

# Covid-19 impacts on residents' behavior on accessing health services: review on published studies in Special Region of Yogyakarta

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**Abstract.** Covid-19 has been shown to affect the behavior of the residents in almost all sectors of life, including the behavior in accessing health services. This research constitute a review in an effort to summarize published studies related to the effects of the COVID-19 pandemic on the behavior of residents in the Special Region of Yogyakarta in accessing health services. A literature search was conducted on Google Scholar from early 2020 to May 2022 to identify all relevant studies with a number of keywords and various combinations. As a result, the quantitative research designs reviewed were more or dominantly applied by the researchers than the qualitative research designs. From the results of a quick survey, the information collected revolves around the behavior of the residents related to issues/topics of family planning and infant care-childbirth in accessing health services. Impact of Covid-19 has been shown to affect the behavior of the residents regarding attendance at health services. Factors that influence attendance to health services include education, age, occupation, husband's support, anxiety and also knowledge attitudes and perceptions of services factors. Understanding shifts in public health-seeking behavior and the factors influencing them will be relevant and helpful in planning future pandemic responses.

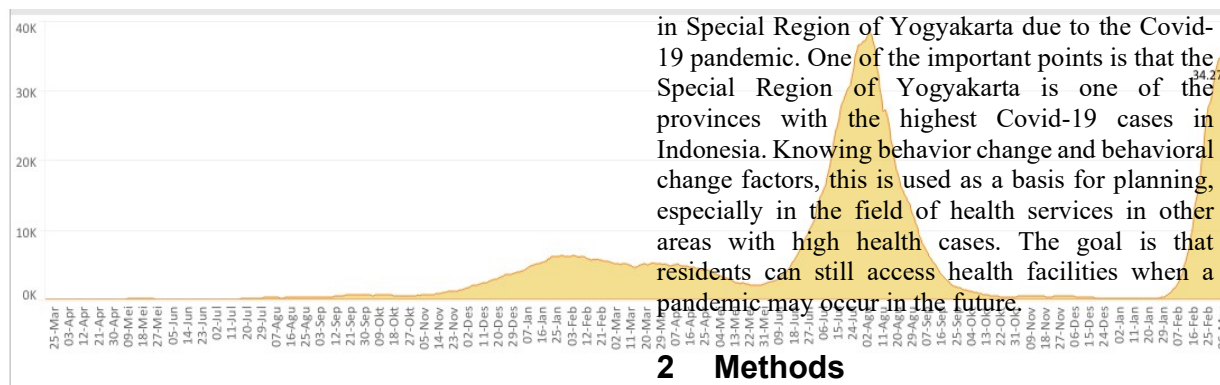
## 1 Introduction

Corona Virus Disease 2019 (Covid-19) was officially announced as a pandemic by WHO since March 2020 [1,2]. In the period, Covid-19 pandemic has been affecting a lot of aspects in life. From the demographic point of view, mortality has been affected the most, even though fertility and migration can not be ruled out [3-8]. Meanwhile if perceived from residents' point of view, Covid-19 has actual effects on residents' behaviors.

Many studies have shown that Covid-19 affected residents' behavior changes. For example, Covid-19 has proven to be affecting the changes of residents' behavior in mobility [9-16]. From the aspect of lifestyle, Covid-19 has also been proven significantly affecting the changes in dietary habit, stress, sleep pattern, and physical activity levels [17]. Another finding shows that Covid-19 has been proven to bring impacts on residents' behavior changes in accessing health services [18,19].

Indonesia as one of the countries with the highest number of population, had 5.878.910 positive cases and 151.951 mortality until March 13th 2022. Special Region of Yogyakarta is one of the provinces in Indonesia that has been affected by Covid-19 [21, 22]. Based on the trend, an interesting pattern occurred caused by the dynamic up and down trend. Covid-19 cases in Special Region of Yogyakarta increased since March 2020 to February 2021 then lowered until May 2021. Covid-19 cases in Special Region of Yogyakarta increased after May and had peak cases in August 2021. Post August 2021, Covid-19 cases lowered and stayed low from December 2021 to January 2022. Afterwards until March 2022 the number of cases climbed back and 34.274 active cases were recorded in early March 2022 [22]. The dynamics can be seen in Figure 1.

