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The impact of the COVID-19 pandemic on nurses' motivation at work: A field study at the public hospital in Ali Mendjeli, Algeria.

تأثير جائحة كوفيد–19 في دافعية العمل لدى الممرضين: دراسة ميدانية في المؤسسة العمومية

الاستشفائية بعلي منجلي، الجزائر.

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Abstract　　　　　　　　　　　　　　　　　　　　**ملخص**

This paper aims to explore the impact of the COVID-19 pandemic upon nurses' motivation at work at the public hospital in Ali Mendjeli, Algeria. Results show that there is a statistically significant positive correlation between the independent variable and all the dependent variable. Moreover, there are no differences in terms of the impact of COVID-19 pandemic on nurses' motivation at work concerning age, salary or professional experience.

The study concludes with the necessity to implement the right reforms in the healthcare sector in order to establish a motivating work environment.

Keywords: Motivation at work, COVID-19, Nurses, Impact, Uncertainty, Algeria.

تهدف هذه الدراسة إلى الكشف عن تأثير جائحة كوفيد–19 في دافعية العمل لدى الممرضين في م.ع.إ بعلي منجلي، الجزائر. بينت النتائج وجود علاقة طردية بين المتغيرات وعدم وجود فروقات على أساس السن، الأجر أو الخبرة المهنية.

خلصت الدراسة إلى ضرورة وضع الإصلاحات المناسبة في قطاع الصحة بهدف توفير مناخ عمل محفّز.

الكلمات المفتاحية: دافعية العمل، كوفيد–19، الممرضون، التأثير ، عدم اليقين، الجزائر.

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1. INTRODUCTION

The emergence of behavioral economics in the world of economy has integrated many terms and concepts, establishing -as a result- interrelationships with other domains. One of these concepts is "Motivation at work" that has become subject to the economic analysis, after being for a long time a psychological matter. The increasing importance of "Motivation at work" is due to the increasing interest in the human resources especially in service organizations.

Nowadays, the world is facing rapid changes, some of them are of a great importance, rather of critical urgency when dealing with a new pandemic, called Covid-19. Thus, the medical staff, that is obviously on the frontlines of the fight against Covid-19, needs to maintain a good level of motivation at work in order to maximize work effort and provide holistic and highest quality patients care.

In this context more specifically, the nursing work is one of the toughest jobs and it is usually synonym of pressure and workload leading to a burnout or a reaction characterized by stress and exhaustion resulting from working hours, anxiety, fatigue, insomnia, depressions…etc. Today's health crisis makes things worse for the healthcare delivery system, and it is likely to weaken the nurses' motivation at work. From this point, the main question is as follows:

"To what extent does COVID-19 pandemic affect the nurses' motivation at work in the public hospital in Ali Mendjeli, Algeria?"
This general research question is broken down into four sub-questions:

- What is the impact of COVID-19 pandemic on nurses' motivation at work according to their personal determinants?
- What is the impact of COVID-19 pandemic on nurses' motivation at work according to the organizational determinants?
- What is the impact of COVID-19 pandemic on nurses' motivation at work according to the socio-cultural determinants?
- Are There differences in the responses resulting from the study sample towards the impact of COVID-19 pandemic on nurses' motivation at work according to their individual characteristics?

In an endeavor to attain reliable answers to the research questions, the following hypotheses have been formulated:

H.1: There would be a positive effect of COVID-19 pandemic on nurses' motivation at work according to their personal determinants.

H.2: There would be positive effect of COVID-19 pandemic on nurses' motivation at work according to their organizational determinants.

H.3: There would be a positive effect of COVID-19 pandemic on nurses' motivation at work according to the socio-cultural determinants.

H.4: There would be differences in the responses of the study sample towards the impact of COVID-19 pandemic on nurses' motivation at work according to their individual characteristics.

This study sets out for the following reasons:

- To explore the impact of Covid-19 pandemic on nurses' motivation at work in a public hospital in Algeria, and analyze its different effects.

- To identify the different determinants of nurses' motivation at work.

- To know more about the nurse-environment dynamic in the complex healthcare context, precisely during the Covid-19 pandemic.

