

**QUALITY AND PATIENT SAFETY: NURSING CARE FOR PATIENTS FACING  
COVID-19****QUALIDADE E SEGURANÇA DO PACIENTE: CUIDADO DE ENFERMAGEM AO  
PACIENTE COM COVID-19****CALIDAD Y SEGURIDAD DEL PACIENTE: CUIDADOS DE ENFERMERÍA A  
PACIENTES CON COVID-19**

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**ABSTRACT**

**Objective:** To evaluate the application of safety and quality of care concepts for Covid-19 patients provided by the nursing team. **Methods:** A descriptive, quantitative study conducted with 55 professionals. The responses were organized in accordance with variables through parametric tests. The information was tabulated in Excel spreadsheets, and the items were analyzed using a Likert scale, with categories based on the degree of agreement. **Results:** Analysis of the results showed that 46.3% of respondents had a weekly workload of 40 to 59 hours. Regarding patient safety issues in the unit, 56.9% of the responses affirmed such issues existed. Concerning actions for the safety of Covid-19 patients, 63.4% stated that training sessions were conducted. Regarding health indicators, 69.2% confirmed that these were created to guide the care of these patients. **Conclusions:** This study will contribute to the implementation of new hospital routines and offer opportunities to improve aspects related to the safety culture.

**Descriptors:** Covid-19; Nursing care; Patient safety.

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## RESUMO

**Objetivo:** Avaliar a aplicação dos conceitos de segurança e qualidade da assistência ao paciente com Covid-19 ofertada pela equipe de enfermagem. **Métodos:** Estudo descritivo, quantitativo, realizado com 55 profissionais. As respostas foram organizadas em concordância com variáveis por testes paramétricos. As informações foram tabuladas em planilhas do Excel, os itens foram analisados através de escala Likert, cujas categorias são de grau de concordância. **Resultados:** A análise dos resultados, 46,3% dos entrevistados apresentavam carga horária semanal de trabalho de 40 a 59 horas semanais. Acerca de ter problemas de segurança do paciente na unidade as respostas afirmando 56,9%. Sobre as ações para segurança do paciente com Covid-19, 63,4% afirmaram que houve capacitações. Em relação aos indicadores de saúde, 69,2% afirmam que estes foram criados para orientar a assistência a esses pacientes. **Conclusões:** Contribuirá para a implantação de novas rotinas hospitalares e oferecerão oportunidades para aprimorar aspectos relacionados à cultura de segurança. **Descritores:** Covid-19; Cuidados de Enfermagem; Segurança do Paciente.

## RESUMEN

**Objetivo:** Evaluar la aplicación de los conceptos de seguridad y calidad de la atención al paciente con Covid-19 ofrecida por el equipo de enfermería. **Métodos:** Estudio descriptivo, cuantitativo, realizado con 55 profesionales. Las respuestas fueron organizadas de acuerdo con variables mediante pruebas paramétricas. La información se tabuló en hojas de cálculo de Excel y los ítems fueron analizados a través de una escala Likert, cuyas categorías se basan en el grado de concordancia. **Resultados:** El análisis de los resultados mostró que el 46,3% de los encuestados tenía una carga horaria semanal de trabajo de 40 a 59 horas. En cuanto a los problemas de seguridad del paciente en la unidad, el 56,9% de las respuestas afirmaron que existían tales problemas. Respecto a las acciones para la seguridad del paciente con Covid-19, el 63,4% afirmó que se realizaron capacitaciones. En relación con los indicadores de salud, el 69,2% afirmó que estos fueron creados para orientar la atención a estos pacientes. **Conclusiones:** Este estudio contribuirá a la implementación de nuevas rutinas hospitalarias y ofrecerá oportunidades para mejorar aspectos relacionados con la cultura de seguridad. **Descriptores:** Covid-19. Atención de Enfermería. Seguridad del Paciente.