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**Fig. 1.** Trend on Confirmed Positive Cases of Covid-19 in Special Region of Yogyakarta [22]

By seeing the dynamic graphs, the changes in behavior pattern were also predicted. Covid-19 pandemic has been proven to have impacts on resident’s behavior on all aspects. On behavior in accessing health services, this is a very crucial thing to do. This is because sick residents in health observation period or in treatment period need to access health services regularly or continuously. For women in pregnancy or heart and hypertension patients for example, check-ups needs to be monitored periodically or continuously. Even though in pandemic, it is very limited. For women in pregnancy for example, were afraid to be infected therefore check-ups were not conducted in time. This problem then becomes important to be studied, most importantly about the factors that affected behavior changes in accessing health services. The urgency became stronger due to the fact that Special Region of Yogyakarta was a province with high active cases.

Many published studies has been made but there are not one comprehensive discussion which summarizes them all. This paper is the first review of changes in the behavior of residents who access health facilities in the Special Region of Yogyakarta during the Covid-19 pandemic. The Special Region of Yogyakarta is a province with a high number of active cases in Indonesia, therefore this study is needed. Nonetheless, there are significant gaps in the literature review that fully summarizes this behavior change in the Special Region of Yogyakarta. Between one study and another is a separate study and has not been combined thus a review of all published studies is important. This is what is proposed as a novelty of the results of this research.

This research is a review in effort to summarize Covid-19 pandemic effects on residents’ behaviors in accessing health services in Special Region of Yogyakarta. This study has an important contribution particularly in summarizing behavior pattern of the residents in accessing health facilities

in Special Region of Yogyakarta due to the Covid-19 pandemic. One of the important points is that the Special Region of Yogyakarta is one of the provinces with the highest Covid-19 cases in Indonesia. Knowing behavior change and behavioral change factors, this is used as a basis for planning, especially in the field of health services in other areas with high health cases. The goal is that residents can still access health facilities when a pandemic may occur in the future.

## 2 Methods

This research is a preliminary study about the impacts of Covid-19 on behavioral changes in accessing health services in Special Region of Yogyakarta, Indonesia. Narrative review of the literature study was used in this study. The method of data collection was carried out using the literature study method. Literature search was done in Google Scholar from early 2020 until March 2022 to identify al the relevant studies with some keywords and various combination. Due to the limited location only in Special Region of Yogyakarta, the keywords used in initial search were “behavior”, “seeking behavior”, “resident behavior”, “health services”, “yogyakarta” and “covid”. From the keywords after being identified further in the final step, 16 articles were reviewed.

The method of the analysis uses literature review. Literature review is a systematic, explicit and reproducible method used to do identification, evaluation, and synthetic on research works and ideas that have been produced by researchers and practitioners. The analysis was done by doing narrative review, as one of the things recommended [23], to gain a deeper comprehension about behavior of accessing health in health facilities. Health-seeking behavior is a broad topic that covers a wide range of health issues. The narrative review is expected to be able to interpret patterns of health-seeking behavior among various topics with the available literature.

## 3 Result and discussion

### 3.1 Descriptions on Published Studies

Studies on the impact of Covid-19 on residents’ behavior in accessing health services in Special Region of Yogyakarta were identified in 16 article titles during 2020-May 2022 publication period. On 2020, there was 1 article related to the theme of the study, 13 article titles on 2021, and 2 article titles until May 2022 [38-39]. Quantitative research designs are more dominant compared to the

qualitative research designs. The percentage as much as 93,75 percent are publications with quantitative research design and the rest for 6,25 percent are qualitative research designs. Most of the quantitative research design used are correlation analytic research design with cross sectional approach. Meanwhile for qualitative research design are done with holistic case study approach with 10 informants.

