INTRODUCTION

Covid-19 pandemic has been affected more than 200 countries around the world, including Indonesia. The first cases of covid-19 in Indonesia were detected on 2 March 2020 in Jakarta, the capital city of Indonesia (1). Up to April, 19th 2022, according to WHO (covid19.who.int), there were 503,131,834 total cumulative cases of Covid-19 around the world, and there were 6,200,571 cumulative deaths, with 11,324,243,310 vaccines were administered around the world. In the end of March 2020, the case fatality rate (CFR) in Indonesia reaches 8.9%. During covid-19, to prevent the spread of covid-19, Indonesian government imply stay-at-home notification (2).

Covid-19 causes a similarity symptom with influenza virus, such as cough, fever, rainy nose, sore throat, and fatigue. In some cases, covid-19 can complicate differential diagnosis (3). Since the influenza and covid-19 showed similar symptoms of respiratory disease, influenza pandemics seems to be a model of covid-19 pandemics (4). Moreover, covid-19 symptoms can cause weakness, taste disorder, and myalgia (5). The patients who present those symptoms should be promptly checked for SARS-CoV-2 infection. The diagnostic testing for covid-19 including molecular testing, serology testing, and other laboratory assessment (6). The pharmacology treatments of covid 19 including antiviral drugs, anti-inflammatory drug, low molecular weight heparins, plasma, and hyperimmune immunoglobulins (7).

Anxiety, stress, depressive symptoms, and post trauma growth (PTG) are others effect of Covid-19 pandemic (8, 9). This condition is influenced people’s health seeking behavior. A study in Lahore, Pakistan found that there was a change in people’s health seeking behavior. During the Covid-19 pandemic, trend of self-medication was increasing and the number of people who visited hospital was decreasing (10). In Indonesia, a study in four provinces (East Java, Central Java, Riau, and South-East
Celebes) also found that during the Covid-19 pandemic, people tended to do self-medication comparing to visit health center services or hospitals (11). A qualitative study in Makassar, Indonesia also found that the increasing trends of self-medication because people were afraid to visit hospital. They also thought that medicine from drug store could cure their diseases, such as influenza’s symptoms (12). In Indonesia, the self-medication was used for influenza’s symptoms (such as fever, headache, and cough), diarrhea, acute pain, and maag (13, 14). During the Covid-19 pandemic, the top three of disease that curing by self-medication in Indonesia were fever, flu, and cough. People got the information related to the medication from family, friends, or internet (12, 15).

Nowadays, the internet is popular for source of health information. One of internet that can be used for searching of health care information is Google Trends. Since 2004, Google Trends is used to explore web behavior topics or terms. In Google Trends, users can use up to five topics or terms and the result will be displayed as a set of time series (16). Google trends has become a powerful tool to demonstrate an epidemiologic surveillance. It has believed to be reliable for surveys related to RSV around the worlds (17). Previous research related to covid-19 has been published using google trends (18-20). However, the use of google trends to assess the drug related terms in Indonesia is limited. Therefore, this study aimed to investigate the trends of influenza’s symptoms drug searching terms in Indonesia. Moreover, the positive confirmed cases during covid-19 in Indonesia were searched to obtain the peak of covid-19 outbreak.

**MATERIALS AND METHODS**

**Google Trend Searching**

Google trends was used to search influenza’s symptoms drug terms in Indonesian language between 6 December 2020 to 30 November 2021. The exploration data was showed by graphic which is indicated relative search volume (RSV). The terms related influenza’s drugs in Indonesian language were “obat flu”, “obat batuk”, “obat pilek”, “obat demam”, and “obat sakit tenggorokan”. “Obat flu” means “influenza medications”, while “obat batuk”, “obat pilek”, “obat demam”, “obat sakit tenggorokan” means “cough medications”, “runny nose medications”, “fever medications”, and “sore throat medications”, respectively. The terms were searched in comparison of those five terms/keywords, and individual search of those five terms/keywords.

