

Self-care differences in COVID-19 pandemic situation

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ABSTRACT

Introduction: Coronavirus Disease-2019 (COVID-19) pandemic has been happening for years now and no one can guarantee when this situation will end. The best thing that we can do in this new normal era is doing different self-care activity than what we usually do before the pandemic. This study aimed to analyze self-care differences before and after pandemic situation in the general population.

Methods: This cross-sectional study involved 645 respondents living in five congested communities in Surabaya, Indonesia. Sample was enrolled by means of cluster random sampling. Variables on this study was self-care activities related to new normal activities among community. Valid and reliable questionnaire of self-care activities was used in data collection. Independent sample t test was used in data analysis.

Results: Most respondents were female (54.6%) in their productive age (29.7 ± 11.5 y.o.), graduated (77.8%), private employee (35.5%), having no income (45.7%), and live with more than 3-5 family members at home (43.4%). Before pandemic, self-care was mostly sufficient (21.8 ± 5.9). After pandemic, self-care was improved greatly but still in sufficient level (28.5 ± 4.8). There was a significant self-care difference before and after pandemic situation in the general population (p = 0.000).

Conclusions: Self-care activities changes significantly after COVID-19 pandemic situation in the general population, but it was still in unoptimal level. Efforts to improve individual self-care in new normal era are needed to ensure this activity is implemented in its optimal level.

Keywords: COVID-19; new normal; pandemic; self-care

Introduction

The global pandemic of coronavirus disease 2019 (COVID-19) is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The World Health Organization (WHO) declared a public health emergency of international concern on 30 January 2020 and a pandemic on 11 March 2020. Since 2021, variants of the virus have emerged or become dominant in many countries with the Delta, Alpha, and Beta variants being the most virulent (Anaki & Sergay, 2021). At the present many countries have confirmed the high death rate, making COVID-19 one of the deadliest pandemics in history. The number of new COVID19 cases and deaths has continued to high and the trend slowly decreased with over 7 million cases and over 22,000 deaths

reported, a decrease from 24% to 18% (WHO, 2022). WHO has come up with a plan to increase the awareness among the people about the current pandemic. This current strategic plan outlines the health system responsive and the international community stands ready to provide all necessary things in responding to COVID-19. To prevent the spread of COVID-19 we need to: 1) hand hygiene, 2) avoid touching our body especially eyes, nose, or mouth, 3) social distancing, 4) stay at home if necessary, and 5) seek medical care when people get sick (WHO, 2021a).

Indonesia still have confirmed positive cases of COVID-19 across all provinces in the country, and the high rate of infection was in DKI Jakarta, as of 16 February, the Government of Indonesia reported 4 966 046 (64 718 new) confirmed cases of COVID-19, 145 622 (167 new) deaths and 4 375 234 recovered cases from 510 districts



across 34 provinces (WHO, [2021a](#)). For identifying cases, the Real-Time Polymerase Chain Reaction Assay (RT-PCR) and the Molecular Rapid Test for Tuberculosis (TCM TB) methods are used (WHO, [2021a](#)). The other highest case is Surabaya City, East Java Province which ranks second, with 2,296 cases. A sharp increase in the number of cases has been confirmed in the areas of East Java (Surabaya is the capital city), South Kalimantan, and South Sulawesi (WHO, [2021b](#)). The impact of such an increase had a visible impact on human activity such as changing people's lifestyles in much of the world, reduced travel, the closing down of many business activities, and an increased time at home. These major changes, as well as the associated changes in impact on the environment.

COVID-19 pandemic has been happening for years now and no one can guarantee when this situation will end. The best thing that we can do in this new normal era is doing different self-care activity than what we usually do before the pandemic. Self-care model which firstly developed by Dorothea Orem in 1971 has become a famous nursing theory today. She defined self-care as individual actions to care for themselves independently with purpose of having the ability to maintain their health and well-being (Orem, [1971](#)). This theory is the basis of nursing actions in empowering their clients today, especially in community setting. In the context of pandemic, self-care has never been more important or, arguably, more challenging to prioritize as millions of people have lost their jobs, are forced to stay at home, or suddenly are caring for children whose schools have been closed (Nolen, [2020](#)).