In order to accept or reject the hypotheses above, we have organized the paper as follows: The first part provides the theoretical and conceptual framework of nurses' motivation at work and COVID-19 effects. The second part presents the Methods and Materials used throughout the study. The third part provides Results yielded from the statistical analyses and Discussion around them. The last part is devoted to conclusions.

2. Determinants of nurses' motivation at work

Motivation is complex and multidimensional. It is determined by the combination of individual and environmental characteristics and represents a set of psychological processes that connect and integrate these forces (Kanfer, Chen, & D.Pritchard, 2008, p. 6). Furthermore, Motivation in the work context or what is called "motivation at work" can be defined as " A set of energetic forces that originates both within as well as beyond an individual's being, to initiate work-related behavior, and to determine its form, direction, intensity and duration." (C.Pinder, 2008, p. 11).

Nurses' motivation at work is affected by so many factors. We can break down these factors or determinants according to their sources into three different types: Personal determinants, organizational determinants and socio-cultural determinants.

2.1 The Personal determinants

Each one has its own individual characteristics, and this individuality stems from everyone's nature and nurture which distinguish a person from another, and more specifically a worker from another; thus; the motivation at work level differs. The internal psychological state, mental and physical abilities, accomplishment-striving, self-efficacy and self-esteem represent the essential components of personal determinants.

According to Glen (1998), nurses need to examine and become more consciously aware of their emotional and motivational states in order to support competence and caring in nursing work (C. Moody & J.Pesut, 2006, p. 27). Having an emotional stability helps nurses maintain a good level of motivation at work, reduce the harmful impact of work overload and cope with stressors. Moreover, mental capacities and physical strength foster the motivational state. There are many studies that have shown the severity of the burnout and emotional exhaustion nurses suffer from all over the world and their bad consequences on quality nursing care outcomes. Accomplishment-striving is another important component that is linked with personal goals. The worker motivation exists when there is alignment between individual and organizational goals, and when workers perceive that they can carry out their tasks. Workers' willingness to devote time and effort to work tasks is not a function of external factors alone, but rather influenced by the interaction of these factors with unique personal factors (Franco, Kanfer, & Stubblebine, 2002, p. 1257). Perceiving self-efficacy and self-esteem in the work settings enhances motivational growth in nurses.

2.2 The Organizational determinants

Motivation at work is also determined by the organizational determinants such as administration policies, workplace relationships, autonomy, moral and financial incentives. These determinants shape the direct environment of nurses, and as a result, nurses' motivation at work is tremendously affected by them.

Organizational structures, resources, processes, and culture, as well as organizational feedback about performance, contribute to the motivational processes occurring at the individual level. These affect the individual's real and perceived ability to carry out their tasks, and stimulate worker adoption of organizational goals (Franco, Kanfer, & Stubblebine, 2002, p. 1256). Quality health care leadership and management consistently pay attention to all of the intrinsic and extrinsic factors associated with

nurses' motivation at work (C. Moody & J.Pesut, 2006, p. 30). Managers must work to alleviate the stresses of their subordinates, but this is made difficult by the fact that the managers themselves are coping with the same kinds of stresses (Deci & M. Ryan, 1985, p. 294).

These issues mentioned above should be wisely considered when the administration policies are put in a way that forms uniformity and alignment between the employers and the employees' goals. State motivation of nurses is also influenced by human contextual environments and relationships variables among individuals present in the environment such as variables in the nurse-patient relationship or work team relations (Cited in Cubbon, 2000) (C. Moody & J.Pesut, 2006, p. 28). Problems are better solved whenever there is synergy and mindful interdependence within the teamwork. Furthermore, trust and empowering behaviors make the workplace more desirable. One of the organizational determinants is "Autonomy"; which means allowing to the employee adequate amounts of authority and avoiding the close observation, yet ensuring clear instructions and responsibilities. Although it is not realistic to allow the workers to set their own goals in most circumstances, the workers can often determine how they will achieve their goal. This will give workers a greater sense of achievement over their work (Stello, 2011, p. 7). Herzberg in his motivation theory (that he called two-factor model) mentioned "recognition" as a motivator (causing people to be motivated and satisfied in their work). Recognition could be a qualitative reward, more than a quantitative reward.

