverage & predict the factors of coverage declines gradually due to international sanction, non-coverage in relation to the health services.

reliable data are available to show current level of immunization coverage .Official reported data in 1990 tends to overestimate coverage (5). In Tikrit city, a study done in Tikrit Teaching Hospital , found that the MMR vaccination coverage was (34.5%), their explanation are the number of children below 59months in the family, mother's education & residence behind low rate (5,8) Immunization are a valuable tool for controlling infectious diseases among population in the world (9 )Routine immunization & supplementary immunization activities, such as immunization campaigns are designed to provide immunization coverage to entire population(9, 10)Information on immunization coverage is used for a variety of purposes; to monitor the performance of immunization services at local, national & international

### Subjects & methods

Across-sectional descriptive study done in Tikrit district-Salah aldeen government in Tikrit city. An official agreement taken from the manager before starting data collection from the records(from Jan. 2008- Dec. 2010) in department of health protection. Methods of data collection were obtained according to annual/monthly reports, recording vaccination status , type of vaccine & time of vaccination during each month. Methods of data processing include computer analysis using Microsoft Excel program. Data presentation was implemented by using the line graph, bar chart & tables designed by using the same Microsoft program.

### Results

Table (1) shows the annual –total population/ year for Tikrit district in Salah aldeen . The routine immunization group of (1- 2) years old children of MMR vaccination coverage were 67.8%, 127% & during 2008, 2009 & 2010, respectively.

**Table (1)** the coverage rate of MMR vaccination in relation to annual target of coverage in Tikrit district

Year	MMR vaccination coverage Rate (%)
2008	67.8
2009	127.2
2010	65.9

Figure (1) shows the MMR vaccination coverage in each month in 2008 (both routine & supplementary) immunization activities , it was evidence that no campaign activity, but the immunization services for non –vaccinated dropouts child continued all over year. In February (101%), & July (103%) exceed the total number of the monthly target group rate (623). In March (92%) in October (87%), November (68%). While in December 0(0%) were no services applied for children (12-59) months years old

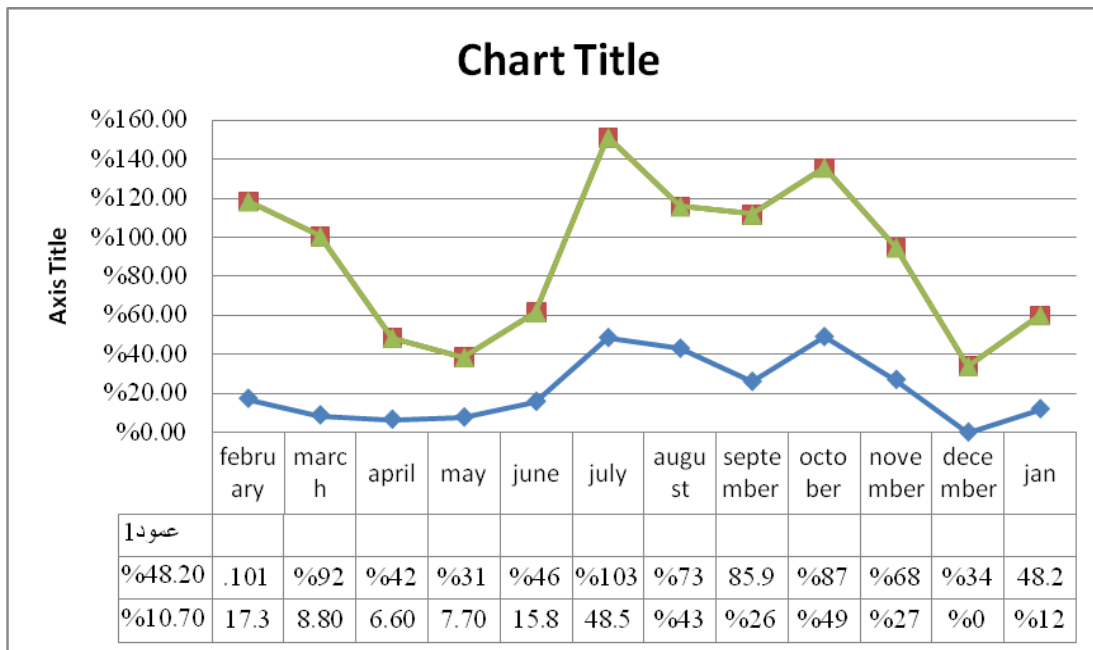


Figure (1) distribution of what was actually done from the total number of vaccinations in each month in 2008

Table (2) shows monthly MMR vaccination coverage of routinely immunized children during 2009 & 2010. There are discrepancy in available data although in april 2010

0(0%) from total vaccination group .In Jun. 716(109.3%) which exceeds the total number of monthly target coverage rate (602).

Table (2) distribution of what was actually done from the total number of vaccination in each month in 2009& 2010

Months	2009		2010	
	No.	%	No.	%
January		71.3	510	77.9
February		76.3	655	100
March		286.9	790	120.6
April		132.7	0	0
May		92.9	0	0
June		109.5	629	104.4
July		111.1	450	74.7
August		112.8	342	56.8
September		102.8	383	63.6
October		129.9	385	63.9
November		124.4	249	41.3
December		157.5	475	78.9

Figure (2) shows the MMR vaccination coverage rate with those involved in campaign, it was evident that the campaign achieved the goals of Ministry Of Health.