**Positive Covid-19 Confirmed Cases in Indonesia**

To obtain the positive covid-19 confirmed cases in Indonesia, the Indonesian government website, covid.go.id, and WHO website, covid19.who.int were accessed. Both websites provided information related to the covid-19 cases in Indonesia, including positive covid-19 confirmed cases, recovered covid-19 cases, and mortality case of covid-19 in Indonesia.

**RESULTS AND DISCUSSION**

Figure 1. showed the positive confirmed cases of covid-19 in Indonesia from December 2020 to November 2021. This figure indicated there were an increasing covid-19 positive cases in Indonesia during July and August. Previous research showed the case fatality rate (CFR) of covid-19 reaches 8.9% in the end of March 2020 [2]. To minimize and prevent the covid-19 spread in Indonesia, the central government applied the regulation of social distancing project, called PSBB (Pembatasan Sosial Berskala Besar) by April 2020 (21). The implementation of PSBB is depended on the local governments because the central government gave the authority of implementation to the local governments. However, before the local governments implement the PSBB, they had to wait the approval from Indonesian Ministry of
Health (22). Thus, the implementation of PSBB, such as time and policy, is diverse in each area in Indonesia (22-25).

This study found the most common symptom of covid-19 was fever, following by cough (30).

Next, to determine the individual trend of each term, the individual keyword using google trends were conducted. Figure 3 demonstrated the individual figure of each term. All of the individual figure showed the increasing trend between July and August 2021. Terms of “obat flu”, “obat batuk”, “obat pilek”, “obat demam”, and “obat sakit tenggorokan” were found to have the similar trend. The frame time of increasing individual trend search of “obat flu”, “obat batuk”, “obat pilek”, “obat demam”, and “obat sakit tenggorokan” is similar with the increasing of covid-19 positive cases in Indonesia. This condition can be related to anxiety and stress. During Covid-19 pandemic, the prevalence of mental health problems, such as stress, anxiety, and depression, among Indonesian people were increasing (31, 32). Information from the mass media could be one of the reason. A study in China found that the use of media mass was associated with negative affect, anxiety, and stress (33). In Indonesia, the use of media mass also positively associated with anxiety (34, 35). The content of information from media mass also related to people’s mental health. Stressful content was more associated with negative affect, stress, and anxiety. On the other hands, positive content, such as heroic acts and diseases prevention, was associated with positive affect and less...
depression (33). Between July and August 2021, more negative information, such as positive cases and death news, were in media mass. This stressful content could lead anxiety in community.

**Figure 3.** Google Trends Search for Individual Term of “Obat flu”, “Obat batuk”, “Obat pilek”, “Obat demam”, and “Obat sakit tenggorokan” from 6 December 2020 to 30 November 2021

From the trend showed by combination terms or individual terms related to the influenza’s symptoms drugs, there were the similar pattern of those trends with positive covid-19 confirmed cases trends from government website. The increasing google trend search and positive covid-19 confirmed cases reached the peak on July and August 2021. This result may be related to the increasing of anxiety. A study from Anindyajati, et al (2021) found that one of five people in Indonesia got anxiety during the pandemic of Covid-19 (36). One of the riskiest group is people who suspected cases of Covid-19. However, the anxiety could make people think twice before they go to hospital during the Covid-19 pandemic. A study in Indonesia found that during the Covid-19 pandemic, people tended to do self-medication comparing to visit health center services or hospitals (11). Other studies found that during the Covid-19 pandemic, fever, flu, and cough were the top three of disease that curing by self-medication in. The information of the medicine usually comes from family, friends, or internet (12, 15). A study found that during the second wave of outbreak of Covid-19 (during June 2021), people done self-medication based on information they got through social media, such as WhatsApp (37). In the future, google trends analysis related to the covid-19 drugs, such as antiviruses and vitamins, need to be investigated.

**CONCLUSION**
During the covid-19 outbreak peak in Indonesia, which is reported during July and August, there were increasing of google search terms related to the influenza's symptoms drugs. The highest google search terms were observed on “Obat batuk” terms. Further research related to the correlation of positive covid-19 confirmed cases with google search terms related to the drug using statistics analysis need to be explored.

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AUTHOR CONTRIBUTION

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