Psychologically, the benefits of optimum self-care in this pandemic situation are helping us in alleviating the distress and anxiety caused by the pandemic and preventing lasting adverse psychological outcomes (Wise, [2020](#)). A study towards 1,082 people from four countries (Chile, Colombia, Ecuador, and Spain) found that self-care partially mediates the relationship between stress and well-being during COVID-19 confinement in the general population (Luis, [2021](#)). In the other hand, physically, the benefits of optimum self-care in this pandemic situation are helping us in countering the spread of the deadly Corona virus, maintaining our health and the health of people around us (Nolen, [2020](#)). Another benefits reported in one study includes promoting healthy lifestyles and improve the quality of life in the aspect social, physical and emotional (Duggan, [2020](#)).

At the present, the situation of the COVID-19 pandemic occurs in every place. An important thing to protect people from infection is self-care behaviors that are composed of wearing the hygienic mask, social distancing, and handwashing looking easily but high effectiveness to protect themselves. So life must go on with the new normal protocol from WHO (WHO, [2022](#)). The WHO provides several indicators to be obeyed by all

countries in the world in order to adjust their normal life called 'a new normal' with COVID-19, such as: 1) stopping or reducing COVID-19 transmission, 2) showing the capacity of the health system in responding to COVID-19, and 3) conducting a massive test to the high risk group. In order to address these three indicators, Indonesian government has implemented large scale social restrictions in various area, making policies related to referal system and effort in reducing COVID-19 transmission (Widyamurti, [2020](#)). Considering that many provinces in Indonesia have shown improved health indicators, and given the need for people to restart productive activities in a safe manner, the Ministry of Health of Indonesia has issued guidelines for a new normal life. These guidelines are a point of reference for regional governments that implement the large-scale social restrictions (so called PSBB in Indonesia) to be transitioned into the new normal stage, one of which is the city government of Surabaya which manages 2.97 million people living in the 2nd biggest city of Indonesia. In this study, we aimed at analyzing self-care differences before and after the pandemic situation in the general population, especially among adults living in congested communities of Surabaya, Indonesia. This may evaluate the implementation of new normal life guidelines in congested communities of big cities in Indonesia, especially in the adult population. The self-care model of Orem (1971) which related to self-care activities was used as this study framework.

Materials and Methods

Study Design

This study utilized cross-sectional design.

Respondent

Population was all adults live in congested communities of Surabaya amounted to 2,119,107 people (N = 2,119,107). Sample size was calculated by the formula stated in Nursalam ([2008](#)) yielded minimum of sample size at 645 respondents.

Surabaya composes of 63 communities under the authority of respectable Public Health Center (PHC). There were five study sites enrolled by mean of cluster random sampling (7.9% cluster area), namely: district of Pacar Keling, Pucang Sewu, Klampis, Mulyorejo, and Pakis. There were 20% of sample size enrolled by mean of simple random sampling from each study site (n = 129 from each site). The randomization process was done by making lottery. [Figure 1](#) below explains the study sites and sample selection process.

Instrument

Self-developed questionnaire of self-care activities consisted of 10 items. It assessed self-care activities related to pandemic, such as: 1) wearing mask, 2) washing

