The Effects of Nursing Care and Treatment Algorithm developed for Patients with COVID-19 on Patient Satisfaction

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What is already known on this topic?

- *The COVID-19 pandemic necessitated rapid adjustments in nursing care delivery, leading to the development of various clinical and care guidelines to support frontline nurses.*

- *Patient satisfaction is a recognised indicator of the quality of nursing care, closely associated with organised care protocols, effective symptom management, and psychosocial support.*

- *Traditional nursing care protocols and standard procedures have demonstrated insufficiency in addressing the intricate and multifaceted requirements of hospitalised patients with COVID-19.*

What this study adds on this topic?

- *This study demonstrates that a COVID-19-specific nursing care and treatment algorithm significantly enhances patient satisfaction compared to conventional nursing care approaches.*

- *The findings underscore the importance of organised, algorithm-based nursing care in promoting systematic assessment, documentation, and continuity of care during hospitalisation.*

- *The developed nursing care form and algorithm provide nurses, particularly those with limited experience, a valuable, evidence-based framework to deliver consistent, high-quality care to COVID-19 patients.*

Abstract

Objective: The aim of this study was to determine the benefits of a newly created medical history form, care form, and treatment algorithm protocol designed according to the physiological and psychosocial needs of coronavirus disease-2019 (COVID-19) diagnosed patients.

Methods: This was a prospective cross-sectional real-life study conducted in COVID-19 wards of a tertiary health center. Of the 972 patients hospitalized during the study period, 236 patients met the research criteria, with 124 patients in the control group and 111 patients in the study group. A visual analog scale (VAS) was used to evaluate the nursing care.

Results: Of the patients in Group A, 40.0% rated their care as 10, 11.9% as 9, 8.9% as 8, and 1.5% as 7. In Group B, 74.3% rated their care as 10, 15.8% as 9, 5.0% as 8, and 1.0% as 5. There was a significant increase in nurse satisfaction levels and hospitalization duration in Group B ($P = .034$, $P = .008$).

Conclusion: The algorithm and care form developed in this study are believed to be a guide for nurses working in clinics who are inexperienced in caring for patients with COVID-19, increasing patient satisfaction and contributing to care quality.

Keywords: COVID-19, nursing care, algorithm, patient satisfaction

Introduction

The coronavirus disease-2019 (severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2): COVID-19) has remained a significant global health challenge since its emergence as a pandemic.[1] Although extensive research and clinical experience have contributed to a better understanding of the virus, ongoing challenges persist. Early in the pandemic, the unknown and potentially fatal aspects of COVID-19 led to widespread fear, anxiety, and uncertainty, particularly among healthcare workers. However, these initial concerns were addressed through a scientific approach that rapidly facilitated the development of effective solutions and protocols.[2]

In addition to understanding COVID-19's transmission, incubation period, symptoms, and treatment, healthcare institutions faced the need to revise standard pandemic protocols and adopt new nursing care approaches to manage the disease effectively.[3-5] Scientific committees at various levels played a critical role in guiding the response to the pandemic, providing consistent yet adaptable recommendations that accounted for local conditions and healthcare infrastructure. Healthcare units collaborated by sharing their experiences and best practices with these committees, which informed the evolving measures and strategies.[2,6,7] Each healthcare professional group developed individualized strategies, and collaborative efforts ultimately led to the creation of new integrated care pathways.[8,9]

Nursing services, as an integral part of pandemic response, identified gaps in conventional nursing care models, necessitating new care recommendations tailored to COVID-19 patients.[9-11] This research emerged from the experiences gained during the pandemic, addressing encountered challenges and the solutions proposed. Sharing successful strategies and positive outcomes across healthcare centers is essential to improving patient care and supporting healthcare workers. Dissemination of this knowledge contributes to the development of standardized practices in decision-making during the care process, optimizing the time dedicated to patient management.[12]

In alignment with holistic nursing principles, nurses must comprehensively assess patients diagnosed with COVID-19, adopting innovative approaches that align with current guidelines to manage symptoms and maintain patients' quality of life.[13] Nurses should remain informed of emerging evidence and tailor their care practices to address both the physiological and psychosocial needs of COVID-19 patients.

