



Awareness and Attitude towards the Measles Vaccination in Hai'l Region of Saudi Arabia

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Aims: To present the awareness and attitude towards measles vaccination among the population of Hai'l region in Saudi Arabia.

Methodology: A cross-sectional electronic survey was conducted from October 2019 to January 2020 and received 469 samples from the residents of the Hai'l province. The convenient sampling technique was used to collect data through questionnaire sent by emails to participants.

Results: The prevalence of measles in Hai'l region was 7.8% and 96.1% of the population has been vaccinated. About 46% of the population did not know what caused measles, whereas, 37% knew it was a viral disease. About 85.5% believed vaccination is best method to prevent measles and 45.5% of population think that vaccine is the treatment for measles. And, 64.6% think the agencies do good work in promoting measles awareness.

Conclusion: The prevalence of measles in Hai'l province of Saudi Arabia is low with almost all vaccinated. The knowledge and awareness about measles is adequate. The study suggests that the surveillance, monitoring as well as educational and awareness programs needs more attention.

Keywords: Measles; awareness; attitudes; measles vaccination; Hai'l.

1. INTRODUCTION

Measles is a highly contagious and infectious viral disease and one of the leading causes of death especially in young children. Despite the availability of safe and effective measles-mumps-rubella (MMR) vaccine, measles continues to spread in global outbreaks, having risen by 300% in 2019 as compared with the same period the previous year, with 187 countries reporting about four lakh measles cases to the World Health Organization (WHO) [1]. These cases are represented mainly from the African, European and the Western Pacific Region. Many countries from the African region have reported major outbreaks, most of them having very low vaccination rates, but even countries with high vaccine coverage also reported largest outbreaks in 2019 [2] from European region. Also, in 2019, highest cases of measles were confirmed in USA since 1992. Most cases were among people who were not vaccinated against measles [3].

There is no specific antiviral treatment for measles, therefore, immunization is the most effective way to prevent it. Two doses of MMR vaccine is recommended to ensure immunity. The measles vaccine is widely available as part of national vaccination programs in many countries. However, the estimation of WHO indicates that only 86% children have received the first dose of measles vaccine and the second dose by 69% in 2019 [2]. Even after implementing the routine immunization process, measles outbreaks continue globally due to suboptimal vaccination coverage and population immunity gaps. Measles requires a high community level vaccination rate up to at least 95%, to prevent its sustained transmission and any community with less than this is at risk for an outbreak.

In Kingdom of Saudi Arabia (KSA), tremendous efforts towards immunization have been done by the ministry of health (MOH). Measles was endemic in the country during the pre-vaccination era, but with the introduction of measles vaccination in immunization programs, the disease frequency and mortality rate declined eventually and its epidemiology changed. The vaccination program started in 1974 in collaboration with WHO. A mandatory measles vaccination with single dose Schwartz vaccine was introduced in 1982, which was later linked to birth certification to increase the coverage [4].

Later in 1991, it was changed to a two-dose schedule using Edmonston-Zagreb measles vaccine. In 1998, the Saudi ministry of health launched an elimination phase of MMR campaign targeting children in primary and secondary schools. Also, a follow-up campaign had to be conducted every 3 years to prevent possible outbreaks and to decrease virus circulation in the community. Since then, outbreaks are less frequent and generally affect older age groups now [4].

Although reports are available about the status of measles from different regions of the country, none are available in the Hai'l region located in the northern part of the country. In a national survey conducted in KSA from 2002-2012, the Hai'l province of Saudi Arabia was shown to have 346 confirmed cases of measles, about 3.56% of the total cases reported [5]. After this, there is no report available and hence, the purpose of this study was to assess the prevalence and awareness of measles and analyze the factors if any, contributing to the spread of measles in the Hai'l province. Further, to assess and evaluate the attitude of the people towards immunization programs and the role played by the governmental agencies in the eradication of measles in the Hai'l region.

