





A study on the Quality and Compliance of Breast Cancer Patients in Single Center Hospital Indonesia: Impact of Coronavirus Disease-19 Pandemic

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Abstract

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BACKGROUND: In Indonesia, especially in Surakarta, the emergence of the Coronavirus Disease (COVID)-19 pandemic made breast cancer survivors unable to continue their therapy schedule or follow-up due to lockdown rules in their residence area. Some survivors had confirmed COVID-19, or the health services began to limit their treatment of patients. Breast cancer itself is not an emergency case.

AIM: This research is to see the behavior patterns of breast cancer survivors in Surakarta using the UNS-CASKQ14 questionnaire, whether there is anxiety about contracting COVID-19 or cancer itself that eliminates the fear of COVID-19.

MATERIALS AND METHODS: This cross-sectional study used the Indonesian version of the UNS-CASKQ14 questionnaire on 88 breast cancer survivors through the Google Form application from December 2020 - February 2021.

RESULTS: The level of understanding about COVID-19 correlated with the level of education (p 0.019; r 0.429). The level of understanding also correlated with the type of financing (p 0.016; r 0.318). There was a correlation between the level of education and the level of knowledge about the therapeutic program that had to be undertaken (p 0.007; r 0.472). The financing factor used by the respondents to undergo a therapy program also affects them (p 0.028; r 0.248). The behavior of survivors during the pandemic had a statistically significant correlation to the level of education (p 0.032; r 0.313). There was a correlation with the type of financing (p 0.027; r 0.323).

CONCLUSION: The high understanding of the COVID-19 pandemic made 97.9% of survivors afraid of contracting COVID-19, thus affected changes in behavior patterns and gave psychological effects in undergoing therapy during the pandemic.

Introduction

Coronavirus Disease (COVID-19) pandemic is impacting throughout the world and various sectors of our lives and patients with breast cancer. In Indonesia, especially in Surakarta, the emerging COVID-19 pandemic made breast cancer survivors unable to continue their therapy schedule or follow-up due to lockdown rules in their residence area; besides, some survivors had confirmed COVID-19, or the health services began to limit their treatment of patients [1].

The high mortality rate due to COVID-19 has led to changes in guidelines for handling all diseases. Besides that, the health services have started to impose patient services based on the level of urgency, taking into account the minimal conditions of medical personnel, and still provide services to patients who need life-saving assistance [2].

Breast cancer is not an emergency case, except for cancers with bleeding or issues that require life-saving assistance. ESMO created new guidelines for

breast cancer treatment during a pandemic, intending to break the chain of COVID-19 transmission and prevent delays in treating cancer itself. Breast cancer survivors are at high risk of being exposed to COVID-19 due to changes in the immune system caused by cancer, as well as the therapy they had undergone. This made them anxious and hesitant to attend health services in which they considered a place for treating patients with COVID-19. It was just that their fear and anxiety about going to health care made them ignore their cancer [3].

UNS-CASKQ14 is a questionnaire on assessing the quality and adherence of cancer survivors in undergoing their cancer therapy program during the COVID-19 pandemic [4]. Questionnaire UNS-CASKQ14 aims to see the impact of the COVID-19 pandemic on cancer survivors, whether there is a sense of concern about contracting the virus that makes them skip their treatment schedule or ignore the virus due to fear that cancer will not be handled [4]. This research is to see the behavior patterns of breast cancer survivors in Surakarta, whether there is anxiety about contracting COVID-19 or cancer itself that eliminates the fear of COVID-19.

Patients and Methods

Patients

This study is an introductory study involving breast cancer survivors who sought treatment at Dr. Moewardi Hospital in Surakarta, Indonesia, by sending a questionnaire UNS-CASKQ14 using Google Form through WhatsApp application. Based on the sample count with consecutive total sampling, 88 samples were obtained. Samples were taken from patients treated at the Surgical Oncology outpatient clinic in December 2020 - February 2021, with the inclusion criteria being breast cancer survivors, having WhatsApp application and being able to access the Google Form while the patient exclusion criteria were unable to use the Google Form.

