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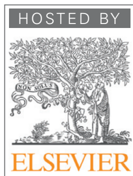

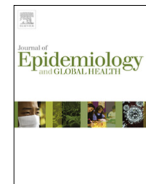

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ORIGINAL ARTICLE

Healthcare-seeking behaviors for acute respiratory illness in two communities of Java, Indonesia: a cross-sectional survey

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Abstract Understanding healthcare-seeking patterns for respiratory illness can help improve estimations of disease burden and inform public health interventions to control acute respiratory disease in Indonesia. The objectives of this study were to describe healthcare-seeking behaviors for respiratory illnesses in one rural and one urban community in Western Java, and to explore the factors that affect care seeking. From February 8, 2012 to March 1, 2012, a survey was conducted in 2520 households in the East Jakarta and Bogor districts to identify reported recent respiratory illnesses, as well as all hospitalizations from the previous 12-month period. We found that 4% (10% of those less than 5 years) of people had respiratory disease resulting in a visit to a healthcare provider in the past 2 weeks; these episodes were most commonly treated at government (33%) or private (44%) clinics. Forty-five people (0.4% of those surveyed) had respiratory hospitalizations in the past year, and just over half of these (24/45, 53%) occurred at a public hospital. Public health programs targeting respiratory disease in this region should account for care at private

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hospitals and clinics, as well as illnesses that are treated at home, in order to capture the true burden of illness in these communities.

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1. Introduction

Acute respiratory infections are common in Indonesia, and can result in hospitalization and death, particularly among young children, older adults, and other high-risk groups [1—3]. Among Indonesian children up to 2 years of age, the incidence of pneumonia was reported as 21 cases per 100 child-years, with an acute respiratory infection-specific mortality rate of 33 per 1000 live births [4]. These findings are similar to other studies from Asia, where the incidence of lower respiratory tract infection in this age group has ranged from 10 per 100 child-years to 57 per 100 child-years of observation [5—7]. Although data are limited for older adults, researchers in other countries in the region and worldwide have reported that pneumonia is a significant contributor to mortality in this population [8—11]. Further, individuals of any age with underlying health conditions, such as chronic respiratory or cardiac disease, as well as pregnant women, are at an increased risk of severe illness from influenza viruses and other respiratory infections [12—15].

Acute respiratory illness can result from respiratory infections caused by a wide range of pathogens, which may vary by age group and time of year, as well as by other factors such as indoor and outdoor air pollution [16,17]. In Indonesia, attention has focused upon sporadic cases of severe respiratory illness caused by human infection with highly pathogenic avian influenza (HPAI) A (H5N1) virus [18,19]. For this rare zoonotic infection, Indonesia has reported both the highest number of confirmed human cases, and the highest case fatality proportion (83%, 167 deaths/199 confirmed cases), compared to a global case fatality proportion of 53% (449 deaths/844 confirmed cases since 2003) [20]. Possible explanations for this high case fatality include delay in diagnosis and treatment, low clinical suspicion for milder illnesses, and virus characteristics [21]. To date, however, seasonal influenza viruses and other respiratory pathogens have not received the same attention as HPAI A (H5N1) virus in Indonesia. Surveillance data suggest that seasonal influenza is an important public health problem in Indonesia, but influenza disease burden data are lacking [22].

Although the burden of respiratory illness among those seeking care at hospitals and clinics can be estimated through health facility-based surveillance, this methodology will underestimate disease burden, as not all sick individuals seek care at these facilities. In order to understand the impact of disease at the community level, it is important to understand the healthcare-seeking behaviors for respiratory illness. Healthcare utilization surveys (HUS) that ask individuals about where they seek care for acute respiratory illness, and also assess obstacles to and delays in care-seeking, have been conducted in a number of countries [23—30]. In Indonesia, a diverse country of more than 249 million people and 17,000 islands, divided into 34 provinces [31,32], there is a wide variety of healthcare options. These include government and private hospitals, government clinics (*puskesmas*), private doctors, pharmacies, and traditional healers (*dukuns*). Factors associated with healthcare-seeking behaviors include age and socioeconomic status, access to different facilities, and perceived severity of illness [33,34]. Understanding healthcare-seeking behaviors for respiratory illness can help improve estimations of disease burden as well as public health interventions to control respiratory disease in Indonesia.

The objective of this study was to describe healthcare-seeking behaviors for respiratory illnesses in two communities located in the western part of the main island of Java, Indonesia, and to explore the factors that affect care seeking. The two sites were selected to provide both urban (East Jakarta) and rural (Bogor) representation.

2. Materials and methods

2.1. Study population and survey design

This cross-sectional study was conducted in two areas: East Jakarta Municipality of Jakarta Capital City (DKI Jakarta) and Bogor District in West Java (Fig. 1). East Jakarta represents an urban area with a population density of 14,304 people/km^2 [35], and is one of six districts that make up DKI Jakarta. Bogor District represents a rural area with a population density of 1621 people/km^2 [36]. It is one of the 26 districts in West Java province.

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