## INTRODUCTION

Patient Safety is defined as the reduction of Adverse Events (AE) to a minimum possible, considered a continuous and deeply linked part of customer care, according to the World Health Organization.<sup>1</sup> An AE is considered a problem that directly affects the quality of care implemented for the patient, and can be

understood as an untimely and unintentional change related to the care provided.<sup>2</sup>

Concerns about patient safety gained more notoriety with the American publication “To Err is Human: Building a Safer Health System”, in which the authors warned health professionals and the public about the large number of errors committed annually in hospital settings. The study presented incidents that occurred in the provision of care and the damage caused by

non-compliance with strict conduct protocols, including the outcome of death.<sup>3</sup>

In this sense, the WHO has proposed policies that improve the care provided in different health services with a view to quality and safety in care. In 2004, the “Global Alliance for Patient Safety” program was created, guiding its member countries to pay attention to issues that encompass patient safety.<sup>4</sup>

In the hospital environment, patient safety is a constant concern, since it plays a fundamental role in recognizing strengths and weaknesses that will guide actions for improvements within health institutions.<sup>5</sup> Furthermore, it highlights the need to understand the challenges for professional practice in the real scenario, since they include a complex process that requires planning, communication and teamwork to provide safe and quality care.<sup>6</sup>

Given the scenario exposed by the novel Coronavirus (SARS-CoV-2) pandemic, it was difficult to ensure safety in care, since the excessive demand for health care, lack of knowledge about the disease and its repercussions, and the high number of deaths overburdened health teams in a variety of ways, in addition to putting pressure on health services. In addition to this, there is a lack of personal protective equipment (PPE), beds, and medicines.<sup>7</sup>

Considering the characteristics, clinical repercussions and implementation of

processes involving patient-centered care for Covid-19 patients, it is imperative to understand nursing care from the aspects related to patient quality and safety, since the identification of possible errors in the care process can have a positive impact on healthcare organizations, leading them to propose improvements, especially in the hospital setting, where the patient is more vulnerable and exposed to risks.<sup>8</sup>

Therefore, the study is justified by the need to understand the care provided by the nursing team in facing the COVID-19 pandemic, with the aim of identifying the measures adapted to ensure care free from harm, as well as developing reflection on nursing care and the use of care practices. Thus, this study aimed to evaluate the application of the concepts of safety and quality of care provided by the nursing team to patients with COVID-19.

## **MATERIAL AND METHODS**

This is a descriptive, quantitative study carried out in a hospital located in the municipality of Pinheiro, Maranhão, Brazil. It is a medium and high complexity hospital that receives patients with spontaneous and referral demand. The research subjects were nursing professionals who worked in the sectors that provide care to patients with Covid-19. In the convenience sample, 55

professionals agreed to participate in the research, out of a total of 90 nursing employees. Data collection was carried out in September 2022.

The inclusion criteria used were nursing professionals who agreed to participate in the research and signed the Free and Informed Consent Form (FICF), who had worked for at least 1 year in the institution in the emergency, medical clinic, surgical clinic, orthopedic clinic and intensive care unit sectors. Professionals who were away/on vacation during the research period; who erased the research instrument or who did not follow the instructions for filling it out; who worked at night, who did not work directly in care and professionals who were not part of the nursing team were excluded.

Data collection was carried out by applying the adapted questionnaire Hospital Survey on Patient Safety Culture (HSOPSC). This instrument was developed by the Agency for Healthcare Research and Quality (AHRQ) and later translated and adapted to Portuguese and the reality of Brazilian hospitals.<sup>9</sup>

Once collected, the information was tabulated in Excel spreadsheets, and the items were analyzed using a five-point Likert scale, whose categories are degrees of

agreement, with the percentage achieved being calculated as the result of combining the two highest response categories; for each dimension, the two lowest categories indicate negative results regarding the quality of patient safety for patients affected by Covid-19; and the average category demonstrates neutrality.

It is important to highlight that the percentages of the items differ because the variables of the questions are not mandatory.

The study was evaluated and approved by the Research Ethics Committee of the University Hospital of the Federal University of Maranhão, under CAAE No. 57548222.5.0000.5086.

## RESULTS

The majority of respondents were female (92.7%), with a predominance in the age group of 30 to 39 years (37.7%). Regarding the level of education, the predominance was of complete high school (50.9%). Regarding the distribution of participants by hospital units, the majority of respondents belonged to the Emergency Department (29.1%) and the smallest representation was from the Orthopedic Clinic (14.5%) (Table 1).

**Table 1.** Characterization of research participants according to sociodemographic variables. Pinheiro - MA, Brazil, 2022.