In response to these evolving needs, a revised treatment-care algorithm for COVID-19 patients was developed to enhance nursing care practices and ensure effective management.[5,6,14] This study aims to evaluate the benefits of this newly developed algorithm by comparing the outcomes and satisfaction levels of patients who received care under this protocol to those who followed conventional care practices. The revised algorithm is designed to promote structured, comprehensive nursing care that meets the diverse needs of COVID-19 patients, ensuring improved clinical outcomes and enhanced patient experiences.

Methods

This prospective cross-sectional study was conducted on COVID-19 patients receiving inpatient treatment at a university hospital. The study was approved by the İstanbul University-Cerrahpaşa Faculty of Medicine Clinical Research Ethics Committee with number 76572 on 23/06/2020, and was conducted from May 30, 2020, to June 30, 2022. During the study period, only patients admitted to the service where the researchers were assigned and who provided consent were included. Patients with psychiatric illness, mental health disorders, and pregnant women were excluded from the study. Patients were diagnosed with COVID-19 by either a positive polymerase chain reaction test or computed tomography scan. Initially, the standard "nursing care form" was used to follow-up with the patients, but it was found to be inadequate, prompting the creation of a new form.

Approaches developed and applied by researchers during the hospitalization of included patients were algorithmically analyzed, and new care algorithms were established for COVID-19 patients.[15] The "COVID-19 Nursing Care Form" (Supplemental file 1) was developed for this purpose. To evaluate nursing care, a visual analog scale (VAS) was employed, where patients rated their care from 1 (very poor) to 10 (excellent) using a 10 cm ruler. Patients recorded their ratings confidentially by placing them in an envelope, ensuring the administering nurse did not see the results.

During the study period, patients receiving nursing care from nurse researchers were divided into 2 groups. Patients who received care using the standard form were assigned to the control group (Group A), while those who were followed using the newly developed "COVID-19 Nursing Care Form" were placed in the study group (Group B). Interventions were tailored to address the patients' difficulties in performing life activities impacted by the disease's effects, symptoms, severity, and isolation. The interventions aimed to protect and comfort the patients while ensuring the proper implementation of recommended treatments. All interventions and assessments were documented in the "COVID-19 Nursing Care Form." Patient satisfaction with nursing care was evaluated using the VAS integrated into the form's output.

The collected data were analyzed using SPSS statistical software (Version 24.0, IBM Corporation, Armonk, New York). The student t-test was used to analyze parameters that followed a normal distribution, while the Mann–Whitney U-test was applied to those that did not. Results were reported as mean ± SD. The chi-square test was used to analyze categorical variables. Pearson correlation analysis was employed for comparing numerical data, and Spearman correlation analysis was used for categorical data. Logistic regression was applied for finding the independent variables of satisfaction. A P-value less than .05 was considered statistically significant.

Results

During the research period, out of 972 patients in COVID wards, 236 who were on the researcher's shift and gave consent in accordance with the research criteria were included in the study. Six patients who did not give consent were excluded from the research. One patient's data was not included in the study due to insufficient information. The average age of the included patients was 56.86 years (n = 235), with 124 (52.5%) male and 111 (47%) female. Of these patients, 8.5% (n = 20) had a history of smoking and 1.3% (n = 3) had a history of alcohol use. 5.1% (n = 12) of the patients reported contact with another person. The average length of hospital stay (n = 221) was determined to be 10.80 days (Table 1). The average CRP value of the included patients was found to be 92.93 (n = 231). The first group, Group A, consisted of 124 patients, and the second group, Group B, consisted of 111 patients. The patients included in the study were those who were directed to the COVID wards by a physician based on PCR positivity (64.8%) and computerized tomography findings (75.8%). In Group A, 58.1% of the 134 patients were male and 41.9% were female. The average age was 56, with the youngest patient being 20 years old and the oldest being 94 years old. The demographic information of the patients in Group A is provided in Table 1. The average CRP value of Group A was found to be 98.6. In this group, 60.7% of the patients had a chronic disease, with hypertension (35.13%), diabetes mellitus (19.59%), and heart failure (13.51%) being the most common comorbidities (Table 2). Twelve patients required nursing support, and close nursing care was provided to them. Only 8 patients (5.9%) received support from outside. Inclusion in Group A resulted in a positive PCR test for 66.7% of patients, while the remaining tested negative. However, 79.3% of those who tested negative exhibited compatible symptoms of COVID-19 in their CT scans and were admitted and treated as COVID-19 patients. The symptoms of the cases are listed in Table 3. Treatment was provided for the 6 (4.4%) patients with diarrhea. Of the participants in Group A, 62.2% evaluated nurse satisfaction, with 40.0% giving a score of 10, 11.9% giving a score of 9, 8.9% giving a score of 8, and 1.5% giving a score of 7 (Table 4). In Group B, the study group, 55.9% of 101 patients were male and 44.1% were female. The average age was 58.01 years old, with the youngest patient being 19 years old and the oldest being 90 years old (Table 1). All of these patients were admitted to the ward and treated appropriately for COVID-19 and were subsequently discharged after completing their treatment. Fourteen of these patients were treated outside the ward and then readmitted. The mean CRP value for Group B patients was 84.9. About 48.5% of the patients included in this group had chronic illnesses. The most common chronic illnesses observed in this group were hypertension (39.2%), diabetes mellitus (19.6%), and heart failure