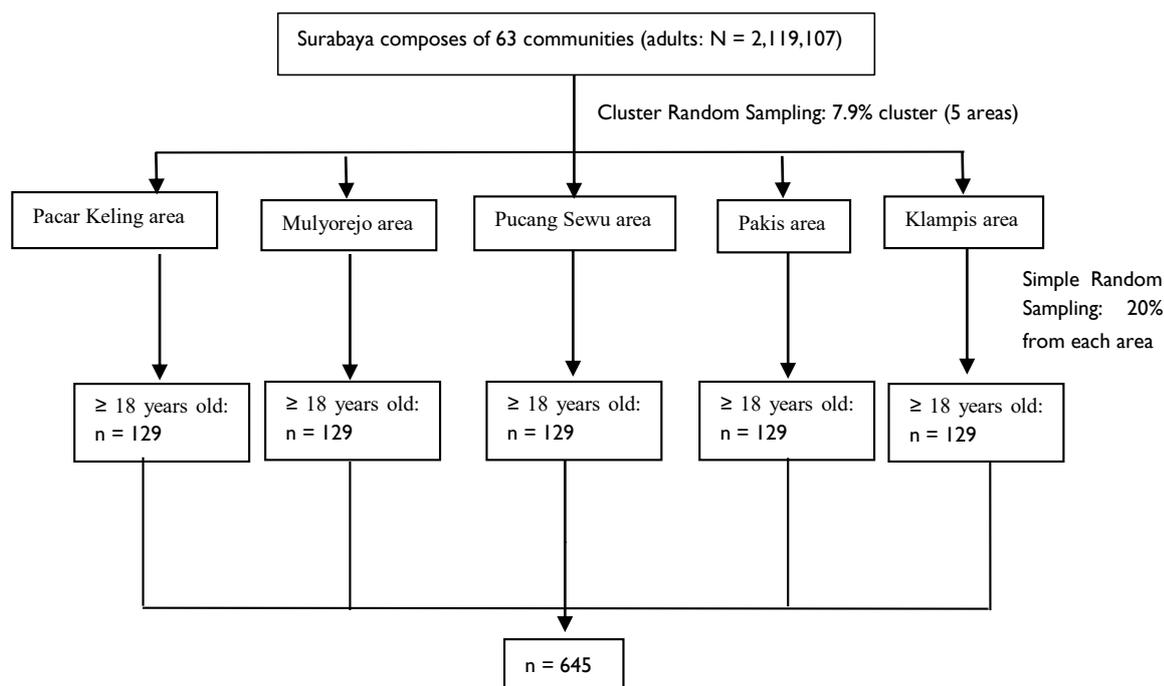


Figure 1. Study sites and sample selection process

hands, 3) social distancing, 4) avoiding crowd, 5) showering or changing clothes immediately after arriving home, 6) touching face, 7) using public eating utensils, 8) having meals outside, 9) exercising, and 10) observing body temperature. Instrument testing procedure involved content validity assessment by three experts, and reliability analysis with a trial in the congested community in Surabaya (30 adults from different site of Surabaya who were not being study respondents), then reported with Cronbach's alpha coefficient of 0.81.

Data Collection

The self-care activities was assessed before and after COVID-19 pandemic situation. Data was collected between February-April 2021. Self-care activities before the pandemic was assessed by recalling memory in the period before the pandemic, while self-care activities after the pandemic assessed self-care in the pandemic period. There were five research assistants helping the door to door data collection process in the field. As five study sites existed in this study, one assistant was responsible for 129 respondents in one study site. The roles of research assistant were helping the researcher to approach the promising respondents, to obtain informed consent, and to collect the data.

Data Analysis

There were 10 items in the self-care questionnaire. Likert scale of 1 to 4 was used to differentiate individual response: 1 = never (never done it at all), 2 = sometimes (doing it 1-2 days per week), 3 = often (doing it 3-4 days per week), and 4 = always (doing it >5 days per week). Self-care activities were categorized into three: less (score

10-20), sufficient (score 21-30), and optimum (score: 31-40). This category was made in order to ease the data interpretation in the result section. For data analysis process, raw total score will be analyzed. Descriptive statistic (Mean and Standard deviation or SD) and independent sample t test were used in data analysis. The software used was SPSS 19.0. Researchers conducted the data analysis alone.

Ethical Consideration

Ethical clearance was issued by the Ethical Committee of Saint Louis College (SLC), Bangkok, Thailand, with certificate number: E.010/2564.

Results

Most respondents were female (54.6%) in their productive age (29.7 ± 11.5 y.o.), graduated (77.8%), private employee (35.5%), having no income (45.7%), and live with more than 3-5 family members at home (43.4%). [Table 1](#) presents the demography characteristic of study respondents in detail.