<b>Variables</b>	<b>n(%)</b>
<b>Gender</b>	
Female	51(92.7)
Male	4(7.3)
Total*	55(100.0)
<b>Age</b>	
< 20 years	0(0,0)
20 to 29 years old	15(28.3)
30 to 39 years old	20(37.7)
40 to 49 years old	14(26.4)
50 to 59 years old	2(3.8)
> 60 years	2(3.8)
Total*	53(100.0)
<b>Level of education</b>	
Secondary Education (High School) Incomplete	2(3,6)
Secondary Education (High School) Complete	28(50.9)
Incomplete Higher Education	5(9.1)
Complete Higher Education	9(16.4)
Postgraduate (Specialization Level)	11(20.0)
Total*	55(100.0)
<b>Unit</b>	
Emergency	16(29.1)
Surgical Clinic	9(16.4)
Medical Clinic	12(21.8)
Orthopedic Clinic	8(14.5)
Intensive Care Unit	10(18.2)
Total*	55(100.0)
<b>Position/function</b>	
Nurse	15(27.8)
Nursing Technician	38(70.4)
Nursing Assistant	1(1.8)
Total*	54(100.0)
<b>Time in current specialty or profession</b>	
1 to 5 years	24(46.2)
6 to 10 years	14(26.9)
11 to 15 years old	7(13.5)
16 to 20 years old	4(7,7)
21 to 25 years old	1(1.9)
> 26 years old	2(3.8)
Total*	52(100.0)
<b>Hospital time</b>	
Between 1 and 2 years	9(16.4)
Between 2 and 4 years	20(36.4)
More than 4 years	26(47.3)
Total*	55(100.0)
<b>Unit time</b>	
Less than 1 year	11(20.0)
Between 1 and 2 years	15(27.3)
Between 2 and 4 years	13(23.6)
More than 4 years	16(29.1)
Total*	55(100.0)
<b>Weekly workload</b>	
Less than 20 hours per week	2(3,7)

20 to 39 hours per week	27(50.0)
40 to 59 hours per week	25(46.3)
Total*	54(100.0)

The predominant function was nursing technicians (70.4%), followed by nurses (27.8%) and nursing assistants (1.8%). Regarding time in the specialty/profession, the majority (46.2%) had 1 to 5 years of training. Regarding time working in the institution, 47.3% had more than 4 years in the hospital, as well as in the unit (29.1%) (Table 1).

Regarding weekly working hours, 50.0% reported working 20 to 39 hours per week, a percentage not far from those who

mentioned working 40 to 59 hours per week (46.3%) (Table 1).

Most respondents (54.5%) reported that they had full knowledge of basic patient safety protocols. Regarding the item that mentions actions to improve patient safety, 70.4% stated that they are always implementing actions that bring improvements. Regarding the item “errors have led to positive changes”, 39.2% partially agreed with this statement (Table 2).

**Table2.** Distribution of responses by dimension – Patient safety actions and perceptions. Pinheiro-MA, Brazil, 2022.

Items		Answer options*					Total
		1	2	3	4	5	
We know the basic patient safety protocols	n(%)	5(9.1)	2(3,6)	0(0,0)	18(32.7)	30(54.5)	55(100.0)
We are actively doing things to improve patient safety	n(%)	1(1.9)	3(5,6)	3(5,6)	9(16.7)	38(70.4)	54(100.0)
Mistakes have led to positive changes around here	n(%)	7(13.7)	5(9.8)	3(5,9)	20(39.2)	16(31.4)	51(100.0)
After we implement changes to improve patient safety, we evaluate their effectiveness	n(%)	3(6,1)	4(8.2)	0(0,0)	21(42.9)	21(42.9)	49(100.0)
It's just by chance that more serious mistakes don't happen around here.	n(%)	13(29.5)	7(15.9)	5(11.4)	13(29.5)	6(13.6)	44(100.0)
Patient safety is never compromised due to more work to be completed	n(%)	9(19.1)	6(12.8)	2(4,3)	19(40.4)	11(23.4)	47(100.0)
In this unit we have patient safety issues	n(%)	11(21.6)	3(5,9)	8(15.7)	15(29.4)	14(27.5)	51(100.0)

Our procedures and systems are adequate to prevent errors from occurring.

n(%) 7(13.2) 6(11.3) 3(5,7) 17(32.1) 20(37.7) 53(100.0)

\*1: I completely disagree. 2: I partially disagree. 3: I neither agree nor disagree. 4: I partially agree. 5: I completely agree.

