

Measles Epidemic in Babylon Teaching Hospital for Pediatrics and Gynecology from 2017 to 2021

Sahar Hasan

University of Babylon, Hillah, Iraq, sahar.hassanissa@uobabylon.edu.iq

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Abstract - Measles is a serious pediatric illness with a significant rate of illness and death. The study's objective is to characterize the epidemiological features of under-5-year-old measles cases and identify jeopardy elements for measles in Al-Hilla, Iraq from 2017 to 2021. This study follows a descriptive design, conducted in the period from 1 January, 2017 to 31 December 2022, Review of surveillance records of all suspected measles cases reported to Al-Hilla city Directorate of Health from 2017 to 2021. Demographic data and Measles cases from 2017-2021 were sought. Total suspected Measles cases from 2017 to 2021 was 252, 137 high cases in 2019 outbreak patient and 90 patient in 2020. The higher percentage measles patient male 53.57% for year 2019 and 57.14% for year 2021 with age group 1-12month and 1-4 year. Measles in Al-Hilla city is not different from that in other parts of the developing countries. The outbreaks still presented everywhere and anytime. The incidence rate found higher when compared to previous recorded data in Al-Hilla city for year 2019 and 2020.

Index Terms - Measles, Measles-epidemic.

INRODUCTION

In developed world, measles is a major source of contagious illness and death and can be prevented with vaccines [1]. Despite all attempts to avoid it through the expanding Immunization Globally program, measles immunization has been extraordinarily efficient, avoiding an approximated 80 million cases and 4.5 million fatalities globally yearly [2]. An approximated 114,900 fatalities were recorded globally in 2014. Measles can lead to serious consequences, especially in children, such as pneumonia, encephalitis, keratitis, and otitis media. Through the period from 2000–2015, the yearly occurrence of measles fell by 75.0 percent, from one hundred forty six to thirty six cases per million people, and the yearly rated measles fatalities fell by 79.0 percent, from 651,600 to 134,200. Outbreak has recently

been recorded in North America, South America, Europe, Africa, and Asia. By 2007, almost 11000 Measles cases, and as well as the same proportion of Rubella cases were recorded in the Eastern Mediterranean Region (EMR) [3]. This study describe epidemiological characteristics of child's measles cases in Al-Hilla city, Iraq from 2017 to 2021.

METHODS

This study used a descriptive approach and was done between January 1st of 2017 and December 31st of 2021, with a review of monitoring information of all confirmed and reported incidents of measles to the Al-Hilla City Directorate of Health from 2017 to 2021. Demographic information as well as measles cases from 2017 to 2021 were collected. The research's sample population was all persons who presented to the Al-Hilla health directorate's monitoring section as having probable measles through the period of the study. In Al-Hilla, measles is a reportable illness. Information were obtained and analyzed from clinical information and monitoring files of all probable measles cases at the Babylon Teaching Hospital for Maternity and Pediatrics, Ministry of Health (MOH), Iraq. The information included data about number of measles cases registered during the years from 2017 to 2021 .Data collected from patients who diagnosed clinically as measles (252 patients). Demographic data include Age, Gender were included.

The clinical case characterizations and lab confirmatory standards were used to make a diagnostic testing. A suspected measles case is considered a disease that exhibits the physical conditions: Red skin rash; fever of 38 degrees Celsius and above; cough, upper respiratory catarrhal symptoms, or conjunctivitis; measles spots (Koplik's spots); The following test results were deemed suggestive of measles: Anti-Measles IgM antibodies were found in plasma (at least live weak measles vaccine is given within the prior month).

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Data was inserted into MS Excel then transmitted and examined afterwards. The features of a measles case are described using frequency and percentages.

RESULTS

Total suspected Measles cases from 2017 to 2021 was 252, 137 high cases in 2019 outbreak patient and 90 patient in 2020. The higher percentage measles patient male 53.57% for year 2019 and 57.14% for year 2021 with age group 1-12 months and 1-4 year.

