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Research Article

Prescription Trends For Children's Acute Respiratory Infections In Makkah Al Mukarramah, Saudi Arabia's Primary Health Care Centers.

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Abstract

One of the most frequent causes of visits to primary health care centers (PHCs) is acute respiratory infections (ARI), a serious public health issue. Antibiotics are utilized to treat 75% of cases in developing nations, even though viral infections account for the bulk of cases. Our goal was to compare the patterns of physician practices with ARI to WHO regulations and offer suggestions for improving health promotion. For two months, the investigation was carried out in Makkah PHC centers. Fourteen PHC centers in all were chosen at random. evaluation in relation to WHO guidelines and to offer suggestions for improving health promotion. The investigation was carried out for two months in Makkah PHC clinics. A total of fourteen PHC centers were chosen at random. Additionally, 908 prescriptions were randomly selected from general practitioners (GPs) and examined. We discovered that there were 386 females and 522 males. In 224 (24.7%) cases, no weight was noted. Nine out of 87 cases (9.6%) had no recorded diagnosis. Antibiotics were suggested in 515 (62.34%) of the cases, the majority of which were for a basic common cold.In conclusion, the WHO standards for Acute Respiratory Infection are not being followed by many Makkah doctors. Health education initiatives should be implemented to educate doctors about proper diagnosis techniques and prudent antibiotic use.

INTRODUCTION

As the primary cause of illness and mortality in many developing nations [1], acute respiratory infections (ARI) are regarded as one of the most important public health issues [2]. According to estimates, they are responsible for 18–33% of all child fatalities under five. In underdeveloped nations, children under five account for half of all deaths [3], which is 10–50 times higher than in rich nations with the same ARI cause [4]. About 30–60% of pediatric PHC visits worldwide are related to acute respiratory infections (ARI), which also account for 20–30% of hospital hospitalizations [5]. Fifteen percent of hospitalized youngsters have at least one respiratory virus [6]. Compared to HIV, malaria, and measles combined, pneumonia kills more children than any other ailment [7]. It's also among the most frequent reasons for seeing a primary care physician [8]. In Saudi Arabia, children are 24% more likely to get an acute respiratory illness [9]. Self-limiting illnesses like the common cold and the more dangerous bacterial pneumonia are among the causes of acute respiratory infections (ARIs). Despite the fact that viruses account for most occurrences [10–12], The growth of drug-resistant bacterial infections, severe side effects, and a substantial waste of health care resources have all been attributed to the fact that three-quarters of antibiotics are used for ARIs [8]. The overuse of antibiotics for non-bacterial illnesses and self-limiting clinical disorders is a serious concern [13]. In primary health care facilities (PHCs), antibiotic prescriptions are common [14]. As high as 66%, 58.8%, and 56% of antibiotic prescriptions were observed in several studies [15–18]. Antimicrobial therapies are overused [22–24], even though the majority of illnesses treated at this level of care are self-limiting [19–21]. Because there is little information on this topic, evaluating the prescribing practices of healthcare practitioners is crucial [25].

Antibiotic prescriptions are another issue [26–29]. Serious repercussions result from this, including increased visits for minor problems [14,26,30], exposure to negative effects on patients, and the emergence of resistant bacterial strains [14,31]. Health care resources are wasted and higher rates of morbidity and mortality are linked to infections brought on by resistant bacteria. [30,32].

The following updated recommendations are part of a protocol that the World Health Organization (WHO) has created for the management of ARI, specifically for poor nations like Saudi Arabia: A) Oral amoxicillin should be administered to children who have fast-breathing pneumonia without a chest indrawn or other warning signs. B) Oral amoxicillin is

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the recommended treatment for children with chest indrawn pneumonia between the ages of 2 and 59 months. C) As a first-line treatment for severe pneumonia in children ages 2 to 59 months, parenteral ampicillin (or penicillin) and gentamicin should be administered.D) The first-line antibiotic regimen for newborns infected with HIV and exposed to the virus, as well as for children under five years old who have chest indrawn pneumonia or severe pneumonia, is ampicillin (or penicillin if ampicillin is not available) with gentamicin or ceftriaxone.