2.3 The Socio-cultural determinants

Outside the immediate organizational environment, the broader cultural and community context will also contribute to the individual's motivational processes, and its influence is more pervasive. In service organizations, societal culture also affects worker behavior through worker interactions with their clients (Franco, Kanfer, & Stubblebine, 2002, pp. 1262-1263). Social support and respect, Recognition from patients and families are the main socio-cultural determinants of nurses' motivation at work. It's obvious that each community has its particularity and this particularity reflects the cultural background, shared values and morals that are responsible for behaviors. The behaviors are also based upon some expectations or prejudices which drive to good or bad feedbacks. Furthermore, mental image people have about the nursing work highly

affects the way nurses are treated and that may change due to the changes happening all over the world.

It is important to mention that the social effects on motivation at work are also due to the political and economic situations, the laws and the religion. Overall, determinants of nurses' motivation at work represent the personal characteristics, the organizational and the socio-cultural characteristics that direct their work-related behaviors towards their own goals within the healthcare context.

3. The impact of COVID-19 pandemic on the nursing staff

COVID-19 has spread fear and frustration at the international level, creating an alarming health crisis nurtured by uncertainty, unpreparedness and lack of reliable information. Undoubtedly, healthcare workers are the most vulnerable. That's why it is important to display and analyze their working environment during the COVID-19 pandemic.

3.1 What is COVID-19 virus?

COVID-19 virus is the cause of an outbreak of respiratory illness first detected in China. Since December 2019, cases have been identified in a growing number of countries (Muriel browser, 2020). The World Health Organization announced "COVID-19" as the name of this new disease, and has begun referring to the virus as "the COVID-19 virus" (WHO, 2020).

3.2 The uncertainty about COVID-19 virus

A pervasive narrative amongst the healthcare workers across all the pandemics was that of uncertainty, which precipitated and perpetuated fear and anxiety (Billings, Chi Fung Ching, Gkofa, Greene, & Bloomfield, 2020, p. 11). The alarming health situation generated by the COVID-19 pandemic has meant enormous overexertion of all health personnel at the international level, including nurses, who have had to face physical, psychological, emotional, and social demands in a situation where resources are not always available (Giménez, Prado-Gascó, & Soto-Rubio, 2020, p. 3). There were uncertainty and unpredictability about the pandemic in terms of clinical presentation, epidemiological characteristics, novelty, implications for national and international public health (Jafar & Shoukat, 2020, p. 65). In such situations (uncertain and unpredictable), competencies of the managers and knowledge of crisis management can be crucial in keeping employees motivated to do their jobs. Supervisors or HR staff should try to provide sufficient amount of information on time to all employees and give them

enough time to process the information and ask questions (Demirovi´c Bajrami, et al., 2020, p. 7). Knowledge is key in decreasing uncertainty and many participants sought information, clarity and consensus with the purpose of achieving greater certainty (Billings, Chi Fung Ching, Gkofa, Greene, & Bloomfield, 2020, p. 11).

3.3 Effects of COVID-19 pandemic on working conditions

The work environment is defined as the relationship between a worker and his environment that can be broken down into different dimensions (physical, psychological and social) (Salunke, 2015, p. 4). The unknown and uncertain hospital environment with COVID-19 patients may aggravate burden and increase stress among nurses while fighting the pandemic. (Zhang, et al., 2020, p. 2). The unpreparedness for such health crisis might cause lack of supplies (laboratory equipment, machinery, Personal Protective Equipment (PPE) for healthcare workers…etc). Although PPE should be available throughout the hospital, it is not always realistic to guarantee rapidly available PPE across varying clinical locations. This PPE kit should include gloves, gowns, head covers, shoe covers, face shields and/or protective eyewear, and N95 respirators (Sullivan, Gibson, Berra, Chang, & Bittner, 2020, p. 2). Adequate protective equipment provided by the hospitals is considered to be the most important motivational factor to encourage continuation of work in future outbreaks (Cai, et al., 2020, p. 4).

4. METHODS AND MATERIALS

The methodology developed in this work is initially based on literature review concerning the theoretical aspects of motivation at work and its determinants and the work environment in general during the COVID-19 pandemic.