2. METHODOLOGY

A cross-sectional electronic survey was conducted from October 2019 to January 2020. The convenient sampling technique was used to collect data targeting a sample of 500 residents from the Hai'l province, located in the northern part of KSA. Hai'l is the eighth largest province among the 13 provinces and it has 605,930 population as per the census of 2018. About 500 emails were obtained from known sources and after confirming that they were residents of Hai'l region, a structured questionnaire translated to Arabic, was sent to them along with a consent form giving information about the purpose of study. As the objective of the study was clearly stated, answering the questionnaire was completely at the discretion of the participant and assumed as a consent of the participant.

The questionnaire was carefully designed to elicit the required information, the questions were simple and direct, eliciting the responses only in the form of "Yes or No". The questionnaire consisted of simple questions relating to knowledge and awareness about measles,

number of persons infected in the family, immunization programs and the level of satisfaction pertaining to the role governmental agencies in the eradication of measles. The study received total of 469 responses from the respondents. The data was cleaned and entered in to MS excel. Then, the data was imported into Statistical Package for the Social Sciences (SPSS) version 23. The descriptive statistics were performed and the results were interpreted.

This work was carried out independently without any grant from university and has no ethical issues involved in the study.

3. RESULTS AND DISCUSSION

3.1 Measles Infection and Vaccination in Hai'l

About 7.8% have been infected with measles during their lifetime and 96.1% of population have been vaccinated (Fig. 1).

3.2 Knowledge about Measles

About the knowledge of measles in the population, 37% knew it is a viral disease, 13% thought it is a bacterial disease, 4% believed it is genetic and 46% did not know what causes measles.

3.3 Measles Awareness

The awareness about measles among the population showed that 97.7% heard about measles, mostly from school (79.5%) and a few from media (11.4%). Most knew Measles to be a contagious disease (81.8%), but which can be cured (92.2%), about 88.6% had knowledge about the major symptoms such as rashes and fever, 54.2% thought that children were the risk group, where as 41.2 % believed that measles can occur in any age group and 85.1% knew that vaccination is the best prevention for measles.

