Original Article

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COVID-19 Outbreak and Consequent Delays in Schedules of the Breast Clinic: Effects on Patients' Breast and Emotional Symptoms

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ABSTRACT

Objective: The pandemic of COVID-19 has affected many aspects of life, and emotional symptoms have been reported to worsen during this time. Also, elective visits in the Breast Clinic have been cancelled or postponed based on the priorities defined in local and international guidelines. Our aim was to investigate the effect of these delays on the breast symptoms and emotional status of our patients.

Materials and Methods: We called patients whose appointments should have taken place between March and May 2020. After asking for their consent to participate in the study, we asked questions about their breast and emotional symptoms and any worsening of these due to cancellation of their schedules because of the COVID-19 outbreak. We also inquired the relation of breast symptoms with news and thoughts about COVID-19, and if the patients or their close relatives or friends had been affected by COVID-19. We compared the worsening of breast symptoms in patients with and without a positive self- or family history of COVID-19.

Results: None of the breast or emotional symptoms had significantly got worse in the patients. Also, there was no significant difference between the two groups regarding the changes in their breast symptoms or emotional health.

Conclusion: We believe that these results might be evidence in favor of the Breast Clinic triage system, which conforms to most international and specifically to our local recommended strategies.

Keywords: Breast clinic, breast pain, COVID-19, psychological symptoms, outbreak, triage

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Introduction

The pandemic of COVID-19 has compromised the usual flow of patients in hospitals, especially in outpatient clinics. Considering the high rate of transmissibility of the virus and in order to minimize patient exposure to COVID-19 and save medical resources, elective outpatient visits have been postponed to a time when the outbreak is under control.

During this time, local, national and international guidelines and recommendations have been published about management of breast diseases during the pandemic (1-5) so that management of breast cancer and some emergent cases such as breast abscesses could be carried out in those circumstances. Accordingly, postponement of most other cases has been endorsed almost universally.

In our Breast Clinic in Arash Women's Hospital, recommendations have been followed. We restricted our visits to patients with suspicious, malignant, or emergent breast problems, and all other schedules were deferred. Instead, telephone calls to our clinic for clinical advice was free since the beginning of the epidemic, and one of our Breast Clinic nurses answered patients' queries by cell phone and through a virtual social network.

However, breast symptoms are an important cause of worry for women (6, 7), and the worldwide and local COVID-19 conditions have been recognized as highly stressful (8); these could have a negative impact on patients whose schedules were delayed; including those who were followed for breast complaints, known benign breast diseases, or breast cancer screening. Therefore, we conducted a study to find out whether the delays that had been caused by the outbreak had affected the breast symptoms of the patients or their emotional status; and whether COVID-19 affection of the patient or her relatives had further impact on these issues.

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Materials and Methods

The study protocol was approved by the Deputy of research (Proposal Code 99-1-259-48165), and received ethical approval by the Ethics Committee of Tehran University of Medical Sciences (Ethics CODE: IR.TUMS.VCR.REC.1399.370). We aimed to call patients who were to have their visit appointments from March 2020 to May 2020. Because it was a large sample, we randomly called 10% of the patients according to our lists. The phone calls were held by an expert nurse of the Breast Clinic and a trained interviewer.

During the phone interview, after asking for their oral informed consent about the research, we questioned patients according to a multiple-choice questionnaire we had prepared for this purpose. Questions were about causes of delay of the visit, breast symptoms, and psychiatric well-being. We also asked about self- or family history of COVID-19, to see if any change in symptoms or psychological matters were associated with these factors.

Normally, patients have their Breast Clinic schedules arranged via an automated internet-based or phone-call appointment system. Schedules are very busy, and some patients cannot arrange their appointments on time; and attend the clinic with some delay. Delays happen also for personal causes related to the patient. Therefore, in addition to patients that should have been visited between our defined dates, there were also patients who were appointed for this interval because they did not come on time in previous months. We thus defined delay as the interval between the dates they should have come for their last visit, till the day of the interview. Causes of delay were classified as fear of COVID transmission, not being able to make an appointment due to COVID-19 restrictions in the automated appointment system, and personal reasons not related to COVID-19.