In the item on the evaluation of effectiveness after implementing changes to improve patient safety, 42.9% gave positive responses (“I partially agree” or “I totally agree”). When asked if “it is just a coincidence that serious errors do not occur in the unit”, 45.4% said it is not a coincidence, a similar number to those who said it is a coincidence that serious cases do not occur (43.1%) (Table 2).

Regarding the fact that patient safety should never be compromised by excessive workload, 63.8% believe that increased workload does not affect safety. Regarding

the existence of patient safety problems in the unit, 56.9% indicated that there were, 15.7% were indifferent and 27.5% mentioned that there were no problems. Regarding adequate procedures and systems for preventing errors, 69.8% believe they are adequate (Table 2).

Regarding questions about the handover/shift or transfers, in the item “Care is compromised as a result of unit transfer”, the percentage of those who agreed and disagreed was the same (43.1%), while 13.7% were impartial (Table 3).

**Table 3.** Distribution of responses by dimension – Handover or shift/transfers. Pinheiro-MA, Brazil, 2022.

Items		Answer options*					Total
		1	2	3	4	5	
The care process is compromised when a patient is transferred from one unit to another	n(%)	10(19.6)	12(23.5)	7(13.7)	13(25.5)	9(17.6)	51(100.0)
It is common for important patient care information to be lost during shift changes or shift changes.	n(%)	9(17.3)	19(36.5)	8(15.4)	14(26.9)	2(3.8)	52(100.0)
Problems often occur in the exchange of information between hospital units	n(%)	11(21.6)	16(31.4)	4(7,8)	18(35.3)	2(3,9)	51(100.0)
In this hospital, shift changes are	n(%)	18(34.6)	21(40.4)	7(13.5)	5(9.6)	1(1.9)	52(100.0)

problematic for patients.

\*1: I completely disagree. 2: I partially disagree. 3: I neither agree nor disagree. 4: I partially agree. 5: I completely agree.

Regarding the loss of important information about patient care during shift changes, 17.3% strongly disagreed, 36.5% disagreed, 26.9% agreed and 3.8% strongly agreed. This resulted in a total of 53.8% positive responses and 30.7% negative responses. Regarding problems in the exchange of information between units, 21.6% strongly disagreed, 31.4% disagreed, 7.8% were indifferent, 35.3% agreed and 3.9% strongly agreed. Of the total, 53.0% stated that there were no problems between units regarding patient information. Regarding the existence of problems for patients during shift changes, 75.0%

responded that the changes did not cause problems for patients (Table 3).

Regarding changes in routines for caring for COVID-19 patients, 90.4% fully agreed that there had been changes. Regarding nursing team training, 63.4% stated that there had been training, while 26.9% disagreed. Regarding health indicators to guide care for these patients, 69.2% indicated that indicators had been created, while 17.3% disagreed. Regarding full adherence to safety protocols for COVID-19 patients, 60.8% stated that the protocols were fully followed, while 19.6% totally or partially disagreed (Table 4).

**Table 4.** Distribution of responses by dimension – Actions for patient safety with Covid-19. Pinheiro-MA, Brazil, 2022.

Items		Answer options*					Total
		1	2	3	4	5	
There have been changes in the routines for caring for patients with Covid-19	n(%)	0(0,0)	2(3.8)	3(5,8)	22(42.3)	25(48.1)	52(100.0)
Nursing professionals were trained to work with these patients	n(%)	5(9.6)	9(17.3)	5(9.6)	19(36.5)	14(26.9)	52(100.0)
Health indicators were created to guide the care offered to these patients	n(%)	6(11.5)	3(5,8)	7(13.5)	22(42.3)	14(26.9)	52(100.0)
Patient safety protocols for this group were followed in full	n(%)	1(2.0)	9(17.6)	10(19.6)	15(29.4)	16(31.4)	51(100.0)