Table 1. Demographical Information and Patient Characteristics

		Total		A		B		
		n	%	n	%	n	%	Chi² /P
Gender	Male	124	52.8	72	53.7	52	51.5	.117
	Female	111	47.2	62	46.3	49	48.5	.733
PCR (+)	−	82	34.9	44	32.8	38	37.6	.581
	+	153	65.1	90	67.2	63	62.4	.446
CT (+)	−	56	23.8	28	20.7	28	28.0	1.668
	+	179	76.2	107	79.3	72	72.0	.197
Comorbidities	−	53	50.5	53	39.3	52	51.5	3.497
	+	82	62.6	82	60.7	49	48.8	.061
Symptomatic disease	−	16	6.8	13	9.6	3	3.0	3.979
	+	219	93.2	122	90.4	97	97.0	.046*
Accompanying person	−	209	88.6	127	94.1	82	81.2	9.469
	+	27	11.4	8	5.9	19	18.8	.002*
Contact history	−	224	94.9	132	97.8	92	91.1	5.356
	+	12	5.1	3	2.2	9	8.9	.021*
Smoking history	−	216	91.5	121	89.6	95	94.1	1.462
	+	20	8.5	14	10.4	6	5.9	.227
Alcohol abuse	−	233	98.7	132	97.8	101	100	2.273
	+	3	1.3	3	10.4	0	5.9	.132
Dialysıs history	−	233	99.1	134	99.3	99	98.0	2.676
	+	2	0.9	0	0.7	2	2.0	.102
ICU admission	−	203	86.0	116	85.9	87	86.1	.002
	+	33	14.0	19	14.1	14	13.9	.963

CT, computed tomography; ICU, intensive care unit; PCR, polymerase chain reaction. The Chi-square (Chi²) statistic is significant at the ,05 level. *. Correlation is significant at the 0.05 level (2-tailed). **. Correlation is significant at the 0.01 level (2-tailed).

(9.7%) (Table 2). Appropriate treatment and care were provided for the chronic illnesses of the patients. Two of these patients received dialysis treatment, and 14 received intensive care treatment. About 62.4% of the included patients tested positive on the PCR test, while the remaining patients tested negative. However, compatible symptoms of COVID-19 were observed in their CT scans, and they were admitted and treated as COVID-19 patients. The symptoms of the cases are listed in Table 3. It was observed that all 11 (10.9%) patients with diarrhea tested positive on the PCR test. Six of the authors' patients are in need of care and have received close nursing support. Only 19 (18.8%) patients received external escort support. About 96% of participants in Group B evaluated nurse satisfaction. Of these, 74.3% gave 10 points, 15.8% gave 9 points, 5% gave 8 points, and 1% gave 5 points (Table 4).

Of the patients included, 55.5% (n = 131) had a chronic illness, with the most prevalent conditions being heart failure (n = 28, 11.81%), diabetes mellitus (n = 49, 20.85%), and hypertension (n = 76, 32.34%) (Table 2). Intensive care treatment was also given to 14% (n = 33) of the included patients. Dialysis was performed on 0.8% (n = 2) of the patients. Companion support was given to

11.4% (n = 27) of the patients. Regarding nurse satisfaction, 76.7% (n = 181) of the respondents offered feedback. Among them, 54.7% (n: 129) assigned a score of 10, 13.6% (n = 32) assigned a score of 9, 7.2% (n = 17) assigned a score of 8, 0.8% (n = 2) assigned a score of 7, and 0.4% (n = 1) assigned a score of 5 (Table 5).