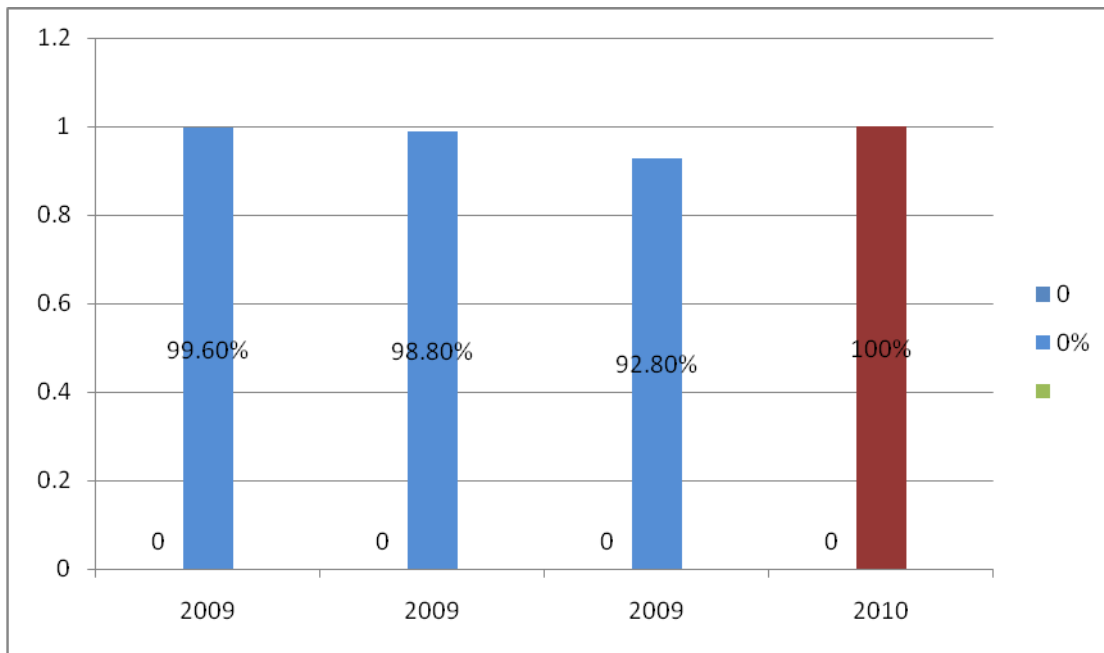


Figure (2) the MMR vaccination coverage rate with those involved in campaign (2009& 2010)

## Discussion

The situation in Iraq continues to deteriorate markedly, not just in terms of number of bombs exploding and corpses being found on the streets, but in terms of the nature of the violence including the brutality of Iraqi on Iraqi violence. This internecine fighting is perhaps the greatest threat to the successful implementation of public health programs and consequently the social, physical & mental health of Iraq is not to forget the basic issue of preservation of some social cohesion upon which a future can be built (12,13).

Iraq by Iraqi Ministry Of Health & organized by WHO in 2007(12), they found that MMR vaccination coverage were (91%) in Salah aldeen & Baghdad (77%).

This may be explained that Tikrit district supported from IMO performed routine & supplementary (mapping-up) immunization activities all over the years, which leads to coverage estimates, that are often inconsistent with proportion. (10). Agree with study done in UK, MMR vaccination coverage for England & Wales stand at (86%) & below (80%) in London (15). In Istanbul (79.3%)(6), this may implies that there is susceptibility of increased MMR

Our research study was located in Tikrit district- Tikrit cases locally, but this has not yet been demonstrated in India studies done for vaccination coverage. The region still receives a high rate of immigration from different parts of the country. This district consist of sixteen primary health care centers provide different health care (10%), they explained the causes as improper cold chain facilities (used as routine vaccination service, maternal & improper technique of administration (16,17, 18). In 2009 the child health & health education ) (6,8). Immunization MMR vaccination coverage was (127%), which, exceed the coverage level estimated based on administrative data, service total number of annual target coverage. According to providers (district health center) summarize the number of WHO/UNICEF estimates of national immunization coverage vaccines given during a time period (usually) monthly & found that no 100% coverage, while it is theoretically report these data to local public health authorities. the data are possible to immunize 100% of target population, especially reviewed &, where necessary, appropriate action taken (small country, or be systemic error ascertainment of the 13,14). In the present study the MMR vaccination coverage in numerator or the denominator. The highest level of coverage 2008 was low rate (67.8%), while other study conducted in as 99% (10). Estimation of Global & regional vaccine

coverage is based on reports from WHO members state, which Abdulrahman SK, Sarhat AR, Twafeek RS. Factors predicting coverage figures have not been scheduled but no figure was immunization coverage in Tikrit city. Middle East Journal of reported to WHO or the data missing, so assume that family Medicine 2008; 6(1): 1-6.  
 coverage's (0%)(10,12). However, the present study found that in Dec. 2008 (0%), Apr. & May 2010 (0%) was done from the total number of vaccination, this related to absence vaccine supply to different primary health care centers within Tikrit district.

According to the Global summary of WHO /UNICEF estimates applied ascense of principles reflect immunization system performance :no smoothing, immunization level vary over time & trends, we have not attempted to, no 100% coverage, country specific & evidence based (10, 14). The biggest humanitarian operation in Iraq to give children life long protection against dangerous disease has been successfully completed .These successful immunization campaign which supported by IMOH as part of Iraqi's long term Measles elimination, have to close immunity gap & protect children health , provide through fixed or vehicle born teams provision MMR combined vaccine for (23-49) months old child .All the results obtained from MMR vaccination campaign carried out in salahaldeen government achieved the goals of MOH This clue a good acceptance for vaccination from the community(13). There are (maybe), some explanation for this discrepancy in that , most vaccination teams did not scrutinize properly the previous vaccination status of the children, so extra efforts demand to channelize information, education, administration in order to achieve the desired vaccination coverage ( 13, 14).

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