It is advised that babies with HIV infection and exposure who have chest pain or severe pneumonia and are between the ages of two months and one year receive empirical cotrimoxazole treatment for suspected Pneumocystis jirovecii (formerly Pneumocystiscarinii) pneumonia (PCP). F) For children over one year old who have a chest infection or severe pneumonia caused by Pneumocystis jirovecii pneumonia (PCP), empirical cotrimoxazole treatment is not advised. [32]. This study was carried out to look at the prescription patterns of doctors, ascertain how they handle ARIs and adhere to WHO guidelines, and offer suggestions for improving their methods in primary care facilities.

METHODS

Study Setting

The study was carried out in Makkah Al Mukarramah, Saudi Arabia, at Primary Health Care Centers (PHC).

Study Design

A cross-sectional study was carried out between January 1, 2016, and March 31, 2016.

Sample Size

The Centers for Disease Control and Prevention (CDC) produced the web program Epi Info, which was used to determine the sample size with a 95% confidence level. We selected a design effect of 2.0 because we were using cluster sampling as our technique. 769 people made up the projected sample size. Because any PHC physician can decline to take part in the study, an extra 20% (154) was included to account for dropouts, bringing the final total to 923. For more information, go to Appendix A below.

Sampling Procedure

In order to choose PHC facilities for the first phase of the study, registered physicians for the second phase, and subsequently their prescriptions, multistage cluster sampling was the sampling strategy employed. After the Ministry of Health provided us with a list of all Makkah PHC centers, we used the Statistical Package for the Social Sciences (SPSS) version 21 software to randomly choose 20% of the PHC facilities. Fourteen PHC centers were chosen out of Makkah's seventy PHC centers. We randomly selected general practitioners and ARI prescriptions from each physician in each of the chosen PHC centers. The prescriptions were obtained by visiting the clinic every day after getting their consent, totaling 908 prescriptions. For acute respiratory infections, we contrasted the prescriptions with WHO guidelines [33]. In addition to the standard demographics, the primary symptoms, temperature, pulse rate, respiration rate, provisional diagnosis, and antibiotic type were the primary variables evaluated. Every variable was input into the computer, and SPSS version 21 was used for analysis. After submitting the protocol to the College of Medicine's IRB, ethical approval was granted under the number HAPO-02-K-012-2016-02-142.

RESULTS

Due to a physician's refusal to participate in the study, 908 prescriptions were gathered out of the 923 that were planned. 558/908 (61.5%) of the children were seen at public PHC centers, while 350/908 (38.5%) were seen in private PHC centers. Males made up 522/908 (57.5%) of the cases, while females made up 386/908 (42.5%) per gender. The predominant categories of age were from 1 to 5 years (289/908, 31.8%) and 6–10 years (258/908, 28.4%) The number of chief complaints was 869 out of 908 cases (95.7%). In 120/869 instances, fever was the most frequent single primary complaint (13.8%), followed by cough in 75/869 cases (8.6%), rhinorrhea in 24/869 cases (2.7%), and sore throat in 13/869 cases (1.4%). 68/869 (7.8%) of all cases had additional complaints, while 569/869 (65.4%) had more than one respiratory ailment. (Tabel 1) Unfortunately, a physical examination was performed on only 550 out of 908 (60.5%) of the pediatric patients. On physical examination, the following findings were noted: pharyngeal tonsillar erythema in 99/550 (18%), tonsillar exudate in 35/550 (6.4%), congested throat in 121/550 (22%), ear issues in 51/550 (9.3%), multiple respiratory findings in 188/550 (34.2%), and other findings in 55/550 (10%) cases.Eighty-three out of nine hundred and eight patients (92.3%) had a diagnosis, with the most prevalent being the common cold (227/838, 27.6%), followed by pharyngitis (15%), tonsillitis (12.6%), and pneumonia (21/838). There were 346/838 (42.1%) instances with additional diagnoses.Fifteen out of twenty-one cases (71.4%) had pneumonia with tachypnea, five out of twenty-one cases (23.8%) had pneumonia with costal retractions, and only one child (1/21) had severe pneumonia (4%) .Weights of 684/908 (75.3%) of the patients were taken while they were there. Heart rate was measured in 602/908 (66.3%), temperature in 764/908 (84.1%), and respiration rate in 582/908 (64.1%), the three primary vital signs. Antibiotic prescriptions were written in 515/908 instances (56.7%) overall, as a single treatment in