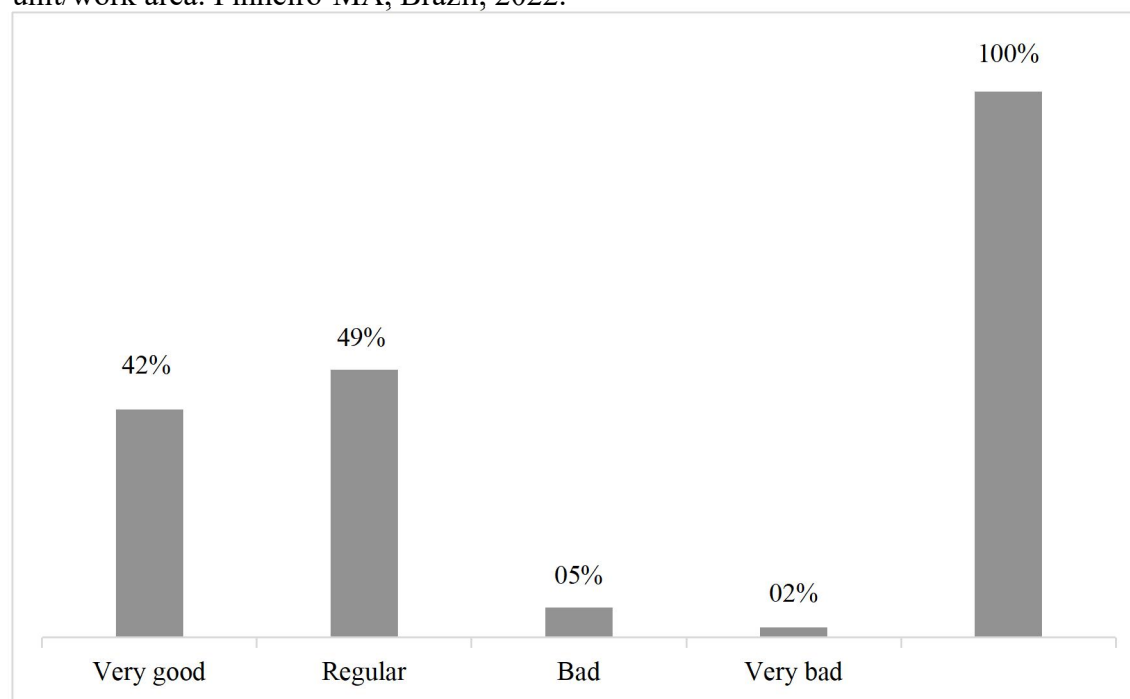
Nursing professionals working in care participated in the development of safety protocols and health indicators	n(%)	7(13.5)	9(17.3)	13(25.0)	10(19.2)	13(25.0)	52(100.0)
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\*1: I completely disagree. 2: I partially disagree. 3: I neither agree nor disagree. 4: I partially agree. 5: I completely agree.

Regarding the participation of the nursing team in the preparation of protocols and indicators, 44.2% fully or partially agreed that there was participation and 30.8% partially or fully disagreed (Table 4).

Furthermore, it was evident that the majority of professionals (49.1%) assessed patient safety as average, 41.8% classified it as very good, 5.5% as poor and 1.8% as excellent or very poor (Figure 1).

**Graph 1.** Distribution of responses for assessment of patient safety by professionals in the unit/work area. Pinheiro-MA, Brazil, 2022.



## DISCUSSION

Based on the analysis of sociodemographic data, the majority were young adults between 30 and 39 years old, with a greater predominance of females,

demonstrating the greater workforce. However, gender is not an indicator of assessment to determine safety and quality of care. This higher percentage is justified by the profile of the nursing team being predominantly composed of women.<sup>10</sup>

When we relate patient care and education, we found that most of the interviewees had completed high school, a finding that can be explained by a sample mostly composed of nursing technicians.

In the analysis of weekly working hours, periods of 20 to 39 h/week and 40 to 59 h/week were, respectively, most frequent. It is believed that long working hours can compromise the quality of care offered to patients, since uninterrupted hours increase fatigue, physical and mental exhaustion of professionals.<sup>11</sup>

Regarding the actions that lead to ensuring the safety of patients with Covid-19 based on the responses to the questionnaire applied, positive results were achieved regarding knowledge of basic safety protocols, changes after errors and evaluation after implementation of routines, however, despite the findings, no record or team that manages this process was presented.