A very common breast symptom is breast pain (7), and feeling lumps in the breast is a frequent, alarming symptom for women (9). We thus inserted questions about "breast pain" and "lumpiness" in the questionnaire. Lumpiness was defined as the number of lumps the patient felt in her breast.

Questions about well-being were derived from the 12-Item General Health Questionnaire (GHQ-12). The GHQ-12 is a self-administered screening questionnaire which contains 12 questions to measure psychiatric well-being and has been widely used in different cultures and settings (10, 11). The Persian version has been translated and validated (12), and we used 6 of its pertinent questions to assess the probable emotional impact of the present situation regarding COVID-19 and deferred schedules. According to GHQ-12, answers were rated on a 4-point scale.

We also asked the patients if they had been diagnosed with COVID-19, and if their close relatives or friends had been affected. We did not ask about the symptoms of the viral disease or the confirmed serologic test results, because we cared about what the patient recognized as being affected, and not the genuine state.

Statistical analysis

Analysis was performed using IBM Statistical Package for the Social Sciences version 22 (IBM SPSS Corp.; Armonk, NY, USA).

Key Points

- During the outbreak, our Breast Clinic has prioritized its activities based on international and local recommended strategies.
- Visits of patients with non-malignant, non-urgent breast problems of the Breast Clinic have been cancelled and deferred during the pandemic.
- Breast symptoms and emotional well-being of patients whose visits have been deferred has not been affected.
- The triage system of the Breast Clinic during the outbreak is appropriate and the steps that have been taken have yield acceptable outcomes regarding patients' state of health.

Results

Overall, 140 patients were called by phone. Six of them did not consent to participate in the study. Therefore, 134 patients were interviewed. A small number of patients did not respond to a few questions selectively, e.g. their age (which we had in our files but did not use to respect patient's privacy) or the cause of their delay. These have been considered as missing data.

The mean age of the patients (119 cases, 14 missing), was 42.9 years (19-64 years). The average delay for all patients (124 cases, 9 missing), was 2.93 months (0-8 months). The average delay among the 115 cases whose absence was related to COVID-19 (fear of transmission or not able to make an appointment) was 2.78 months (0-6 months). Causes of delayed schedules are demonstrated in Table 1.

Totally, two patients had been affected by COVID-19, three women had had the disease in first degree relatives, and 12 reported it in other close relatives or friends. As stated by the patients, two of the latter group had died of COVID-19.

Table 1. Causes of delayed schedules in the Breast Clinic

Cause of delay	Number
Fear of COVID-19 transmission	107 (81.9%)
Not being able to make an appointment*	16 (12.1%)
Personal reasons, no relation with COVID	9 (6.8%)
Missing	2

*due to COVID-19 restrictions in the automated appointment system

Table 2. Breast pain and COVID-19 news or thoughts

	Yes (%)	No (%)	Missing
Worsening pain when hearing news about COVID-19	16 (12.3)	114 (87.7)	4
Worsening pain when thinking about COVID-19	12 (9.2)	119 (90.8)	3
Worsening pain when thinking about the delayed schedule due to COVID-19	7 (5.3)	125 (94.7)	2

We asked patients if their breast pain had been aggravated by COVID-19 news and thoughts; Table 2 shows the results.

We divided the patients into 2 groups according to their self- or family history of affection with COVID-19, to compare the changes in breast symptoms and the psychological symptoms among them. Table 3 demonstrates the number and age of patients in each group and the results of the analyses; there was no significant difference in the age of the participants in the two groups.

Table 3. Breast and mental symptoms in patients with delayed appointments during the COVID-19 pandemic

