Public Perceptions About Immunization in Indonesia: National Online Survey

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Abstract

Background: Immunization is one of the ways to build an immunity to a child by injecting vaccines to prevent certain disease. Nationally, immunization coverage continued to increase but the coverage gap in some areas in Indonesia due to the negative perceptions of immunization that affect to the arising outbreaks of certain diseases.

Objective: The study is aimed to identify and to analyze the perceptions of Indonesian society (aged ≥18 years) about the importance of immunization and the sources of information about vaccines using Likert scale.

Method: The method is a descriptive-analytic, applying cross-sectional survey using online questionnaire instruments.

Results: The results of the study from 2050 respondents showed that 1184 respondents (57.8%) received information sources on vaccines from health workers, overall respondents believed (86.4%) of immunization and the factors which are related significantly to vaccination perception were age, gender, education, income, and job with p value <0.05.

Conclusion: Vaccination is an important activity for early childhood. Factors that significantly affect public perception of vaccination in general are age, gender, education level, income, number of children, and occupation

Keyword: *Perception, Immunization, Vaccination, Childhood, Indonesia.*

Introduction

More than 1.4 million children in the world die annually from diseases that can be prevented by immunization. Immunization is also proven to be the most cost-effective solution to public health problems caused by infectious diseases[1]. Some of the infectious diseases that belong to immunized-preventable diseases (PD3I) include: Diphtheria, Tetanus, Hepatitis B, meningitis, pneumonia -post, pertussis, and polio[2].

In Indonesia, the coverage of national immunization increases continously. Evaluation of Immunization Programs for 2015-2016 reported to the Office of the Presidential Secretariat that the coverage of complete primary immunization in infants reached 86.9% in 2015 with the target of 91% that year and 91.6% in 2016 with the target of 91.5% coverage. According to WHO/UNICEF in 2015, almost one million Indonesian children are not immunized or completely immunized[3].

Vaccine concerns are a global issue in many countries, especially in developing countries included

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Indonesia[4]. Many misconceptions about immunization are rumored in the community such as that immunization causes fever and even danger children that can cause illness moreover death[5].

Based on the facts, low immunization coverage causes the trend of its morbidity and mortality in infants and toddlers increases. To increase the coverage of this immunization, the knowledge about community perception related to immunization is necessary. Therefore, a study is needed to identify how the perception of Indonesian society aged ≥18 years about the importance of immunization and source of information about vaccine.

Method

This study is a national online survey conducted in January-March 2018 with the method of cross-sectional among Indonesian population aged ≥18 years. This study used questionnaires which are developed from national and international standard surveys of New South Wales Child Health Survey, New South Wales Health Adult Health Survey, Queensland Health Survey, US National Immunization Healthcare and UK Wave Survey[6-8].

The questionnaire that was distributed to all Indonesian people was represented by 2050 samples through online google form. Then the basic demographics of all respondents, sources of information about vaccination, and public perception of vaccination are identified.

All respondents who responded the questionnaire according to the criteria participated in the study without being excluded by any criteria. All respondents received an indirect explanation of the research at the time of filling out the questionnaire and given the voluntary consent directly. Assessment of respondent perceptions uses Likert Scale in the form of statement Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree. The data was processed using IBM SPSS 22 and analyzed descriptively and analytically by Pearson chi-square test.

Results

This study is an online cross-sectional survey conducted from January 27 to March 18, 2018. Among 2050 respondents, 984 of them have children while the rest do not have yet. The respondents was 29 years old as average, with the oldest age of 69 years and the youngest age of 17 years. Based on the survey, most respondents got information about the vaccine from health workers as much as 1184 respondents (57.8%), while 506 respondents (24.7%) from internet/social media and 287 respondents (14.0%) from their families.

The distribution of respondents shows the most frequent characteristic of them which was aged 25-34 years as many as 837 (40.8%) with the gender of women which reached 1291 respondents (63%). Most of respondents' latest educations was bachelor degree (S1) as much as 1331 respondents (64,9%). Islam was the most frequent religion as many as 1884 respondents (91,9%). The number of respondents who did not have children was estimated 984 respondents (48%), private worker as many as 732 (35.7%), and the income category <PMW (Provincial Minimum Wage) as many as 862 respondents (42%) as the highest class of each category.

The majority of respondents assumed that the purpose of vaccination is to protect their children (90.4%). Most respondents believe that vaccination is safe (86.4%) and be able to protect the community (77.9%). However, a small percentage reported perceiving that vaccine could not prevent the disease (20.7%), could cause autism (12.0%) and even religiously forbidden to do (7.2%).

Based on Pearson chi-square analysis in table 1, the general community concerns towards vaccination was correlated ($p < 0.05$) with respondents' demographics of age, gender, education level, number of children, and occupation. In this study, religion view becomes a factor which does not have a significant relationship with the general community concerns towards vaccination with the various p-values ($p > 0,05$). Religion has a significant relationship only to a concern statement about the forbidden law of vaccine in Islam ($p = 0,000$). Based on Pearson chi-square analysis shown, demographic characteristics other than religionincluding age, gender, education level, income, number of children and occupation, have a correlation with the positive community perceptions about vaccination. This represents that religion has no significant relationship to some statements leading to a positive perception of vaccination. In general, the highest community groups which signifies strong positive support for vaccination were the class of age 45-54 years (26.9%), female gender (24.0%), education level of doctorate (52.9%), had income <PMW24.0%), having no children (30.30%), and students (35.6%).