4.1 Sample of the study

The field study is conducted in the public hospital in Ali Mendjeli, Algeria, between November 28th and December 7th, 2020. The target population consists of nurses and the simple random sample contains 48 individuals (their answers are all considered valid). It is important to mention that the number of the healthcare workers has decreased because of sick leave for quarantine or for other preventive purposes, which made it difficult to reach a higher number of respondents.

4.2 Instrument

We used a survey as a field study tool which contains twenty-three

questions. The survey is originally designed in English and then translated into Arabic and distributed in-person to avoid any misunderstanding. A five-point Likert type scale is used in order to measure the variables of the study.

4.3 Statistical Analyses

To analyze the data, we use the Statistical Package for Social Science (SPSS) V.22. Cronbach alpha coefficient is used to test the reliability measures. For Descriptive statistic measures, we use the mean and the standard deviation. To test the hypotheses, multiple regression analysis and ANOVA test are applied.

5. RESULTS AND DISCUSSION

5.1. validity and Reliability tests

5.1.1 Reliability test

Table 1. Cronbach's Alpha test

Groups of variables	The Cronbach`s Alpha coefficient	The Cronbach`s Alpha coefficient after modification
group 1	0.46	0.74
group 2	0.42	0.64
group 3	0.37	0.60
group 4	0.81	0.81

Source: Elaborated by the authors based on SPSS 22 outputs

The reliability of the survey was assessed by Cronbach's alpha. As shown in the table (1), the values of the Cronbach's Alpha coefficient after modification were ranging between (0.74) and (0.81) for the different group of variables, indicating a good internal consistency of all questions. That is, in case the survey is redistributed to the same sample of the study later, we will obtain the same data with a probability ratio as the previously mentioned ratios. Therefore, we can rely on these data in achieving the study objectives.

5.1.2 Validity

As for testing the validity of the study tool or content validity; the survey has been presented to a group of experts and researchers from the higher education field. In the light of their recommendations and guidelines, some statements are added or deleted, while other statements are modified and corrected.

5.2 Descriptive statistics

Table 2. Sample's responses regarding the personal determinants

Statements	Mean	S.D	Level	Rank
1. I feel that my psychological state is stable and motivating to work	3,1042	1,24182	moderate	1
2. I have a mental ability (analysis capacity and focus) to do my work	2,7917	1,21967	moderate	3
3. I have a physical strength that helps me do my tasks	2,8125	1,26586	moderate	2
4. I have accomplishment-striving	2,3542	1,32873	low	5
5. I can feel my self-efficacy while doing my work	2,5417	1,41359	low	4
Total	2,8229	0,99728	moderate	

Source: Elaborated by the authors based on SPSS 22 outputs

From the table (2), we find that the weighted (grand) mean is (2.82) with standard deviation (0.99) which reflects that the personal determinants of nurses' motivation at work are moderate. The statement (1): *(I feel that my psychological state is stable and motivating to work*) is in the first rank with mean (3.10) reflecting a moderate level of agreement, and it is the contrast what has been found in the study of (Giménez, Prado-Gascó, & Soto-Rubio, 2020). Its results showed that nurses in general feel that they have to do a lot of emotional work. We can clarify through the timing and location of the two studies, that the previous study focused on nurses in Spain at the peak of the pandemic, while the current study is conducted in Algeria after identifying the repercussions of the virus outbreak. The statement (4): (*I have accomplishment-striving*) is in the last rank with mean (2.35) reflecting a low level of agreement. We can refer that to the toughness of the working conditions, scarcity of resources and workload.