When comparing the demographic data of patients in Groups A and B, statistically significant differences were observed in the city of residence (P = .017), those with disease symptoms (P = .046), those receiving escort support (P = .002), and those with contact history (P = .021). No significant differences were observed between the groups in terms of age, gender, smoking and alcohol use, CPR height, CT results, PCR positivity, dialysis, ICU visits, and underlying comorbidities (P > .05). The numbers of symptom descriptions for case groups are shown in Table 3. Statistically significant differences were not observed in terms of other symptoms, except for those with respiratory distress (P = .009) and those without a sense of taste (P = .000), where there was a statistically significant difference between the 2 groups.

The VAS scale was used to evaluate nurse satisfaction. 84 out of 134 patients (62.2%) in Group A responded, while 50 were

Table 2. Comorbidities

Diseases	A	B
Cardiovascular diseases		
Hypertension	52	24
Chronic heart disease	20	8
Endocrine and metabolic disorders		
Diabetes mellitus	29	20
Others (Hashimoto, osteoporosis, Osler-Weber-Rendu Disease, vitamin D deficiency, gout)	5	3
Pulmonary diseases		
Asthma, chronic obstructive pulmonary disease (COPD)	15	10
Others (tuberculosis, pulmonary nodule)	2	-
Chronic renal insufficiency	10	4
Romatologic diseases		
Behçet's disease, rheumatoid arthritis, familial mediterranean fever, giant cell arteritis, fibromyalgia, antiphospholipid syndrome	5	3
Hemotologic diseases, malignancies		
Chronic lymphocytic leukemia, Hodgkin lymphoma, idiopathic thrombocytopenic purpura	2	7
Benign prostatic hyperplasia	0	4
Neurologic diseases		
Alzheimer's disease, multiple sclerosis (ms), epilepsy, dementia, cerebrovascular disease, myasthenia gravis, Huntington disease, neuropathy	7	5
Cirrhosis	1	-
Bladder cancer	1	-
Allergic rhinitis	1	-

discharged or transferred to the ICU before they could respond. The results of the patients' VAS are given in Table 5. Of the reachable patients in Group A, 40% gave 10 points, 11.9% gave 9 points, 8.9% gave 8 points, and 1.5% gave 7 points. 96% of participants in Group B evaluated nurse satisfaction. Of these, 74.3% gave 10 points, 15.8% gave 9 points, 5% gave 8 points, and 1% gave 5 points (Table 4).

The results of nurse satisfaction, age, and length of stay for Groups A and B are shown in Table 5. According to the evaluation conducted between Groups A and B, there was a significant increase in nurse satisfaction levels and length of stay in Group B (P = .034, P = .008), respectively.

The group variable is significant when the satisfaction dependent variable is utilized (β = 0.77, P = .032). This outcome suggests that persons in Group B are roughly 2.16 times more likely to be satisfied compared to those in Group A. The age variable is significant (β = −0.036, P = .003). The likelihood of satisfaction diminishes with age; each incremental year reduces the probability of satisfaction by roughly 4% (OR = 0.96). Neither smoking nor prior hospitalization to the intensive care unit was deemed significant (P > .05). In other words, smoking and intensive care unit exposure did not exert a statistically significant influence on satisfaction.

Discussion

Our study revealed that the algorithm and care form developed to provide a standardized approach to this newly emerged infectious disease has created satisfaction in the patient group, as it is believed that this will enable nurses to approach patients in a more professional manner without creating panic. In a systematic review conducted by Whear et al,[3] 8 updated care protocols providing guidance for various aspects of basic care during the COVID-19 pandemic were identified. Many studies have shown that specific applications for COVID-19 have positive outcomes.[2,6,7] This study also showed that a similar application had a positive impact.