Focus of the study with the theme of study of people's behavior in accessing health services are divided into three things, which are related to antenatal-neonatal care [25-33,38], contraception and family planning [24,34-36,38] and integrated service post activities (Posyandu) [39]. First, antenatal-neonatal care studies mainly related with pregnant women behavior on pregnancy checking periodically according to a set schedule. In addition, the study is also related to the behavior of parents to 0-28 days old infants (neonatus) to make visits to health services. Second, the study of contraception and family planning is mainly related to the behavior and compliance of family planning acceptors in making repeat visits to midwives or health services during the Covid-19 pandemic. Third, the Posyandu study is related to compliance with resident visits that have been periodically scheduled to Posyandu.

### **3.2 Covid-19 Impacts on Residents' Behavior on Accessing Health Services in Special Region of Yogyakarta**

Covid-19 has been proven to affect residents' behavior on accessing health services in Special Region of Yogyakarta [24-39]. The impacts are related to the presence or absence of regularly scheduled health services. On studies related to antenatal-neonatal care, Covid-19 pandemic has been proven to affect their behavior and decisions to be absence on appointed scheduled check-ups. One of the studies in Special Region of Yogyakarta stated that almost half of the pregnant respondents did not obey the integrated ANC service. Anxiety of pregnant women is the main cause of pregnant women not having their pregnancy checked. This is due to the high health awareness therefore they are afraid of being infected or infecting virus to their unborn babies [25,38,40,41]. Furthermore, restrictions on movement make it difficult for many pregnant women to reach health care facilities [25, 40-43]. Even those who managed to reach health facilities were reported not to receive treatment on time [25,40].

On studies related to contraception and family planning, the behavior of absence on health services was an impact felt as a result of the Covid-19 pandemic in Special Region of Yogyakarta. Even

one of the studies stated that 66 percent of Family Planning acceptor respondents did not utilize the Family Planning services in pandemic [39]. That means 6-7 out of 10 acceptors chose not to be present in utilizing services that has been scheduled regularly. Anxiety became the main reason why the Family Planning acceptors were not present on the health services [24,34,36,39]. Another reason is that there is a choice to use other Family Planning methods thus the acceptors are not required to go to the health services [24]. These findings are similar to those in other studies, that the three main reasons for family planning acceptors do not present in health facilities are anxiety health services, the emergence of good online services and the permissibility of using other methods such as condoms [44-50]. From these three things, the reason for the good online service in Special Region of Yogyakarta has not been found yet.

On studies related to Posyandu obedience, anxiety became a reason why visits are not done [37]. Like what was found in other studies, anxiety being infected by Covid-19 for mothers and children became a reason why visits to Posyandu are not done [51-53]. In the future, health promotion and education are needed in order to reduce anxiety therefore visits to Posyandu could be improved [51,53,54].

The researchers used a variety of variables to test the impact of Covid-19 on the behavior of the residents in accessing health services in the Special Region of Yogyakarta. The variables tested include employment, education, husband support, family income, community leader support, health worker support, distance of access to health services, age, economic status, anxiety, and individual knowledge, attitudes and perceptions of health services [24-39]. From these various variables, education, age, employment, family support, anxiety as well as knowledge, attitudes and perceptions of services are factors that influence the behavior of the residents to be present in health facilities.

Education affects residents' behavior in accessing health services in Covid-19 pandemic. The higher the education, the behavior to obey and attend health services will also more likely to be done [25,26,28]. Age affects attendance behavior to health services, where no risk age/prime age will be more obedient to attend health services [27,28]. Residents that chose to work also considered to be more obedient to health services compared to the unemployed residents [25,27,29]. Family support has a great impact to obedience on being present at health facilities [30,32,33,35]. It was also mentioned that women who has their husband's support has a 9 times more possibility to complete neonatal visits

[30]. Anxiety is also an important factor where almost all studies in the Special Region of Yogyakarta stated that heavy anxiety makes the residents absent from health services [27,29,33,36,37]. Meanwhile, knowledge, attitudes and perceptions of service are also strongly correlated with attitudes to be present in health

## 4 Conclusion

Special Region of Yogyakarta is one of the provinces in Indonesia that has high number of Covid-19 active cases in Indonesia. Based on the results of review on published studies, it is known that Covid-19 has brought impacts on residents' behavior on accessing health services facilities. The impact is in the form of decreased compliance to attend health service facilities. This decrease in

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