103/515 (20%), in conjunction with antipyretics in 164/515 (31.8%), or in combination with other medications in 248/515 (48.1%). Amoxicillin was the most often administered antibiotic in 275/515 (53.3%) of patients, followed by Ceftriaxone in 81/515 (15.7%), Augmentin in 45/515 (8.7%), a variety of other antibiotics in 90/515 (17.5%), and finally more than one antibiotic.

DISCUSSION

The incidence of ARI in children under five years old was 358 (39.4%) in the Makkah PHC. Al-Khalidi, Ramani, and Peasah [8,34,35] reported a similar prevalence of roughly 30–40% in children under the age of five. Siddiqui, on the other hand, discovered an ARI incidence of 83.2% [7].Most studies, including ours, found that upper respiratory tract infections (URTIs) were the cause of ARI cases. In both our study and Al-Khalidi and Saeed's, 10% of patients had lower respiratory tract infections (LRTI), including pneumonia, bronchitis, and bronchiolitis [8,34]. A higher rate of 68% for respiratory tract infections was observed by Sarfraz [25].Siddiqui, Al-Khalidi, Krishnan, and Dharmage [7,8,34,36,37] were mostly male patients, as were most other studies, in contrast to Acharya [4], where both sexes were equal. One possible explanation cited by Chandwani [38] was a male-dominated society.569 individuals (65.4%) had several respiratory symptoms upon presentation. With 120 cases (13.8%), fever was the most frequent complaint; Siddiqui [7] and Chandwani [21] found a comparable percentage. Ramani has a significantly higher percentage of 98.8% [34]. 70% of cases, according to Al-Khaldi [8], complained of coughing.The following vital indicators were noted in both this study and Siddiqui [7]: 144 (15.9%), 106 (52%); weight 224 (24.7%), 132 (65%); heart rate 306 (33.7%), 177 (88%); and respiratory rate 326 (35.9%), 135 (67%). Neither Ramani [34] nor Al-Khaldi [8] mentioned these factors.Congested throat was the most frequent finding in both this study and Al-Khaldi [8]. It's interesting to note that the most common diagnoses in this study and Al-Khaldi's [8] study were in the same rank order: the common cold (27.6%, 42%), tonsillitis (12.6%, 17%), and pharyngitis (15%, 25%) were the top three, respectively. This could be due to medical procedures in the same nation.In 92.3% of PHC cases, a diagnosis was made; this is comparable to Al-Khaldi [8] at 97.5%. Conversely, in Siddiqui [7], the diagnosis was recorded in 44.6% of cases, which is less than half of the total.Amoxicillin was the preferred medication in 275 (53.3%) of the patients, Ceftriaxone in 81 (15.7%), and Augmentin in 45 (8.7%). We found that the inaccessibility of amoxicillin in certain centers was one of the factors contributing to the prescription of antibiotics other than amoxicillin. According to Siddiqui [7], the most often recommended antibiotic was amoxicillin (21.4%), which was followed by a first-generation cephalosporin (19.9%) and co-trimetazole (14.3%). The most often given antibiotic in Morocco, according to a recent study by Jroundi [39], was a cephalosporin (213/286; 74.5%), followed by macrolides (21%), and Gentamicin (13.6%). No classes of antibiotics were reported by Al-Khaldi [8]. The updated WHO guidelines recommend that Ceftriaxone be administered as the second line of treatment and Amoxicillin as the first [33].The length of sample collection is one of our study's limitations; due to the ethical committee's delayed clearance, it was carried out toward the conclusion of the local winter season.

CONCLUSION

A lot of doctors in Makkah Al Mukarramah are not treating acute respiratory infections according to WHO recommendations. Health education initiatives should be implemented to educate doctors and patients about proper diagnosis techniques and the prudent use of antibiotics [40].

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