Instruments

UNS-CASKQ14 (*Universitas Sebelas Maret - Cancer Attitude Satisfaction Knowledge Questionnaire*) is a questionnaire to assess the quality and adherence of breast cancer survivors in undergoing a cancer therapy program during the COVID-19 pandemic, where they were vulnerable to get infected; meanwhile they still had to attend health services to continue their cancer therapy program. This questionnaire consists of 14 questions, which are divided into three parts [4]. The first part is about the survivors' understanding of COVID-19, composed of five questions, the second part is to evaluate the survivors' knowledge about the current therapy program consisting of five questions, and the third part assesses the survivors' behavior is undergoing therapy programs during COVID-19 pandemic composed of four queries. UNS-CASKQ14 has been tested for validity and reliability with valid values, and it can be said that there is a satisfactory consistency interval in each question (Table 1).

Table 1: UNS Questionnaire - CASKQ14 [4]

No	Description
I. Survivor and COVID-19	
1	Were there any symptoms related to COVID-19
2	Did you get screened for COVID-19
3	Were you diagnosed with COVID-19
4	When were you diagnosed with COVID-19
5	Did you undergo isolation
II. Therapy Programs that Survivors Are Undergoing During The Pandemic	
6	Are there any plans for surgery soon?
7	Are there any plans for a chemotherapy program shortly?
8	Are there any plans for a radiotherapy program shortly?
9	Are there any plans for a hormonal drug program shortly?
10	How was your follow-up program before the pandemic?
III. How Survivors Underwent Therapy Programs During The Pandemic	
11	How was the therapy program during the COVID-19 pandemic?
12	Pandemic effects that affect changes in therapy programs
13	Are there any complaints related to cancer further in the COVID-19 pandemic?
14	Financing of therapy programs during pandemic

Statistical analysis

This research was a cross-sectional study with the UNS-CASKQ14 questionnaire, obtained

88 samples, and aimed to see the respondent's knowledge of COVID-19, the therapy program undertaken, and the actions taken during a pandemic. Univariate analysis was conducted to explain the independent and dependent variables and determine the research sample's characteristics. Meanwhile, bivariate analysis was carried out through chi-square to assess the significance of the relationship between variables in categorical data types. This study has been approved by the ethics committee of the Universitas Sebelas Maret Indonesia number 164/II/HREC/2021.

Results

Patient characteristics

Retrospectively, there were 88 patients from December 2020 to February 2021. From Table 2, it was found that the age range of 40–49 years was the most extensive age range with 32 patients (36.36%), in contrast to the age range > 70 years was the least of all with three patients (3.41%). Most of the patients were housewives with a total of 50 (56.82%), while the least of them were entrepreneurs/self-employed, amounting to six patients (6.82%). Based on the level of education, most patients had the highest level of education in primary school and senior high school, 22 patients (25%), respectively. Still, there were two patients with non-school education (2.27%), and there were no patients with doctor degrees suffering from breast cancer.

If the number of patients was calculated from the duration of breast cancer diagnosis, there were 50 patients (56.83%) who had been diagnosed with breast cancer, but there were at least two patients (2.27%) who have been diagnosed for 16–20 years, and two patients (2.27%) for more than 20 years. Thus, there was a statistical difference ($p = 0.001$).

Of 87 patients (98.86%) who underwent surgery, 37 patients (42.53%) had at most two surgeries, and four patients (4.60%) had at least more than three surgeries. Thus, with a total of 71 patients (80.68%), most patients underwent chemotherapy 6–8 times, namely, 51 patients (71.83%) and 12 patients (16.90%) had undergone chemotherapy the least 9–12 times.

Of the total patients (88 patients) who underwent therapy other than chemotherapy, there were only 16 patients (18.18%) who underwent radiotherapy, and at most, 72 patients (81.82%) did not undergo radiotherapy. Another therapy that the patient underwent was hormonal therapy, in which most patients, namely, 73 patients (82.96%), received hormonal treatment, and 15 patients (17.04%) did not undergo hormonal treatment.