The mean age of the patients included in the study was 56.86 ± 15.80 (N = 235). Of these patients, 124 (52.5%) were male and 111 (47%) were female. There were no significant differences between the groups in terms of age, gender, smoking, alcohol use, CPR elevation, CT results, PCR positivity status, dialysis, number of intensive care unit visits, and underlying comorbidities (P > .05). This indicates that the "COVID-19 Diagnosed" patients in Groups A and B were similar in terms of demographic characteristics, and developing standard forms that can be used in nursing care practices may be useful for healthcare professionals during treatment and care. In Parizad et al's study,[16] no significant differences were found between patient age, gender, smoking status, and other

Table 3. Clinical Presentations and Symptoms

		Total		A		B		
		N	%	n	%	n	%	Chi² /P
Dyspnea	−	98	44.5	46	34.6	52	51.5	6.735
	+	131	55.5	87	65.4	49	48.5	.009*
Fever	−	176	75.2	103	76.9	73	73.0	.459
	+	229	97.4	31	23.1	27	27.0	.498
Sweating	−	6	2.6	130	97.0	99	98.0	.234
	+	234	97.4	4	3.0	2	2.0	.629[b]
Hoarseness	−	234	99.6	133	99.3	101	100.0	.757
	+	1	0.4	1	0.7	0	0.0	.384[b,c]
Cough	−	141	60.0	75	56.0	66	65.3	2.110
	+	94	40.0	59	44.0	35	34.7	.146
Throat pain	−	222	94.9	130	97.0	92	92.0	2.960
	+	12	5.1	4	3.0	8	8.0	.085
Fatigue	−	169	71.9	96	71.6	73	72.3	.012
	+	66	28.1	38	28.4	28	27.7	.915
Dizziness	−	231	98.3	131	97.8	100	99.0	.537
	+	4	1.7	3	2.2	1	1.0	.464[b]
Loss of appetite	−	221	94.4	124	93.2	97	96.0	.862
	+	13	5.6	9	6.8	4	4.0	.353
Diarrhea	−	218	92.8	128	95.5	90	89.1	3.530
	+	17	7.2	6	4.5	11	10.9	.060
Headache	−	207	88.1	114	84.4	93	92.1	2.692
	+	28	11.9	20	14.9	8	7.9	.101
Myalgia	−	218	92.8	127	94.8	91	90.1	1.877
	+	17	7.2	7	5.2	10	9.9	.171
Chills	−	227	96.6	127	94.8	100	44.1	3.139
	+	8	3.4	7	5.2	1	1.0	.076[b]
Nausea	−	218	92.8	125	93.3	93	92.1	.124
	+	17	7.2	9	6.7	8	7.9	.724
Vomiting	-	226	96.2	128	95.5	98	97.0	.355
	+	9	3.8	6	4.5	3	3.0	.551[b]
Abdominal pain	−	227	96.6	130	97.0	97	96.0	.167
	+	8	3.4	4	3.0	4	4.0	.683[b]
Pruritus	−	235	100	134	100	101	100	−
	+	0	0	0	0	0	0	.742
Back pain	−	218	92.8	126	94.0	92	91.1	.389
	+	17	7.2	8	6.0	9	8.9	41.491
Sensory abnormalities (taste)	−	118	63.4	75	88.2	43	42.6	.000*
	+	68	36.6	10	11.8	58	57.4	48.771
Sensory abnormalities (smell)	−	111	59.7	74	87.1	37	36.6	.000*
	+	75	40.3	11	12.9	64	63.4	.537

Table 4. Nurse Satisfaction Visual Analog Scale Results

	A					B				
VAS value	7	8	9	10	Total	5	8	9	10	Total
n	2	12	16	54	84	1	5	16	75	97
%	2.4	14.3	19	64.3	100	1	5.2	16.5	77.3	100

demographic variables in terms of patient satisfaction with nursing care. However, a significant inverse relationship was found between housing status and satisfaction level. In Alhowaymel et al's study,[17] there was a significant difference in mean nurse satisfaction scores between age groups and place of residence of participants, while there was no significant difference in satisfaction scores related to gender, occupation, and marital status. In this study the satisfaction levels were high in Group B and in younger patients than the older ones (Table 6).

Deriba et al[18] reported that 44.6% of participants with chronic illness were generally satisfied with healthcare services, while 55.4% were not satisfied.[18] The same study indicated that 44.8% of participants from urban areas were satisfied. In Parizad et al's study,[16] 19.9% of participants were quite satisfied with nursing care, the majority of patients (68.9%) were moderately satisfied, and 11.2% were dissatisfied. There was a statistically significant difference between Groups A and B based on the category of disease symptoms (P = .046), which suggests that the newly created anamnesis form used in Group B revealed this significant difference in disease history questioning. Whear et al's systematic review[3] demonstrated that care protocols and practices specifically designed for COVID-19 had positive results in the treatment process. This study showed that there was a statistically significant difference in the use of companion support between Groups A and B (P = .002). This difference may be due to the regulation issued by the Ministry of Health during the treatment period of Group B patients, which allowed companion support to be obtained under appropriate conditions.