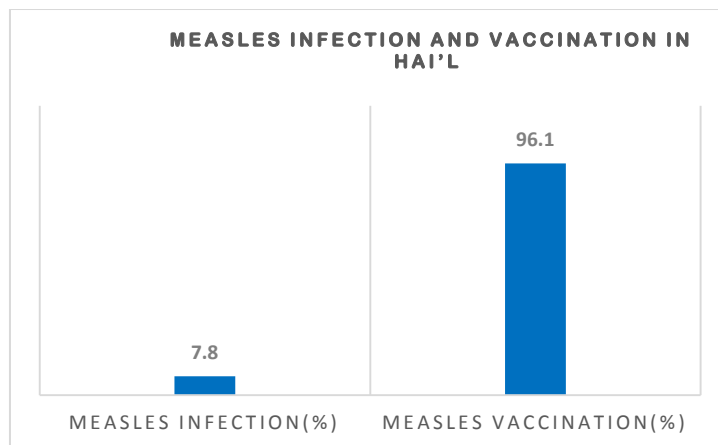


Fig. 1. Population(%) infected and vaccinated in Hai'l region

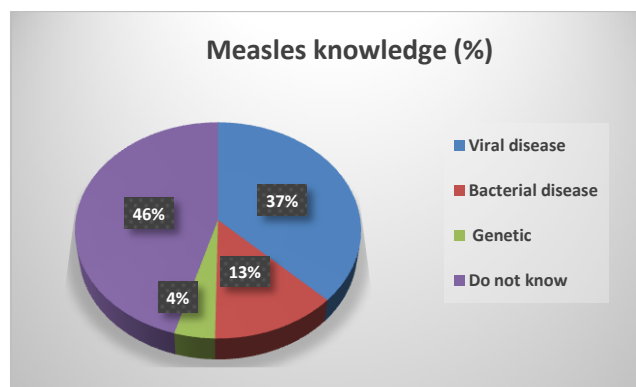


Fig. 2. Knowledge about measles in the population of Hai'l

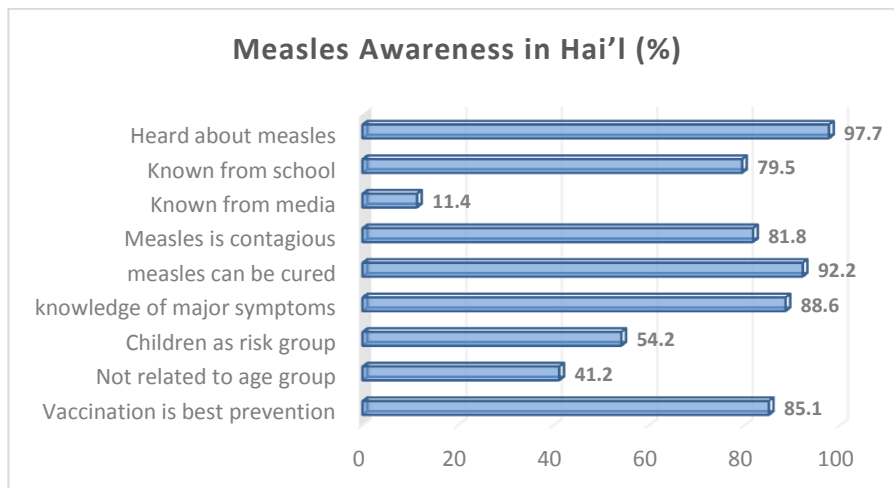


Fig. 3. Awareness about measles among the population

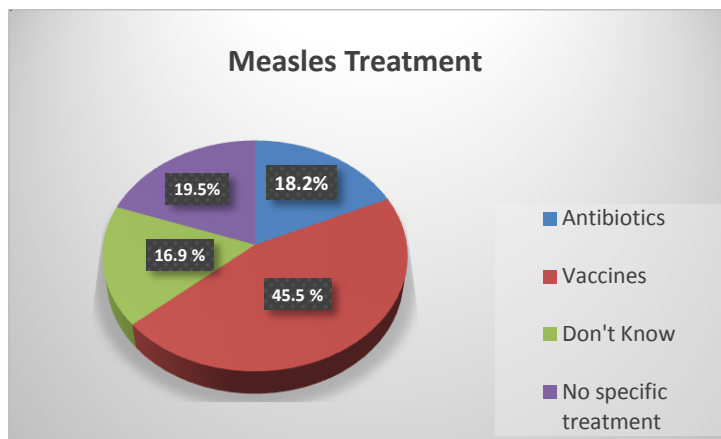


Fig. 4. Awareness about treatment for Measles

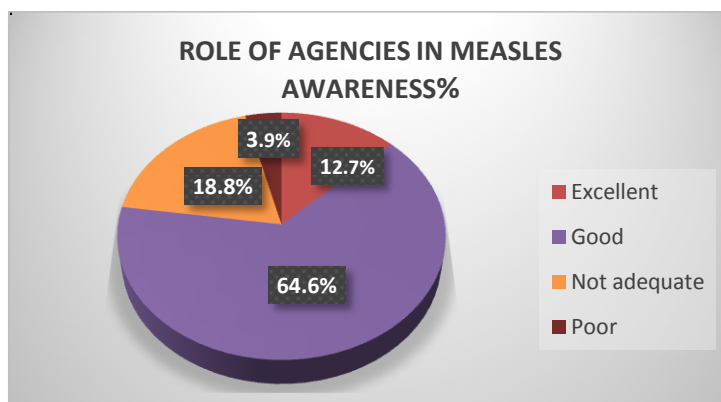


Fig. 5. Awareness about role of governmental agencies in prevention of measles

3.4 Treatment of Measles

The responses to several ways of treating Measles are shown in Fig. 4. About 45.5% of population think that vaccine is the treatment for

Measles, and few think antibiotics can cure Measles (18.2%), 19.5% believe there is no specific treatment for Measles and the rest 16.9% of the population do not know about any treatment methods for Measles.

3.5 Role of Agencies

The role of the governmental agencies in spreading the awareness about measles prevention (Fig. 5) shows that only 12.7% of population thinks it is excellent. A majority of 64.6% think the agencies do good work in promoting measles awareness. About 18.8% believe agencies do not work adequately and 3.9% of population think that the services of these governmental agencies is poor.