Before pandemic, self-care was mostly sufficient (Mean ± SD = 21.8 ± 5.9). After pandemic, self-care was improved greatly but mostly still in sufficient level (Mean ± SD = 28.5 ± 4.8). There was a significant self-care difference before and after pandemic situation in the general population (p = 0.000). [Table 2](#) below explains self-care activities related to pandemic before and after pandemic in study respondents.

Discussions

In this study, most respondents reported sufficient level of self-care before and after pandemic. Based on category, this may seen as insignificant difference. But after doing statistical analysis by using the raw total score, it was found that self-care changed significantly or

improved greatly after pandemic, although still in the same sufficient level. This may happen potentially due to the sufficient level of perceived self-care ability or self-care agency in most respondents. Most respondents stated that they complied with WHO self-care recommendations during the pandemic situation.

Table 1 Demographic characteristics of the respondents

Characteristic	Frequency (n)	Percentage (%)
Sex		
Male	293	45.4
Female	352	54.6
Age (years old / y.o.)		
Early adulthood (17-40 y.o.)	524	81.2
Midlife transition years (>40-45 y.o.)	33	5.1
Middle adulthood (>45-60 y.o.)	79	12.2
Late adult transition years (>60-65 y.o.)	5	0.8
Late adulthood (>65-85 y.o.)	4	0.6
Education		
Being student	143	22.2
Graduated	502	77.8
Occupation		
General service staff	6	0.9
Private employee	229	35.5
Government employee	13	2.0
Semi-government employee	2	0.3
Shopkeeper	49	7.6
Private business worker	55	8.5
Housewife	92	14.3
Student	137	21.2
Retired	8	1.2
Unemployed	54	8.4
Income		
No income	295	45.7
Less than minimum wage	104	16.1
Minimum wage (IDR 4.3 million)	39	6.1
Above the minimum wage	207	32.1
Family member at home		
0 (live alone)	7	1.1
1-3	255	39.5
> 3-5	280	43.4
> 5-8	90	14.0
> 8-11	11	1.7
> 11	2	0.3

Table 2 Self-care activities before and after pandemic

Item	Before Pandemic				After Pandemic			
	Never	Some-times	Often	Always	Never	Some-times	Often	Always
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Wearing mask	237 (36.7)	190 (29.5)	94 (14.6)	124 (19.3)	5 (0.8)	25 (3.9)	102 (15.8)	513 (79.6)
Washing hands	178 (27.6)	274 (42.5)	97 (15.0)	96 (14.9)	6 (0.9)	43 (6.7)	167 (25.9)	429 (66.5)
Social distancing	388 (60.2)	154 (23.9)	54 (8.4)	49 (7.6)	19 (2.9)	95 (14.7)	218 (33.8)	313 (48.6)
Avoiding crowd	230 (35.7)	230 (35.7)	99 (15.3)	86 (13.3)	50 (7.8)	153 (23.7)	193 (29.9)	249 (38.6)
Showering/ changing clothes immediately	90 (14.0)	272 (42.2)	131 (20.3)	152 (23.6)	15 (2.3)	89 (13.8)	167 (25.9)	374 (58.0)
Touching face	90 (14.0)	237 (36.7)	210 (32.6)	108 (16.7)	176 (27.3)	257 (39.8)	122 (18.9)	90 (14.0)
Using public eating utensils	107 (16.6)	172 (26.7)	193 (29.9)	173 (26.8)	179 (27.7)	238 (36.9)	105 (16.3)	123 (19.1)
Having meals outside	188 (29.1)	249 (38.6)	145 (22.5)	63 (10.5)	348 (54.0)	192 (29.8)	57 (8.8)	48 (7.5)
Exercising	157 (24.3)	290 (45.0)	121 (18.8)	77 (12.0)	114 (17.7)	248 (38.4)	158 (24.5)	125 (19.4)
Observing body temperature	391 (60.6)	133 (20.6)	58 (9.0)	63 (9.8)	65 (10.1)	144 (22.3)	155 (24.0)	281 (43.6)
Less self-care*				299 (46.3)				26 (4.0)
Sufficient self-care*				301 (46.7)				406 (63.0)
Optimum self-care*				45 (7.0)				213 (33.0)

* This category was made in order to ease the data presentation in this section, and not for statistical analysis purposes.