Statistically significant difference was determined in terms of contact history between Group A and Group B patients (P = .021). This difference is thought to be due to the use of "Standard Nursing Care Form" in Group A patients and the application of COVID-19 specific care using the "COVID-19 Nursing Care Form" the authors created in patients in Group B who had been diagnosed with COVID-19, as stated in the review.[13] Metin emphasized the importance of innovative approaches in symptom management and maintaining patient comfort, taking measures to protect the psychosocial health of employees and the entire community, and working in harmony and collaboration with other healthcare professionals.[13]

The symptom descriptions of the case groups are presented in Table 3. There was no statistically significant difference in terms of symptoms other than respiratory distress and loss of taste in patients included in Group A and Group B. However, a statistically significant difference was found between the 2 groups in terms of respiratory distress (P = .009) and loss of taste (P = .000). The VAS scale was used to evaluate nurse satisfaction. Alhowaymel et al[17] reported relatively high satisfaction with general nursing care, care provided, and information provided.[17] Statistically significant differences were determined in terms of age, education level, patients' place of origin, and patients' recommendation of the hospital for patient satisfaction score average.[17] In the study by Duran et al,[19] it was found that patients' perception of nursing care was high on the scale, and patients received the highest average scores on items such as "I felt well cared for by the nurses," "The nurses responded to my requests promptly," and "The nurses reassured me during my treatments."[19]

In their 2021 study, Nistal et al[20] evaluated the perception of care according to a 3-point scale (good, fair, poor). It was noted that over 90% of hospitalized patients evaluated their perception of care as "good" in all dimensions. In a 2020 study[21] on patient

Table 5. Group Comparison

Group Comparison Variables	A			B				
	N	Mean	SD	N	Mean	SD	t/z	P
Age	134	55.99	16.06	101	58.01	15.45	t = 0.97	.332
Duration of hospitalization (days)	129	11.73	7.53	92	9.49	4.83	t = 0.97	.008**
C-reactive protein	135	98.63	94.66	96	84.91	78.28	t = 0.97	.230
Satisfaction	84	9.45	0.82	97	9.68	0.73	Z = 2.12	.034*

Table 6. Logistic Regression Results as "Satisfaction" Is a Dependant Variable

Variable	Coefficient (β)	Std. Error	z Value	P	Odds Ratio	%95 CI Lower	%95 CI Upper
Intercept	1.5589	1.0429	1.495	0.135	4.75	0.71	31.92
Group	0.7698	0.3581	2.150	0.032*	2.16	1.07	4.34
Age	−0.0363	0.0122	−2.976	0.003**	0.96	0.94	0.99
Smoking	−0.3409	0.6461	−0.528	0.598	0.71	0.21	2.40
ICU	0.9461	0.6708	1.410	0.158	2.58	0.70	9.57

ICU, intensive care unit admission.

COVID-19 Patient Medical History Questionnaire

A. DEMOGRAPHICS

Clinic:

Name – Surname:		Admission Date:	
Age:	Sex:	Marital Status:	Number of children:
Education:	Occupation:		
Address:			

Name of First Degree Relative :		Phone Number:	
Relation:		Address:	

Admission type:

Diagnosis:

B. MEDICAL HISTORY

Chief Complaint	Yes ☐	No ☐	Regular Exercise	Yes ☐	No ☐
Chronic Diseases	Yes ☐	No ☐	Regular Check-ups	Yes ☐	No ☐
Medications	Yes ☐	No ☐ If yes…………	Balanced Diet	Yes ☐	No ☐
Previous Admissions	Yes ☐	No ☐ If yes………	Coping with stress	Yes ☐	No ☐
Previous Operations	Yes ☐	No ☐ If yes………	Positive Interpersonal relationships	Yes ☐	No ☐
Allergies:	Yes ☐	No ☐ If yes………	Habits	Yes ☐	No ☐
Meds:	Food intake:	Other: ☐			

	Cigarettes	: N/A ☐	Amount ☐	Packs ☐	Days ☐	Years ☐
	Alcohol	: N/A ☐	Amount ☐	Packs ☐	Days ☐	Years ☐
	Drugs	: N/A ☐	Amount ☐	Packs ☐	Days ☐	Years ☐
	Other……………………………					

C. ORIENTATION

Meal Time :	Toilet :	Contact with Nurse and Doctor :
Phone :	Visitor :	Companion :

D. VITALS

Temp:………… HR:…………/min. Rhythm:………… RR:……. /min SpO2:………/% BP:……………mmHg

Blood Type:………… Hx of Blood Transfusion: Transfusion Reaction?