3.6 Discussion

In the present study, the prevalence of measles infection in the Hai'l province was observed to be 7.8%. It has doubled since the last reported data on measles for Hai'l region in a national survey of 2002-2012 showed 3.56%. [5]. Measles vaccination at 96.1% shows that immunization program has been very successful in the Hai'l region. The continuous efforts through surveillance and monitoring yielded positive results and measles had been mostly under control. In 1998, an elimination phase was initiated and an MMR campaign was launched in two phases targeting children in secondary schools and later primary and intermediate schools in 2000 [4]. A national serosurvey conducted in 2002 using the surveillance system data revealed susceptibility to measles infection in primary school children, hence a follow-up campaign was launched in 2003 targeting that age group [6].

It is evident from this present study that most people in Hai'l are aware about measles and its symptoms that it is highly contagious, but can be cured and vaccination is the best prevention method. A recent study in Hai'l region about immunization revealed similar results, showing that more than 85% of the population thought vaccination is beneficial and safe, their attitude was not associated with gender or educational degree [7].

Observations from several reports worldwide show that most parents in general have negative attitude towards vaccination [8]. The beliefs and lack of awareness about vaccines usually misguides parents. There are popular beliefs such as that vaccination causes autism as well as disabilities [9], and that Polio vaccine decreases fertility [8]. Many parents preferred not to vaccinate their children due to false vaccine contraindications [10]. However, the knowledge, attitude and practices towards immunization

have been very positive among the Saudi parents [11, 12] and were associated to gender, age, residence and personal opinion [13].

In this study, the school has played a major role in spreading the knowledge about measles rather than media as observed in other reports [13]. However, only 37% of the population knew that measles is a viral disease. Nearly half the population think that vaccines are the treatment for measles and a few think antibiotics can cure measles. In general, a low knowledge level and lack of public awareness about infectious diseases has been reported in Saudi Arabia and as a consequence the protective measures being undertaken are very poor [14]. In a study, on the awareness of public in KSA towards H1N1 infection, it has been observed that 43.7% of the population had low knowledge level, and 60.8% had taken no precautionary or preventive measures. Lack of proper health education and neglect of MOH recommendations has been the cause for this [15].

In Saudi Arabia, majority of the population think that governmental agencies have played a crucial role in promoting the immunization awareness in public. However, 20% of the population still thinks that the services are not adequate or poor. In one study, 93% of population felt that MOH in Saudi Arabia should conduct more health campaigns about benefits and risks of vaccinations and 78% said that these health campaigns and programs changed their perspective and idea about vaccination [13]. In another study in Hai'l, 92% are in favour of health campaigns by the authorities in KSA [7].

However, despite the sustained efforts to control and eradicate measles by monitoring and maintaining an active immunization program in KSA, measles cases have been rising and outbreaks still continue to occur even in populations that are highly vaccinated. An analysis on measles prevalence in KSA from 2009-12 revealed that measles incidence increased four times from 2009 to 2012. Children under-five years comprised 50% of cases, 12% were from infants and 33% cases were from 15 years and above [16]. According to the latest WHO data, the number of measles cases in KSA increased eight fold from 2016 to 2019, which requires an immediate review of its Measles vaccination program. In 2011, an outbreak of Measles was reported in Tabuk region with 242 suspected cases [17] and in Qassim province in 2007 [18] and recently in Jeddah [19].

To prevent such future outbreaks, community awareness programs must be consistent with periodic review of measles vaccination schedule. Enhanced surveillance and measles 'catch-up' mass immunization campaign to interrupt chains of transmission is necessary [18].

Although all precautions were taken for the compilation and analysis of data, outliers and participants reluctance or negligence for accuracy while answering the questionnaire are possibilities, as this is an online survey. The results of this study are applicable only for Hai'l region and cannot be generalized to the whole of KSA.

4. CONCLUSION

The prevalence of measles in Hai'l province of Saudi Arabia is low with almost all vaccinated and most believe that vaccination is the best prevention method. The knowledge and awareness about measles is also adequate, but lacking in certain aspects. More than half of the population appreciate the role played by governmental agencies in controlling measles. However, as frequent outbreaks are witnessed in different parts of the country, surveillance and monitoring needs more attention, and educational and awareness programs should be extensively propagated.

CONSENT

The consent was obtained from the respondents & preserved by author.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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