Results of independent sample t test showed that there was a significant difference of self-care activities before and after COVID-19 pandemic situation among adults living in congested communities of Surabaya, Indonesia ($p = 0.000$). This study result was supported by various studies. A study towards 1,508 participants in general population showed that 66-80% respondents complied with self-care recommendations, therefore the implementation of pandemic care program is recommended (Galindo-Vazquez, et al., 2020). Before and after pandemic most respondents had sufficient level of self-care, but there was a great improvement in the raw total score after pandemic. Nationally, this study findings were supported by a survey conducted in Bali, Indonesia, regarding the public knowledge and behavior toward COVID-19 pandemic which showed that most respondents have complied with the health protocols during the pandemic (Yanti, et al., 2020). In the region, this study findings were supported by a survey conducted in Malaysia, regarding the public knowledge, attitudes, and practices to mitigate the outbreak of COVID-19 which showed that most respondents implemented new normal health behavior, such as avoiding crowds (83.4%), washing hands (87.8%), and wearing face mask (51.2%) (Azlan, et al., 2020).

This study findings proved that the implementation of new normal life guidelines in congested communities of big city in Indonesia, especially in adults population, cannot reach the maximum effectiveness. This possibly happened due to the negative attitude towards the COVID-19 pandemic situation. A study in North Sumatra, Indonesia, one month after the first cases were reported in Indonesia showed that the minority of respondents had negative attitude towards the outbreak in relation to two aspects, such as: 1) having to always maintain a distance of 1.5 metres when in crowds (78.6%), and 2) unable to regularly exercise or eat nutritious food (79.1%) (Sari, et al., 2021). Sufficient knowledge and positive attitudes are crucial to the prevention of COVID-19 (Lin, et al., 2020). The success of behavioral interventions and policies designed to reduce the impact of the COVID-19 pandemic depends on how well individuals are informed about both the consequences of infection and the steps that should be taken to reduce the impact of the disease (Green, et al., 1991). Moreover, understanding the complexity of health behavior will maximize their beneficial role, eliminate maladaptive prevention patterns, and facilitate the eradication of COVID-19 (Anaki & Sergay, 2021).

In contrary, another age and gender specific study towards 1,082 respondents in four countries in Europe showed that young female showed less adherence to health guidelines because they experienced greater level of stress and perceived the pandemic situation as more severe, but the older female groups were generally more involved in self-care activities and adopted more healthy daily routines; therefore genders and age ranges should

be considered in determining COVID-19 prevention strategies in order to improve self-care and adherence to health guidelines (Bermejo-Martins, et al., 2021). The higher perception of stress, the less self-care activities are adopted, and in turn the lower the beneficial effects on wellbeing because self-care partially mediates the relationship between stress and wellbeing during COVID-19 confinement in the general population, and age affects this relationship also (Luis, et al., 2021). In this study, most respondents were mostly young female too. Stress level and perception towards COVID-19 pandemic were not identified in this study, but it is potential if the sufficient self-care ability happen due to the low stress level and positive perception towards the pandemic situation.

There are few study limitations we found. This study had formulate objectives in a very broad manner, so in the initial phase of the development of self-care questionnaire we had various questions at that period. The items in self-care questionnaire were developed to resistant making the result may out of date. Similarly with the new normal phenomena. It has been changing along with the period of time, so we need to study about self-care after pandemic continuously to be more fitted with the current situation.

Conclusions

Self-care changes significantly after COVID-19 pandemic situation in the general population, but it was still in unoptimal level. Efforts to improve individual self-care in new normal era are needed to ensure this activity is implemented in its optimal level in compliance with WHO recommendations.

Acknowledgment

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Conflict of Interest

There was no conflict of interest between authors and study funder declared regarding this study and publication.

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