1. Safety of Patient and Environment

History of fall	Yes ☐ No ☐	Hypertension	Yes ☐ No ☐	Embolus-Thrombus	Yes ☐ No ☐
Walking aid	Yes ☐ No ☐	Sedative use	Yes ☐ No ☐	IV Catheter	Yes ☐ No ☐
Over 65	Yes ☐ No ☐	Muscle weakness/Ataxia	Yes ☐ No ☐	Central Catheter	Yes ☐ No ☐
Visual problem	Yes ☐ No ☐	Dizziness/Syncope	Yes ☐ No ☐	Steroid use	Yes ☐ No ☐
Orthostatic HypoBP	Yes ☐ No ☐	Confusion	Yes ☐ No ☐	Aspirin-Anticoagulant Use	Yes ☐ No ☐
Hypotension	Yes ☐ No ☐	Disorientation	Yes ☐ No ☐	Bed limitations	Yes ☐ No ☐
Pain	Yes ☐ No ☐ If yes, where :				
Any other special conditions:	Yes ☐ No ☐ If yes :				

2. Communication

Oriented in time, place and person :

Mechanism of coping with stress :

Lethargic	Yes ☐ No ☐	Difficulty in speaking	Yes ☐ No ☐	Intrusive	Yes ☐ No ☐
Confusion	Yes ☐ No ☐	Agitated	Yes ☐ No ☐	Hearing loss	Yes ☐ No ☐
Disoriented	Yes ☐ No ☐	Depressed	Yes ☐ No ☐	Fear	Yes ☐ No ☐
Aphasia	Yes ☐ No ☐	Anxious	Yes ☐ No ☐	Loneliness	Yes ☐ No ☐

3. Respiratory

Respiratory Rate:…………………………		Depth :		SpO2:………/%	
Dyspnea	Yes ☐ No ☐	Hemoptysis	Yes ☐ No ☐	Tracheostomy	Yes ☐ No ☐
Cough	Yes ☐ No ☐	Chest pain	Yes ☐ No ☐	Nasal congestion	Yes ☐ No ☐
Sputum/Secretion	Yes ☐ No ☐	Orthopnea	Yes ☐ No ☐	Apnea	Yes ☐ No ☐

4. Nutrition

Height:	Weight :	BMI :	General dietary habits:	
Oral fluid intake/24h :	Oral intake(R1, R2, R3 (N), Diet) :		Oral mucosa (0 Normal – 3 very bad) :	
Tooth and Gingival Problems :	Bowel sounds:………/min.			

Taste	Yes ☐ No ☐	Nausea	Yes ☐ No ☐	Cachexia	Yes ☐ No ☐
Smell	Yes ☐ No ☐	Vomiting	Yes ☐ No ☐	Obesity	Yes ☐ No ☐
Loss of Appetite	Yes ☐ No ☐	N/G Tube	Yes ☐ No ☐	Hematemesis	Yes ☐ No ☐
Halitosis	Yes ☐ No ☐	Weight loss	Yes ☐ No ☐	Flatus	Yes ☐ No ☐
Anorexia	Yes ☐ No ☐	TPN	Yes ☐ No ☐	Other:……………	
Dysphagia	Yes ☐ No ☐	Distension	Yes ☐ No ☐		

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5. Gastrointestinal and Urinary