Table 3. Sample's responses regarding the organizational determinants

Statements	Mean	S.D	Level	Rank
6. I see that administration policies are encouraging	3,5625	1,64906	high	2
7. My relationship with my supervisor is good	2,8750	1,17826	moderate	5

Statements	Mean	S.D	Level	Rank
8. My relationship with my subordinates is good	2,8333	1,32622	moderate	6
9. I have the autonomy to take the appropriate decisions concerning my work tasks	3,0208	1,32873	moderate	4
10. I feel recognized for my efforts by administration	3,7292	1,39512	high	1
11. I see that the financial incentives are acceptable and appropriate to the position	3,5417	1,48694	high	3
Total	3,5521	1,34180	high	

Source: Elaborated by the authors based on SPSS 22 outputs

The table (3) shows that the weighted mean was (3.55) with standard deviation (1.34) which reflects that the organizational determinants of nurses' motivation at work were high. The statement (10): (*I feel recognized for my efforts by administration*) was in the first rank with mean (3.72) reflecting a high level of agreement. We can explain that by the need to join efforts in order to reduce the impact of COVID-19 in the workplace. While the statement (8): (My relationship with my subordinates is good) was in the last rank with mean (2.83) reflecting a moderate level of agreement. We can refer that to the mindful interdependence between the workers.

Table 4. Sample's responses regarding the Socio-cultural determinants

Statements	Mean	S.D	Level	Rank
12. I feel recognized for my efforts by patients	2,8125	1,06504	moderate	2
13. I feel recognized for my efforts by patients' families	2,1250	1,52462	low	3
14. I feel proud of my work	3,4375	0,89695	high	1
Total	2,4688	1,08866	low	2

Source: Elaborated by the authors based on SPSS 22 outputs

As noticed from the table (4), we find that the weighted mean is (2.46) with standard deviation (1.08) which reflects that the socio-cultural determinants of nurses' motivation at work are low. The statement (14): (*I feel proud of my work*) was in the first rank with mean (3.43) reflecting a

high level of agreement. We can explain that by the importance of the nursing work especially because of the current international support and respect they receive. While The statement (13): (*I feel recognized for my efforts by patients' families*) is in the last rank with mean (2.12) reflecting a low level of agreement, and we can refer that to people's expectations (prejudices) about the public health sector in Algeria.

Table 5. Sample's responses regarding the toughness of working conditions during COVID-19 pandemic

Statements	Mean	S.D	Level	Rank
15. There is lack in Personal Protective Equipment (PPE) against COVID-19	2,2708	1,68522	low	8
16. There is an increase in working hours	2,9375	1,40525	moderate	2
17. There are extra tasks that make me feel nervous and under pressure	2,4583	1,36769	low	5
18. There is adequate amount of time for patient care	2,7500	1,17600	moderate	3
19. There is a shortage in the nursing staff	2,3333	1,58897	low	7
20. The lockdown made it difficult to get to my workplace (transport problem)	2,6458	1,56409	moderate	4
21. COVID-19 pandemic made me think about quitting the nursing work	2,4375	1,63611	low	6
22. I'm scared of catching the virus because of my work responsibilities	2,0417	1,71301	low	9
23.I'm scared of transmitting the virus to my family	3,2292	1,53317	moderate	1
Total	2,7500	0,99467	moderate	

Source: Elaborated by the authors based on SPSS 22 outputs

As can be seen in the table (5) above, the weighted mean is (2.75) with standard deviation (0.99) which reflects that the toughness of working conditions during COVID-19 pandemic is moderate. The statement (23): (*I'm scared of transmitting the virus to my family*) is in the first rank with

mean (3.22) reflecting a moderate level of agreement, and this is instinctively justified. while the statement (22): (*I'm scared of catching the virus because of my work responsibilities*) is in the last rank with mean (2.04) reflecting a low level of agreement. Theses finding are consistent with the previous related study of (Cai, et al., 2020) conducted in Hunan, China in which they found that safety from infection was the main concern as they worried most that they might infect their families with COVID-19. While the decrease in uncertainty regarding the virus and the awareness of the effects of disease prevention measures with reduced numbers of reported cases reduces staff stress.

5.3 Hypotheses Testing
5.3.1 Testing the first Main Hypothesis

To test the hypothesis (H.1), multiple regression analysis is applied. COVID-19 pandemic is entered as the independent variable and the personal determinants are entered as the dependent variables.

Table 6. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0,051a	0,003	-0,019	1,00675

Table 7. Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2,682	0,431		6,221	0,000
Personal determinants	0,051	0,148	0,051	0,346	0,731

Source: Elaborated by the authors based on SPSS 22 outputs

The result shows that the correlation coefficient between the working conditions during COVID-19 pandemic and the personal determinants of nurses' motivation at work is (0,051), and that indicates a weak positive correlation statistically significant. Thus, the research hypothesis "There would be a positive effect of COVID-19 pandemic on nurses' motivation at work according to their personal determinants" is proved.