Table 2: Patient characteristics

No	Description	n	%	p-value
1	Gender			
	Female	88	100	0.812
	Male	0	0	
2	Age			
	<40	4	4.55	0.762
	40–49	32	36.36	
	50–59	28	31.82	
	60–69	21	23.86	
	>70	3	3.41	
3	Employment			
	"PNS"/Teacher/"TNI"	18	20.45	0.317
	Private Employees	14	15.91	
	Entrepreneur/Self-employed	6	6.82	
	Housewives	50	56.82	
4	Education level			
	Not attending school	2	2.27	0.956
	Primary school	22	25	
	Junior high school	9	10.23	
	Senior high school	22	25	
	Diploma degree	9	10.23	
	Bachelor degree	16	18.18	
	Master degree	8	9.09	
	Doctor degree	0	0	
5	Duration of breast cancer diagnosis			
	<5 years	50	56.83	0.001
	5–10 years	30	34.09	
	11–15 years	4	4.54	
	16–20 years	2	2.27	
	More than 20 years	2	2.27	
6	Current therapy			
	Surgery	87	98.86	0.432
	One time	36	41.37	
	Two times	37	42.53	
	Three times	10	11.50	
	More than three times	4	4.60	
	Chemotherapy	71	80.68	0.314
	Three times	8	11.27	
	6–8 times	51	71.83	
	9–12 times	12	16.90	
	Radiotherapy			
	Yes	16	18.18	0.593
	No	72	81.82	
	Hormonal therapy			
	Yes	73	82.96	0.680
	No	15	17.04	
7	Financing			
	Government insurance	84	95.45	0.655
	Private insurance	0	0	
	Personal financing	4	4.55	
8	Geographical			
	Surakarta	8	9.1	0.393
	"Karesidenan" Surakarta	36	40.9	
	Outside the City	44	50	

Regarding financing, there were at most 84 patients (95.45%) who used government insurance, but there were also patients who used personal finance, namely, four patients (4.55%), and no patient used private insurance.

In terms of geography, most patients with breast cancer who routinely underwent follow-up during pandemic were from Karanganyar, namely, 12 patients (13.63%). And the least number of breast cancer patients came from Sampit, Bojonegoro, and Kendal, namely one patient each (1.13%).

Results of the questionnaire UNS-CASKQ14

From the results of the UNS-CASKQ14 questionnaire, all 14 questions were answered by breast cancer survivor respondents. Survivors' understanding of what COVID-19 is, results showed that 100% of respondents understood COVID-19 (Figure 1). Two respondents, when filling out the questionnaire, had confirmed COVID-19, and four respondents underwent isolation.

From part II (Figures 2 and 3), 89% of respondents knew and understood the cancer therapy

program that would be and had been undertaken by them, while 11% of them did not know nor understand the therapy program.

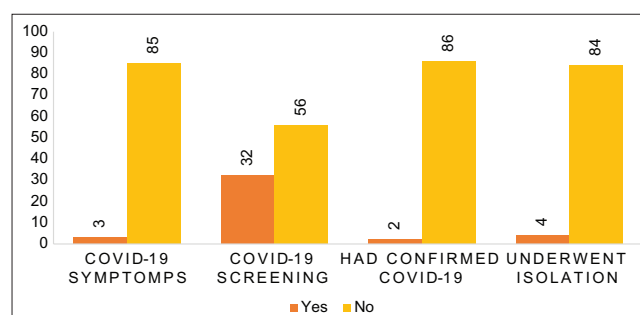


Figure 1: Part I of UNS-CASKQ14, about survivors' understanding of coronavirus disease-19

In Figure 4, 93% of survivors feared contracting COVID-19 and 7% feared that cancer became progressive.

Meanwhile, it was due to several reasons based on why survivors did not undergo their cancer therapy program during a pandemic (Figure 5).