Bowel Habits:		Last defecation in Days:			
Hemorrhoid	Yes ☐ No ☐	Colostomy	Yes ☐ No ☐	Diarrhea	Yes ☐ No ☐
Parasite	Yes ☐ No ☐	Melena	Yes ☐ No ☐	Other…………	
Fecal Incontinence	Yes ☐ No ☐	Constipation	Yes ☐ No ☐		
Urinary habits 24 hours/amount:		Approximate amount:		Urine color:	
Urinary Retention	Yes ☐ No ☐	Dysuria	Yes ☐ No ☐	Nocturia	Yes ☐ No ☐
Anuria	Yes ☐ No ☐	Oliguria	Yes ☐ No ☐	Polyuria	Yes ☐ No ☐
Polyuria	Yes ☐ No ☐	Hematuria	Yes ☐ No ☐	Urinary Incontinence	Yes ☐ No ☐
Foley catheter	Yes ☐ No ☐	Catheter	Yes ☐ No ☐	Other :	

6. Personal Hygiene and Clothing

Independency in clothing-personal hygiene		Bodily hygiene			
Scalp (hair loss, etc.)		Eye, Ear, Nasal, Oral Discharge:			
Showering status	Yes ☐ No ☐	Dirt	Yes ☐ No ☐	Bleeding	Yes ☐ No ☐
Body odor	Yes ☐ No ☐	Dyness	Yes ☐ No ☐	Cyanosis	Yes ☐ No ☐
Icterus	Yes ☐ No ☐	Ulcers	Yes ☐ No ☐	Photosensitivity	Yes ☐ No ☐
Decubitus	Yes ☐ No ☐	Pruritus	Yes ☐ No ☐	Extravazation	Yes ☐ No ☐
Desquamation	Yes ☐ No ☐	Erythema	Yes ☐ No ☐	Varices	Yes ☐ No ☐
Bradycardia	Yes ☐ No ☐	Tachycardia	Yes ☐ No ☐	Capillary Refill :	
Edema (+, ++, +++, ++++) :		Peripheral pulses :		Other : ……………	

7. Body Temperature Regulation

Weather appropriate clothing	Yes ☐ No ☐	Hypothermia	Yes ☐ No ☐	Hyperthermia	Yes ☐ No ☐
Cold İntolerance	Yes ☐ No ☐	Heat Intolerance	Yes ☐ No ☐	Sweating	Yes ☐ No ☐
Shivering		Other :			

8. Mobility

Muscular development	Yes ☐ No ☐	Deformity	Yes ☐ No ☐	Myalgia	Yes ☐ No ☐
Muscle weakness	Yes ☐ No ☐	Fatigue	Yes ☐ No ☐	Paralysis	Yes ☐ No ☐
Paraplegia	Yes ☐ No ☐	Hemiplegia	Yes ☐ No ☐	Amputation	Yes ☐ No ☐
Fractures	Yes ☐ No ☐	Contractures	Yes ☐ No ☐	İmmobility	Yes ☐ No ☐
Aids	Yes ☐ No ☐	Other:…………………………			

9. Work and Habits

Employment status		Income		Free time	
Work Environment		Hobbies		Other…	

10. Sex and Gender

Body Image Yes ☐ No ☐	Sex-appropriate Clothing Yes ☐ No ☐	Perianal hygiene :	Yes ☐ No ☐

11. Sleep Habits

Sleep Hours:	Duration:	Sleeping aids :		
Insomnia	Yes ☐ No ☐	Lethargy	Yes ☐ No ☐	Snoring Yes ☐ No ☐
Sleep medications	Yes ☐ No ☐	Other:………………		

12. Death (If necessary)

Beliefs about Life and Death:…………………………………………………		Spiritual Religious Needs:………………………………………	
Shock ☐	Denial ☐	Anger ☐	Bargaining ☐	Depression ☐	Acceptance ☐
Any other information needed by the individual, family or companions : ………………………			Other:………………		

Figure 1. COVID-19 Patient Medical History Questionnaire.

satisfaction, researchers found that 77.6% of patients expressed satisfaction by stating that nurses treated them kindly and respectfully, listened carefully, and provided understandable answers to their questions.[21]

The limitations of this study include nurses not being able to spend enough time with patients (not being able to stay longer than 15 minutes), inadequate communication with patients due to nurses taking patient history and providing care while wearing personal protective equipment, the evaluation of patient satisfaction in 2 different wards for this patient group, and only using the VAS for nurse evaluation, as longer evaluation surveys were not possible due to the nurses' inability to stay with patients for a long time (Figure 1).

Conclusion

It is believed that this algorithm and care form will serve as a guide for nurses who are new to the field or have no experience in approaching patients diagnosed with COVID-19 and will contribute to increasing patient satisfaction.

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