5.3.2 Testing the second Main Hypothesis

To test the hypothesis (H.2), multiple regression analysis is applied. COVID-19 pandemic is entered as the independent variable and organizational determinants are entered as the dependent variables.

Table 8. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0,134a	0,018	-0,004	1,34416

Table 9. Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	**Std. Error**	**Beta**	**t**	**Sig.**
(Constant)	4,047	0,576		7,030	0,000
Organizational determinants	-0,180	0,197	-0,134	-0,914	0,366

Source: Elaborated by the authors based on SPSS 22 outputs

The result shows that the correlation coefficient between the working conditions during COVID-19 pandemic and the organizational determinants of nurses' motivation at work is (0,134), and that indicates a weak positive correlation statistically significant. Thus, the research hypothesis "There would be a positive effect of COVID-19 pandemic on nurses' motivation at work according to their organizational determinants" is proved.

5.3.3 Testing the third Main Hypothesis

To test the hypothesis (H.3), multiple regression analysis is applied. COVID-19 pandemic is entered as the independent variable and the socio-cultural determinants are entered as the dependent variables.

Table 10. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0,263a	0,069	0,049	1,06175

Table 11. Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	1,678	0,455		3,689	0,001
Socio-cultural determinants	0,288	0,156	0,263	1,847	0,071

Source: Elaborated by the authors based on SPSS 22 outputs

The result shows that the correlation coefficient between the working conditions during COVID-19 pandemic and the organizational determinants of nurses' motivation at work is (0,263), and that indicates a weak positive correlation statistically significant. Thus, the research hypothesis "There would be a positive effect of COVID-19 pandemic on nurses' motivation at work according to the socio-cultural determinants" is proved.

5.3.4 Testing the fourth Main Hypothesis

To test the hypothesis (H.4), multiple regression analysis is applied. COVID-19 pandemic is entered as the independent variable and individual characteristics of nurses are entered as the dependent variables.

a. Testing the first Sub-Hypothesis

"There would be differences in the responses of the study sample towards the impact of COVID-19 pandemic on nurses' motivation at work according to **the age**."

Table 12. Differences analysis according to the age (ANOVA test)

		Sum of squares	Degrees of freedom	Mean square	F value	F sig
The Personal determinants	inter-group	4,679	2	2,339	2,502	0,093
	intra-group	42,066	45	0,935		

		Sum of squares	Degrees of freedom	Mean square	F value	F sig
	Total	46,745	47			
The organizational determinants	inter-group	3,705	2	1,853	1,030	0,365
	intra-group	80,915	45	1,798		
	Total	84,620	47			
The Socio-cultural determinants	inter-group	0,379	2	0,190	0,154	0,858
	intra-group	55,324	45	1,229		
	Total	55,703	47			
Impact of COVID-19 pandemic on working conditions	inter-group	0,303	2	0,152	0,148	0,863
	intra-group	46,197	45			
	Total	46,500	47			

Source: Elaborated by the authors based on SPSS 22 outputs

We can see from the table (12) that the significance level is above 0,05 ($p > 0.005$), for all the groups of variables. Thus, the research sub-hypothesis "There would be differences in the responses of the study sample towards the impact of COVID-19 pandemic on nurses' motivation at work according to **the age**" is rejected.

b. Testing the Second Sub-Hypothesis

"There would be differences in the responses of the study sample towards the impact of COVID-19 pandemic on nurses' motivation at work according to **professional experience.**"

Table 13. Differences analysis according to professional experience (ANOVA test)

		Sum of squares	Degrees of freedom	Mean square	F value	F sig
The Personal determinants	inter-group	1,633	3	0,544	0,531	0,664
	intra-group	45,112	44	1,025		
	Total	46,745	47			

The organizational determinants	inter-group	1,996	3	0,665	0,354	0,786
	intra-group	82,624	44	1,878		
	Total	84,620	47			
The Socio-cultural determinants	inter-group	1,825	3	0,608	0,497	0,686
	intra-group	53,878	44	1,225		
	Total	55,703	47			
Impact of COVID-19 pandemic on working conditions	inter-group	5,537	3	1,846	1,983	0,130
	intra-group	40,963	44	0,931		
	Total	46,500				