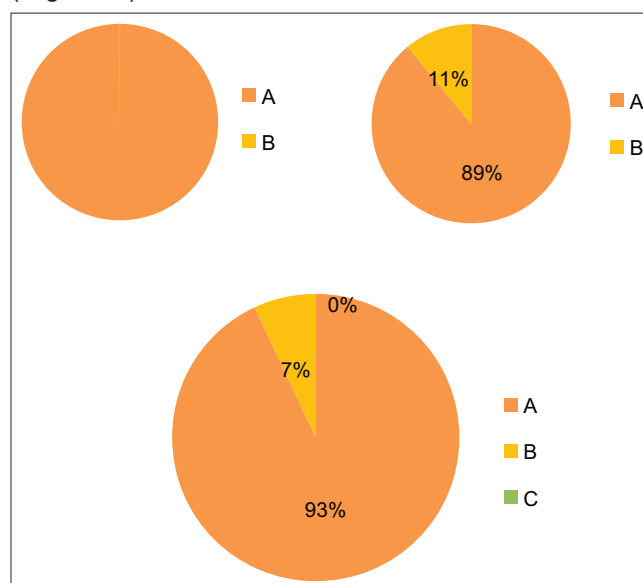


Figure 2: Diagram of the UNS-CASKQ14 questionnaire results. Part I. Survivors' understanding of coronavirus disease (COVID-19). A. Understand COVID-19. B. Do not understand COVID-19. Part II. Survivors' knowledge of the therapy program. A. Understand the therapy program. B. Do not understand the therapy program. Part III. Survivors' behavior for therapy program during a pandemic. A. Fear of COVID-19. B. Fear of cancer. C. There is no fear of cancer nor COVID-19

Bivariate analysis

Following Table 3, the level of understanding correlated with the level of education ($p = 0.019$) with moderate correlation strength ($r = 0.429$). In addition, the level of experience also correlated with the type of financing ($p = 0.016$) with weak correlation strength ($r = 0.318$).

The ongoing therapy program had correlated the level of education ($p = 0.007$) with moderate

Table 3: Bivariate analysis

Correlative Study	Level of Education		Duration of diagnosis		Financing		Geographical Location	
	p-value	r-value	p-value	r-value	p-value	r-value	p-value	r-value
Understanding COVID-19	0.019	0.429	0.129	0.163	0.016	0.318	0.719	0.039
Knowledge of The Therapy Program	0.007	0.472	0.513	0.117	0.028	0.248	0.602	0.112
Behavior during pandemic	0.032	0.313	0.876	-0.011	0.027	0.323	0.484	0.076

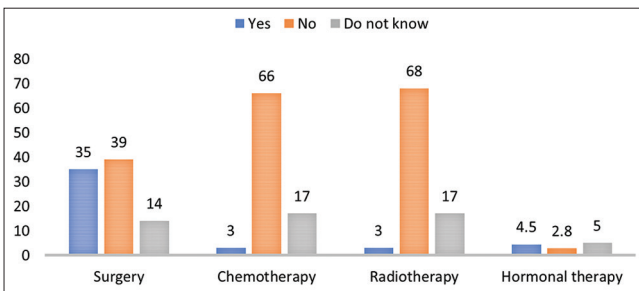


Figure 3: The therapy program that survivors should undertake during the coronavirus disease-19 pandemic

correlation strength ($r = 0.472$). Furthermore, the therapy program correlated with the type of financing ($p = 0.028$) with a weak correlation strength ($r = 0.248$).

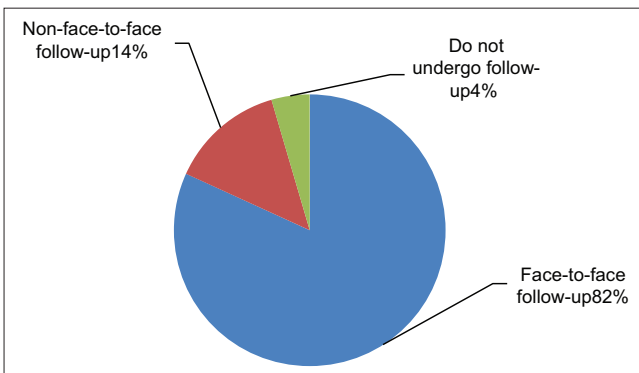


Figure 4: The behavior pattern of survivors undergoing therapy programs during a pandemic

Behavior pattern statistically significant correlation to the level of education ($p = 0.032$) with weak correlation strength ($r = 0.313$). In addition, it also correlated with the type of financing ($p = 0.027$) within adequate correlation level ($r = 0.323$).