Questions and variables		COV Hx +	COV Hx -	p	All
Number		18	116		134
Mean age (± SD)		45.1± 9	42.5± 10.2	0.343	42.9± 10
Recent worsening of breast pain	Yes	3 (16.7%)	10 (8.6%)	0.383	13 (9.7%)
	No	15 (83.3%)	106 (91.4%)		121 (90.3%)
Recent worsening of breast lumpiness	Yes	0	4 (3.4%)	0.383	4 (3.0%)
	No	18 (100%)	112 (96.5%)		130 (97%)
Sense of pressure due to breast conditions	As usual	12 (66.7%)	90 (78.3%)	0.556	102 (76.7%)
	Not more than usual	5 (27.8%)	21 (18.3%)		26 (19.5%)
	Rather more than usual	1 (5.6%)	4 (3.5%)		5 (3.8%)
	Much more than usual	0	0		0
	Missing	0	1		1
Depression due to breast conditions	As usual	16 (88.9%)	92 (79.3%)	0.541	108 (80.6%)
	Not more than usual	2 (11.1%)	19 (16.4%)		21 (15.7%)
	Rather more than usual	0	5 (4.3%)		5 (3.7%)
	Much more than usual	0	0		0
	Missing	0	0		0
Insomnia due to worrying about breast conditions	As usual	16 (94.1%)	86 (74.8%)	0.364	102 (77.3%)
	Not more than usual	1 (5.9%)	26 (22.6%)		27 (20.5%)
	Rather more than usual	0	2 (1.7%)		2 (1.5%)
	Much more than usual	0	1 (0.9%)		1 (0.8%)
	Missing	1	1		2
Able to -concentrate on personal tasks despite breast conditions	More than usual	1 (5.6%)	5 (4.3%)	0.914	6 (4.5%)
	As usual	17 (94.4%)	107 (93.0%)		124 (93.2%)
	Less than usual	0	2 (1.7%)		2 (1.5%)
	Much less than usual	0	1 (0.9%)		1 (0.8%)
	Missing	0	1		1
Able to make decisions for oneself despite breast conditions	More than usual	0	1 (0.9%)	0.724	1 (0.8%)
	As usual	18 (100%)	111 (96.5%)		129 (97.0%)
	Less than usual	0	3 (2.6%)		3 (2.3%)
	Much less than usual	0	0		0
	Missing	0	1		1
Feeling good about life despite breast conditions	More than usual	0	1(0.9%)	0.923	1 (0.8%)
	As usual	18 (100%)	112 (97.4%		130 (97.7%)
	Less than usual	0	1 (0.9%)		1 (0.8%)
	Much less than usual	0	1 (0.9%)		1 (0.8%)
	Missing	0	1		0

COV Hx: History of COVID-19 affection by the patients, their families or close friends; SD: standard deviation

Discussion and Conclusion

We carried out a study in 134 women whose appointments of the Breast Clinic had been postponed during the COVID-19 outbreak, and assessed the impact on their breast and general health.

The first report of cases of Covid-19 in Iran occurred on 19 February 2020. The first cases of Tehran, the capital of Iran, were declared on 21 February 2020. Considering the developing circumstances, we had performed a short survey at that time to see how much the news about the disease and the general recommendations about preventive measures, with or without administrative restrictions for outpatient visits, had limited patients' attendance. Immediately after the first confirmed cases of Covid-19 in Tehran, no formal cancellations or limitations had been set for elective clinics of non-dedicated hospitals; albeit general principles regarding necessity of avoiding crowded areas had been spread out formally and informally throughout the country. Our hospital, situated in the capital, was not introduced as one of the main dedicated centers for COVID-19. However, we had to admit women with other diseases that needed hospitalization and were also affected by COVID-19. According to our previous routine program which consisted of Breast Clinics held on several days of the week, our first clinic was held one day after the first cases of COVID-19, and then on three consecutive days in the same week. Interestingly, the number of patients attending the clinic had decreased by around 10% on the first day, and by around 50% on subsequent days; which showed a self-restriction observed by patients. The week after, all scheduled appointments had been cancelled by the hospital administration via texting and calling patients, telling them to attend only if indispensable and urgent. In that setting, we had asked patients who still came to the clinic about their point of view on the danger of COVID-19 transmission versus their breast problems. We had classified the rational for the attendance of patients regarding their actual breast problem as necessary, not necessary, and unnecessary. For example, patients with a newly diagnosed breast cancer were included in the former group and asymptomatic cases attending for opportunistic screening in the latter. Overall, excluding post-operative visits, attendance was around 11% of the usual number in the hospital clinic. Interestingly, all patients believed that COVID-19 was a serious matter; however they all thought that their breast problem was more important and were stressed about it; which made them come to the clinic despite cancellation of the schedules. On the contrary, our grading showed that only 20% had serious breast problems that necessitated medical attention in those tough circumstances. Ultimately, these preliminary findings made us further investigate the state of health of our patients of the Breast Clinic who had their appointments cancelled and postponed with ongoing COVID-19 restrictions.