Source: Elaborated by the authors based on SPSS 22 outputs

The table (13) shows that the significance level is above 0,05 (P>0.005) for all the groups of variables. Thus, the research sub-hypothesis "There would be differences in the responses of the study sample towards the impact of COVID-19 pandemic on nurses' motivation at work according to **professional experience**." is rejected.

c. Testing the third Sub-Hypothesis:

"There would be differences in the responses of the study sample towards the impact of COVID-19 pandemic on nurses' motivation at work according to **the salary**."

Table 14. Differences analysis according to salary (ANOVA test)

		Sum of squares	Degrees of freedom	Mean square	F value	F sig
The Personal determinants	inter-group	4,992	2	2,496	2,690	0,079
	intra-group	41,753	45	0,928		
	Total	46,745	47			
The organizational	inter-group	3,129	2	1,565	0,864	0,428

determinants	intra-group	81,490	45	1,811		
	Total	84,620	47			
The Socio-cultural determinants	inter-group	2,032	2	1,016	0,852	0,433
	intra-group	53,671	45	1,193		
	Total	55,703	47			
Impact of COVID-19 pandemic on working conditions	inter-group	0,185	2	0,092	0,090	0,914
	intra-group	46,315	45	1,029		
	Total	46,500	47			

Source: Elaborated by the authors based on SPSS 22 outputs

As can be seen in the table above (14), the significance level is above 0,05 (p > 0.005) for all the groups of variables. Thus, the research sub-hypothesis "There would be differences in the responses of the study sample towards the impact of COVID-19 pandemic on nurses' motivation at work according to **the salary**" is rejected.

Therefore, the fourth research hypothesis "There would be differences in the responses of the study sample towards the impact of COVID-19 pandemic on nurses' motivation at work according to their individual characteristics" is rejected, and we accept the null hypothesis "There would be <u>no</u> differences in the responses of the study sample towards the impact of COVID-19 pandemic on nurses' motivation at work according to their individual characteristics".

6. CONCLUSION

Working in a complex and a stressful environment such as in the public health sector affects healthcare worker's motivation, including nurses, since they are daily exposed to pressure and overexertion. Nurses' motivation at work fluctuates consistently even before COVID-19 pandemic. This is due to the individuality and delicacy of the healthcare sector besides the fact that motivation is complex and multidimensional. The uncertainty and unpreparedness about this health crisis places a heavy burden of responsibility in hospitals and increases the toughness of the

working conditions.

Throughout this research paper, we have explored the impact of the COVID-19 pandemic upon nurses' motivation at work (study conducted in the public hospital in Ali Mendjeli, Algeria), and our work has led us to conclude that there is a positive correlation between these two variables. The three first main hypotheses (H1, H2 and H3) that we have suggested have been confirmed and it is concluded that there is a positive correlation statistically significant between the COVID-19 pandemic and nurses' motivation at work according to all the determinants of motivation (personal, organizational and socio-cultural determinants). In other words, the COVID-19 affects all the aspects of motivation. However, the extent of impact ranges from context to another. Moreover, we have reached conclusions regarding the fourth main hypothesis that there are no differences towards the impact of COVID-19 pandemic on nurses' motivation at work according to their individual characteristics whether in terms of age, salary or professional experience. Thus, we reject this hypothesis.

We hope that the present research will contribute to a better understanding of the environment surrounding the healthcare workers, represented by nurses, by identifying the determinants that affect their motivation and affecting their outcomes too. Our research suggests that more attention should be paid to enhance motivation of workers in the healthcare sector by reconsidering the working conditions and the availability of adequate equipment. Establishing preventive measures and control programs is necessary, not only in the current health crisis caused by COVID-19. We also recommend that more efforts should be done to develop the health system; policymakers should reconsider their policies and implementing of the right reforms; as for managers, they should reconsider their administration policy in order to establish a healthy work environment, and to learn more about "Crises management" in order to know how to deal with future potential crises.

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