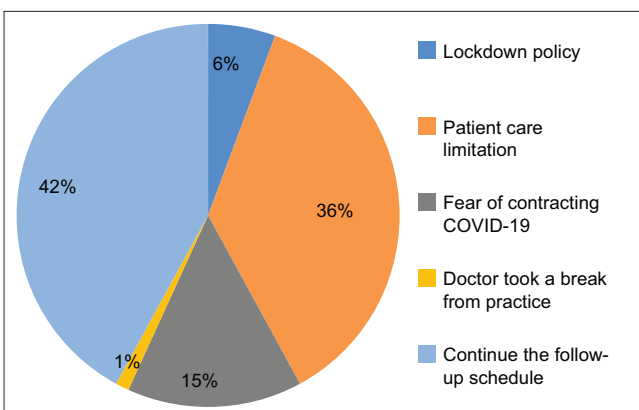


Figure 5: Some causes of changes in survivors' behavior patterns in undergoing therapy programs during pandemics

Discussion

COVID-19 has impacted the health sector worldwide because of the effect of a new virus, so that medical personnel still struggled their best in handling the disease. Besides the health sector, the pandemic also affected other chronic diseases, especially cancer. In cancer patients, immunity decreases due to cancer or due to the therapy they have undertaken. This will cause cancer patients to be at the highest risk of being infected with COVID-19. In December 2020–February 2021, the number of confirmed cases of COVID-19 in several cities in Indonesia, including Solo, reached 5000–14,000 new patients, with the highest peak in January 2021. Meanwhile, the mortality rate was relatively high, namely, 120–475 people, with the highest mortality in January 2021 [5].

Some disease management guidelines changed according to pandemic conditions. Likewise, cancer management guidelines followed existing conditions, considering cancer patients and doctors and medical personnel who treated them [6]. The aim is to keep the survivors' needs monitored for their cancer, which means they continue the therapy and minimize contact with places or people confirmed with COVID-19. It also maintains the number and condition of doctors and medical personnel working in health services, whose workload due to the COVID-19 pandemic increases. Furthermore, the most important thing is to break the chain of COVID-19 transmission.

Changes in lifestyle due to pandemics had a psychological effect, especially on breast cancer survivors [7]. First, their anxiety and fear increased, where before the pandemic, the survivors were only concerned about how they can recover from cancer. They became more anxious to attend hospital or health services to continue their therapy, which became a center for treating confirmed COVID-19 patients [8].

From UNS-CASQK14, two respondents had confirmed COVID-19 with mild symptoms and carried out isolation for 2 weeks, and two respondents underwent isolation due to contact history with a family who had established COVID-19. Early in 2021, in Surakarta, the incidence of confirmed COVID-19 cases reached its peak, so that the government took several actions to halt the transmission in several attempts, starting from education about what COVID-19 is, how it spreads, and how to prevent getting infected with the virus, through various communication media, and also the lockdown policy applied in several regions

in Indonesia. The ongoing move by the government made 100% of respondents know precisely the symptoms of the COVID-19 virus, and more than 50% of respondents underwent a COVID-19 screening check even though they had no signs. Statistically, the level of understanding about COVID-19 correlated with education (p 0.019) with moderate correlation strength (r 0.429). In addition, the level of experience is also associated with the type of financing (p 0.016) with weak correlation strength (r 0.318).