The outbreak of COVID-19 has influenced many aspects of life, and medical conditions as well. People's health status might be affected because of limitations in access to medical care for pre-existing or new diseases other than COVID-19. This issue in itself can lead to serious mismanagement of those diseases. The health system has taken the matter into account shortly after the outbreak, and guidelines about when and how to take care of which disorders have been issued in various medical divisions. Breast care was no exception, and recommendations about the best approach to breast problems in the outbreak conditions are available for numerous contexts, including ours (5). A concise summary of the proposed triage according to these references is that obvious threats like breast cancer or presentations needing an emergent procedure should be cared for promptly; and other breast conditions are advised to be managed later. If these models are correctly understood by the patients, they would be an assertion that the breast problems are not imposing a hazard; the guidelines would then soothe any potential stress about the disease. However, mistrust toward or misunderstanding of the suggested triage could alarm patients, insinuating the feeling that they are left alone by the health system despite their defective breast health.

The COVID-19 outbreak has also been associated with mental distresses. Wang et al. (13) have performed an online survey to investigate the psychological impact of COVID-19 outbreak in 1210 participants from 194 cities in China as a representative sample of the country population. They found out that moderate to severe psychological consequences had followed the initial stage of the COVID-19 epidemic in a large portion of the Chinese population. Another nationwide study in China by Qiu et al (8) showed high levels of psychological disorders secondary to the outbreak and lockdown conditions; they also showed that women were more at risk.

On the other hand, a relation between breast pain and psychological symptoms has been demonstrated in different studies. Hacimusalar et al. (14) have shown that anxiety and health anxiety as well as depression were more common among 40 women with mastalgia in comparison with a control group without breast pain. Also, Kanat et al. (6) found out significantly higher depression levels in women with mastalgia. Emotional stress also can worsen breast pain (15).

The emotional changes and psychological symptoms associated with COVID-19 from one hand, and the association of mastalgia with these symptoms on the other, made us investigate these changes in our patients with benign breast disorders or with normal breasts who were under breast cancer screening. However, our analysis did not disclose any significant aggravation of neither breast pain nor lumpiness in these patients. Moreover, there was no difference in these regards between patients who had a self-history or family history of COVID-19 and others (p=0.383; Table 3). Also, only a tiny fraction of patients mentioned that their breast pain aggravated while hearing news about COVID-19, thinking about COVID-19, or thinking about the delayed schedule due to COVID-19 (respectively around 12%, 9% and 5%; Table 2).

Findings about variables related to psychiatric well-being and psychological symptoms were also interesting. Insomnia, depression or sense of pressure had not changed since the epidemic or because of appointment cancellations. The ability to concentrate on activities and to make decisions, as well as the positive feelings of patients about life had not undergone significant changes in our patients, and was not different also between the two study groups.

Considering the stress that has been produced by the pandemic of COVID-19 all over the world, and the relation of breast symptoms with stress, one could have expected a resurgence of severe symptoms in the present situation. However, the substitution of the normal programs and schedules of our clinic with accessibility of the medical team via virtual routes and phone calls for non-urgent and non-malignant cases; and our presence in the hospital to cover all patients that had to be attended soon, had probably overcome a large part of the anxiety. We anticipated worsening of breast and emotional symptoms, but the findings in this study may be an evidence for the appropriateness of our Breast Clinic triage system, which conforms to most international and specifically to

our local recommended strategies (5). In other words, the steps that have been taken in the Breast Clinic since the development of the outbreak seem to have produced acceptable outcomes regarding patients' state of health; these steps briefly included making appointments and visiting all patients with immediate needs, performing breast procedures based on priorities, being accessible by phone call and virtual networks, and observing a reassuring conduct toward patients so that they could still trust the health system they have usually trusted.

Study limitations

Because the whole research was performed via phone call, some conversations between the patients and the interviewer might have not been correctly understood.

Ethics Committee Approval: Ethics committee approval was received for this study from the ethics committee of Tehran University of Medical Sciences (IR.TUMS.VCR.REC.1399.370).

Informed Consent: Due to COVID-19 restrictions and performance of the research by phone-call interviews, the informed consent was asked and got by phone call.

Peer-review: Externally peer-reviewed.

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