TABLE 1
DISTRIBUTION OF MEASLES ACCORDING TO AGE GROUP 2017-2021

10-14 Years N (%)	5-9 Years N (%)	1-4 Years N (%)	1-12 Months N (%)	Measles
0 (0.0)	0 (0.0)	0 (0.0)	1 (0.07)	2017
0	0	1 (0.06)	4 (0.26)	2018
8 (7.27)	10 (2.90)	60 (4.47)	90 (7.01)	2019
4 (7.84)	2 (1.64)	29 (8.61)	42 (5.90)	2020
0	1 (1.96)	0	0	2021

TABLE 2
GENDER DISTRIBUTION OF MEASLES 2017-2021

Total N (%)	Female N (%)	Male N (%)	Measles
1	0	1 (100)	2017
5	5 (100)	0	2018
168	78 (46.43)	90 (53.57)	2019
77	33 (42.86)	44 (57.14)	2020
1	0	1 (100)	2021

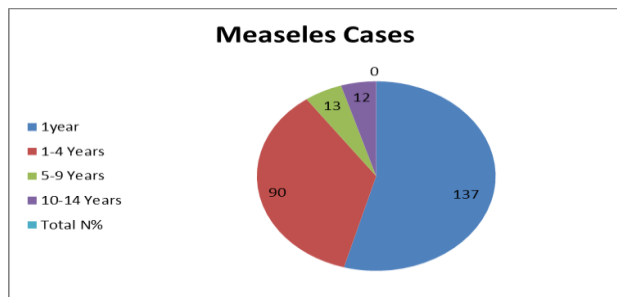


FIGURE 1
DISTRIBUTION OF MEASLES CASES FROM 2017-2021

DISCUSSION

The current study shows that measles is still recurrent endemic viral disease in our country with evidence of epidemic on the endemic situation. Measles is still a big contributor for mortality among children living in low income countries [4][15].

Our research creates a database of all measles cases recorded in Al-Hilla, Iraq, over a 5 year period. In terms of age, contagion rates were greater in children under the age of 5. Infants make up a significant part of the infected age group, accounting for more than half of all confirmed cases occurring between the ages of one and twelve months. This

conclusion was identical to that of a research done in AL Najaf AL Ashraf and Bagdad province [5][6] as well as two studies conducted in Nigeria [8][9].

Also this result is consistent with another research conducted in Iraq between 2005 and 2010, which found that the majority of measles cases were among children aged 1 to 5 years [2].

While the study conducted on 137 children admitted with measles in children welfare teaching hospital medical city in Bagdad during the measles outbreak 2009, the median age group of measles below 17 month [10][11].

Furthermore, lifetime immunity is often obtained in children over the age of 5, whereas affected children under the age of 5 are at threat of measles contagion [12].

The study in District Level Hospital, Nilphamari, Bangladesh congruent with our study finding where revealed that males acquired measles infection more frequently than females with M/F ratio 1.14:1 [10].

Another study Al-Hilla in 2019 shows that males are infected slightly more than females [13]. The research found a significantly significant proportion of sick children under the age of 1 year. This might be attributed to the waning of maternal antibodies developed before. Because the vaccination has not been shown to provide robust, permanent protection, the reduction in antibodies might be attributable to the immunity level of nursing mothers gained by the vaccine instead of spontaneous contagion. As a result, gained maternal antibodies may wane faster than those gained from spontaneous contagion [12][14].

In this study it was found that the higher percentage male (53.57%) in 2019 and (57.14%) in 2020 while female patient (46.43%) and (42.86%) male patient. This finding is in concordance with other study findings in Egypt [12].

The number of reported measles cases risen significantly in 2019 and 2020 compared with 2017 and 2018. This could be understood by a piling up of vulnerable kids with inadequate immunity owing to an absence of immunization or limited vaccinations. In average, roughly 15 percent of infants who get vaccine at nine months and 5–10percent of kids inoculated at one year of age experience primary vaccination failure. Several reasons, including defective vaccine handling, loss of cold-chain management, incorrect administrative processes, and perhaps other host and vaccine-related variables, can all contribute to a rise in vaccination failing [15][16][17]. Vaccine efficacy, on the other hand, was 90.03 percent, showing the ratio of vaccinated kids in the whole population who established lifelong immunity [15][16][17][18]. Vaccinating vulnerable youngsters may result in higher herd immunity and a reduction in measles epidemics [15][17][19].

CONCLUSION

Measles in Al-Hilla city is not different from that in other parts of the developing countries. The breakouts continued

to appear anywhere and at any moment. The occurrence ratio was specified to be greater in Al-Hilla city for the years 2019 and 2020 when compared to prior reported data.

RECOMMENDATION

It was suggested that nationwide investigations on measles be conducted in Iraq to assess the efficiency of offered vaccinations and the length required for immunization. Furthermore, educational initiatives must be developed to enhance families' knowledge and realization in order to prevent measles and its problems in the future.

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AUTHOR INFORMATION

Sahar Hasan, Hammurabi College of Medicine, University of Babylon, Hillah, Iraq.