Nursing professionals play a fundamental role in identifying risks and knowledge of measures adopted in favor of changes are essential to guarantee safe care.<sup>12</sup> That said, and due to the absence of a Quality and Patient Safety Office/Center and a Hospital Infection Control Service (SCIH), professionals from the SCIH and the Quality and Patient Safety Center of the Hospital Regional da Baixada Maranhense Dr. Jackson Lago, supported by the

Epidemiology Center of the hospital studied, provided consultancy and developed protocols and training for workers at the hospital studied, according to information obtained by the general management.

Regarding the general perception of patient safety in relation to the item about “it is only by chance that more serious errors do not occur”, there is a similarity of positive and negative responses, so that it is not clear whether the issue is a critical demand of the institution. However, there are robust findings in the literature indicating that error prevention, guided by strict conduct and procedures, is essential to mitigate such events. Regarding safety problems in the unit, more than half of the respondents reported that they exist, suggesting an environment that does not meet the assumptions of patient safety. A significant portion of the interviewees reported that the excessive workload did not influence the quality of the service offered, a finding that goes against scientific evidence, since it is known that exhausting workloads interfere with patient care and safety, aggravated by inadequate staffing.<sup>13,14</sup> In this regard, a study carried out in three highly complex hospitals in Paraná, using the same data collection instrument (HSOPSC), highlighted the fragility of the hospitals studied, 46.5% of the analysis of the total category.<sup>15</sup>

Regarding the dimension of handover/shift or transfers, there was a balance in the responses regarding whether or not care was compromised during shift changes, possibly indicating that there are doubts about the process, even though this was not represented in the other items that addressed the loss of information during changes, occurrence of problems and general impacts for the patient. Our findings, generally, differ from other studies that reported handover and change of shift as a critical moment and with a greater possibility of occurrence of errors, suggesting that this is still a relevant demand in hospital routines and that it requires confrontation and training of teams.<sup>16,17</sup> It is imperative to standardize the exchange of information about patients through instruments that include identification data, clinical information, procedures performed and pending issues, as well as space for notes on incidents.<sup>18</sup>

In our study, the interviewees stated that indicators were created to ensure safe care for those affected by COVID-19, and these findings converge with the demands demanded due to the lack of knowledge about the clinical presentation and evolution of affected patients and the global impacts of the condition. Many challenges were posed to health services and professionals, who needed to implement new prevention and control strategies, intensify patient

safety actions, create care flows with redistribution of human resources and increase the supply of materials, machinery, spaces for testing/care, and implement protocols that would allow for comprehensive monitoring of patients in search of safe and quality care.<sup>7</sup> Such demands revealed vulnerabilities of health services due to the provision of inadequate care and evidence of non-conformities related to unsafe practices, compromising the quality of care.<sup>19</sup>

Among these strategies, the line of care for patients with Covid-19 appeared to be the most effective, as in addition to contributing to safety in actions and generating information about the assistance provided, it aimed to welcome the client, systematic, comprehensive and individualized assistance, improving and expanding care for patients at the most different levels of complexity.<sup>20,21</sup>

Regarding the score given by the nursing team to patient safety in general, hospital professionals believe that the processes and strategies to ensure safety and quality in care are being implemented correctly, with data similar to those found in the item patient safety in the positive institution.<sup>22</sup>

The novel coronavirus pandemic has required the scientific community, global health managers and organizations, health professionals and civil society to join forces

to find solutions that could minimize the global impacts of the disease, with special attention to the most needy populations affected and to health workers who were directly involved in care actions. For these, care based on patient safety and quality policies helped to ensure health protection and reduce harm.<sup>23</sup>

## CONCLUSIONS

This research demonstrated the relevance of safety culture for the development of protocols and indicators in crisis situations, as well as the need for investment in continuing education. The existence of problems related to patient safety in the unit was highlighted, with excessive workload. Regarding the strategies implemented that enhanced attitudes related to safety culture, staff training, creation of management indicators and the line of care for patients with Covid-19 were the most common.

Our study will contribute to new hospital routines, offering managers opportunities to improve aspects related to safety culture among workers through awareness-raising and redefining their bedside practices, changing attitudes, continuing education, implementing a patient safety center that can assess reported events and implement safe initiatives that will help improve the care provided, in

addition to composing updated literature on the subject.

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