Eighty-nine percent of respondents knew and understood the cancer therapy program that would be and had been undertaken by them; 11% of them did not know and understood the therapy program that they would undertake. Statistically, it appeared that there was a correlation between the education level of the respondents, most of whom are high school students, and the level of knowledge about the therapy program that must be undertaken (p 0.007 with moderate correlation strength r 0.472). Besides that, the financing used by the respondents to undergo therapy programs also influenced them. Almost 100% of respondents used insurance from the government, where all funding for cancer therapy programs in Indonesia is mainly covered by government insurance (p 0.028 with weak correlation strength r 0.248).

During the pandemic, the survivors' behavior pattern had a statistically significant correlation to the level of education (p 0.032) with weak correlation strength (r 0.313). Besides that, it also correlated with the type of financing (p 0.027) with an inadequate correlation level (r 0.323). The high rate of transmission and mortality due to the COVID-19 virus psychologically affected all people, especially the breast cancer survivors living in Solo. In December 2019–February 2020, Solo was a “black zone” for COVID-19. Ninety-three percent of respondents feared contracting COVID-19, and 7% of respondents were afraid that cancer became progressive.

This study has some limitations. It takes a long time and the number of samples with a broader scope to provide maximum results, especially in Indonesia as an archipelagic county with a large population and varied culture.

Conclusion

From the results of this study, it was found that all respondents who filled out the questionnaire fully

understood the COVID-19 pandemic, and 89% of the respondents understood their primary illness and the therapeutic program that would be undertaken next. Furthermore, the high understanding of respondents about the COVID-19 pandemic made most respondents (97%) afraid of contracting COVID-19. In addition, it affected changes in behavior patterns and gave psychological effects to survivors undergoing therapy during a pandemic.

References

1. Dietz JR, Moran MS, Isakoff SJ, Kurtzman SH, Willey SC, Burstein HJ, *et al.* Recommendations for prioritization, treatment, and triage of breast cancer patients during the COVID-19 pandemic. The COVID-19 pandemic breast cancer consortium. *Breast Cancer Res Treat.* 2020;181(3):487-97. <https://doi.org/10.1007/s10549-020-05694-3>
PMid:32333293
2. Vanni G, Pellicciaro M, Materazzo M, Bruno V, Oldani C, Pistolesse CA, *et al.* Lockdown of breast cancer screening for COVID-19: Possible scenario. *In Vivo.* 2020;34(5):3047-53. <https://doi.org/10.21873/invivo.12139>
PMid:32871851
3. Swainston J, Chapman B, Grunfeld EA, Derakshan N. COVID-19 lockdown and its adverse impact on psychological health in breast cancer. *Front Psychol.* 2020;11:2033. <https://doi.org/10.3389/fpsyg.2020.02033>
PMid:32982846
4. Soewoto W, Putra MD, Putra GS. 171P validity and reliability tests of the UNS-CASKQ14 questionnaire about the quality and compliance of breast cancer survivors amid the COVID-19 pandemic. *Ann Oncol.* 2021;32(2):S92-3. <https://doi.org/10.1016/j.annonc.2021.03.185>
5. Putra MD, Yarso KY, Saadhi I, Adinugroho Y. Surgery department during coronavirus disease 2019 virus lockdown: Multi department experiences from universitas Sebelas Maret. *Open Access Macedonian J Med Sci* 2021;9:437-42. <https://doi.org/10.3889/oamjms.2021.6144>
6. JHU. Data Statistik Virus Covid-19 Indonesia. Maryland: JHU CSSE COVID-19 Data; 2021.
7. Raymond E, Thieblemont C, Alran S, Faivre S. Impact of the COVID19 outbreak on the management of patients with Cancer. *Targeted Oncol.* 2020;15(3):249-59. <https://doi.org/10.1007/s11523-020-00721-1>
PMid:32445083
8. Alshamrani M, AlHarbi A, Alkhudair N, AlNajjar F, Khan M, Ben Obaid A, *et al.* Practical strategies to manage cancer patients during the COVID-19 pandemic: Saudi oncology pharmacy assembly experts recommendations. *J Oncol Pharm Pract* 2020;26(6):1429-40. <https://doi.org/10.1177/1078155220935564>
PMid:32580641