Represents the group of age, gender, education, income, number of children and occupations, have a negative public perception of vaccination. This suggests that religion has no significant relationship to some of the statements leading to a negative perception of vaccination. In general, most community agreeing on the counter-vaccination statements are group of 35-44 years old (23%), male gender (17.7%), junior high school as the education level (65.4%), have the equivalent to UMP income (23.9%), has 2 children or more (25%), and working as civil servants (20.4%). The following is a bivariate analysis of the demographic characteristics of each of the statements describing the perception of vaccination in Indonesia.

Table 1: Community concerns towards vaccination.

n = 2050	Strongly Agree or Agree (%)
I vaccinate my child to protect him/her	90,4
I believe that vaccinations are safe for children in general	86,4
I am confident in information provided by healthcare professional	83,6
I vaccinate my child to help protect the wide community	77,9
I am satisfied with amount of information provided by healthcare professional	74,9
Behavior of not vaccinating children causes harm	61,7
I am concerned that vaccines are not tested enought for safety	36,9
I am concerned about the increasing number of vaccines recommended for children	32,3
I am concerned about the distress to children of the injection itself	32,0
I am concerned that children get too many vaccines during the first two years of life	28,5
I am concerned that a child's immunity system could be weakened by vaccinations	22,9
I prefer children to get natural immunity from the diseases rather than immunity from the vaccines	21,3
I am concerned that vaccines are given to children to prevent diseases that they are not likely to get	21,0
I am concerned that vaccines are given to children to prevent diseases that are not serious	20,7
Vaccination is not needed because others have vaccinated their children and diseases have been controlled	15,8
I am concerned that vaccines can cause autism in healthy children	12,0
I hesitate to get my child vaccinated because it is forbidden in my religion	7,2

Discussion

This study was conducted to determine about the public perceptions about vaccination for children. An individual's confidence about the vaccine will affect health behaviors to vaccine as an attempt to prevent some diseases. In a study of six European countries, the role of physicians, pharmacists and nearby hospitals were regarded as the most reliable source of information about medicine and as the reminders about health hazards[9]. This is positively aligned with the results of this study in which information provided by health workers is trusted by most communities[10]. The health literacy on vaccination is not limited to discover some evidences that the vaccine is safe, people who have good health literacy also should be able to understand the dangers if vaccines are not given and do not hesitate for getting vaccinated without the odd rationalization related to the community that has been fully immunized and the disease had disappeared[11].

In Indonesia, it is allowed the circulation of vaccines with thimerosal levels of 0.005-0.01% because it is still under its threshold according to WHO[12,13]. In this study, for the age group ≥55 years, none believes the vaccine can cause autism in healthy children. They often highlight the rare occasions in which a child suffers from the unexpected side effects of the vaccine[14].

Although religion factor does not relate significantly with the positive and negative perceptions of vaccines in general, the Muslim group still affects specific views of the vaccine law[15]. The education from health workers are also necessary to improve vaccine perceptions related to the false long-term effects of the vaccine, one of them is that the child's immune system is assumed being weakened by vaccination[16]. Respondents concerns that the vaccine is given to children can not prevent the disease illustrates public concerns about vaccination-related attitudes[17].

In this study, young-aged groupis the most often strongly disagree about this concern. The strongest predictor of one's health is health literacy[18]. Where the value of health literacy in young people is higher than older people. This is because young people, especially in this case adolescents, they can more easily access health information when compared to older people[19]. In one study showing the total number of pediatric patients had admitted with a febrile seizure event, none of the children who had febrile seizures caused from vaccination[20]. Remember that perception is the cognitive

aspect of attitudes, then measuring perceptions can be used as the instruments of disclosure of attitude[21,22]. Economic factors affect a person's ability to obtain education and health services, thereby affecting the level of ability to access, understand, assess and apply health information[23].

Most of the respondents were satisfied with the information provided by health personnel[24].. Studies show that lack of information and knowledge about disease causes they don't to vaccinate their children so that it is necessary to optimize health promotion media to increase parental participation in vaccinating their children[25]. According to Becker, the concept of healthy behavior is the development of the concept of behavior developed by Bloom[26]. In the five most important reasons for vaccinations promoted by the CDC, immunization can save a child's life in the first place[27].

In this study, the group that agreed on the perception of vaccination as protection against their children increased by age. Ages affect a person shown by the higher level of knowledge and the stronger consistency of an individual, this will build the more mature in thinking and receiving information[28].

In this study, the public's belief of that the prevention of disease for the wide community is important is strongly influenced by the latest education level compared to the age, gender, income, number of children, or occupational age. A research showed that promoting vaccination activities conducted by health workers with the good communication can help the community in revising negative issues about vaccination[29]. Therefore, promotional programs on vaccination should be held more frequent in purpose that the community knowledge about vaccination is improved. This hopefully change their perceptions towards vaccination and willingness to vaccinate[30].

Conclusion

Vaccination aims to prepare a person's immune response to be active to encounter the disease. Vaccination is an important activity for early childhood. Factors that significantly affect public perception of vaccination in general are age, gender, education level, income, number of children, and occupation.

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