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## Case Study of the Covid-19 Pandemic on the Psychological State of Employees in Algerian SMEs

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### Abstract:

The coronavirus pandemic (Covid-19) represents a problematic and problematizing upheaval in global health\*. This pandemic has caused the confinement of entire populations, an increased number of severely affected patients and a very serious increase in overall mortality\*\*.

The psychosocial risks linked to this pandemic cover professional risks which harm both the mental and physical health of workers and which have an impact on the proper functioning and performance of businesses as well as on the safety of the population.

The COVID-19 pandemic has brought its share of fears, worries and uncertainties to the population. Several experts spoke of the negative repercussions that the pandemic and the containment measures put in place could have on the well-being of the mental and physical health of the population. They also expressed fears about the risks that symptoms would worsen in people already diagnosed with a mental disorder due to the disruption of access to care during the pandemic (fear of health establishments or inaccessibility of health providers). care).

Thus, given the problems posed by the corona pandemic and the changes that the world of work has undergone in companies of all sizes, our objective is to study to what extent workers and employees of companies have been affected by this pandemic and its impact on their psychophysiological and behavioral state; In addition, we offer a range of solutions to mitigate this impact and promote a strong and rapid recovery.

**Keywords:** stress at work, depression, anxiety, COVID-19 pandemic, Psychosociological risks, SMEs in Batna.

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## 1. Introduction

The unexpected Covid-19 pandemic, which has had multiple and sometimes very serious effects on the physical health of infected subjects, also has deleterious effects on the mental health of exposed populations.

Chronic stress linked to the pandemic, its uncertainties and the health measures put in place by governments has had many damaging psychological effects. The anxiety generated by this pandemic affects the general population but even more so those already suffering from a mental disorder. The

fear of becoming seriously ill or of a loved one contracting the disease, confinement measures and major uncertainties regarding the future generate anxiety and depression.

In companies, employees and managers are not spared from these phenomena, having to also undergo a disruption of their work habits, a fear of being contaminated at their place of work, exposing employees to psychosocial risks linked to work which carry both the mental and physical health of workers and which have an impact on the proper functioning and performance of companies as well as their safety.

To answer our problem, the study was based on the KARASEK questionnaire applied to 145 employees in 5 different SMEs in the wilaya of Batna. In addition, to allow employees to express themselves on the impact of the determinants of their activity during this period of the CORONA virus pandemic and their psychological experience, semi-directive interviews with 15 employees were carried out in an SME in the wilaya of Batna. . The results showed that more than 50% of the employees surveyed believe that they work in a tense professional climate. This climate is characterized by a strong psychological demand for their work situation such as the anxiety of the transmission of CORONA virus and the time pressure that characterizes it. Despite social support which seems acceptable, the level of stress among employees remains very high. Based on the analysis models of the ergonomics of the activity and the work clinic, recommendations for improving the COVID 19 working conditions of employees are proposed as a conclusion.

## **2. Methods:**

### **2.1. Type of study:**

We conducted a multicenter, transversal, descriptive and analytical study among employees of SMEs in the wilaya of Batna. Our study took place over a period of five months spanning from October 2020 to February 2021.

### **2.2. Tools :**

1. Psychometric tests, HAD scale, to screen for anxiety and depressive disorders. It includes 14 items rated from 0 to 3. Seven questions relate to anxiety (total A) and seven others to the depressive dimension (total D), thus allowing two scores to be obtained (maximum score for each score = 21 ).

2. Open questionnaire

### **2.3. Study population:**

We included in our study all permanent employees for at least one year and who had given their informed consent. Employees occupying a vacant position, pregnant women and employees with pre-existing chronic inflammatory diseases were not included in the present study.

### **2.4. Data gathering :**

Two main tools were used for data collection: the documentary review for secondary data and the interview for primary data.

The review carried out mainly from online documentation made it possible to understand the current level of knowledge on the consequences of COVID on populations and basic social services and the resilience actions experienced.+

In terms of interviews, individual interviews (primary and secondary target) and focus groups (primary target only) were carried out. Given the context, some individual interviews were carried out by telephone call, and others as well as the focus groups were carried out in person. A total of 260

individual and group ethnographic interviews were carried out, including 150 primary and 110 secondary interviews.

**2.4. Limitations of the Study:**

The difficulties encountered in carrying out the study are linked to awareness raising, the method of collection (telephone and face-to-face), transcription and analysis of data.

The difficulties in raising awareness are linked to the unavailability of certain service managers during collection as well as the insufficiency of relaying information from the latter to the primary target.

**Table 1: Sociodemographic characteristics of participants (source: company data)**

Socio-Demographic Characteristic	Male		Feminine	
	Effective	%	Effective	%
Age group				
20-24 years old	95	38	69	18
25-34 years old	18	7	52	14
35-44 years old	17	7	82	21
45-54 years old	15	6	54	14
55 years and over	19	8	30	8
Educational level				
None	21	8	73	19
Primary	45	18	79	21
College	142	57	190	49
Superior	38	15	39	10

**3. Dynamics of social perceptions of the coronavirus disease covid19 among employees: inconsistency in the implementation of barrier gestures on a daily basis**

**3.1 Content of COVID-19 awareness messages**

This part of the work analyzes a few awareness campaigns such as posters, video and audio spots in order to identify the positive points and the negative points that could hinder the understanding of the message and be an obstacle to compliance with barrier measures. It was carried out on a sample of elements produced by all SMEs, i.e. fourteen (14) posters, thirteen (13) video spots.

Across all campaigns, we have identified different advertisers, the main one of which is the Ministry of Health and Public Hygiene supported by several international organizations such as: UNICEF, WHO, USAID, Action and the state organization responsible for promoting government actions, the CICG. Below are illustrations of the visuals analyzed:



Figure 1: Strengths and weaknesses of campaign materials

#### 4. Quantitative analysis

Our quantitative analysis in small and medium-sized businesses in the wilaya of Batna provided us with a fairly rich field of data on the changes that have occurred in the business and the way in which workers manage the covid19 disease.

We asked 29 workers from these companies some questions about how they manage their jobs in the pandemic as well as HSE managers about the behavior of workers and how the pandemic affects them during working conditions.

##### 4.1 Example question:

➤ Q n: Do you have any idea about the covid19 disease and how it is transmitted?

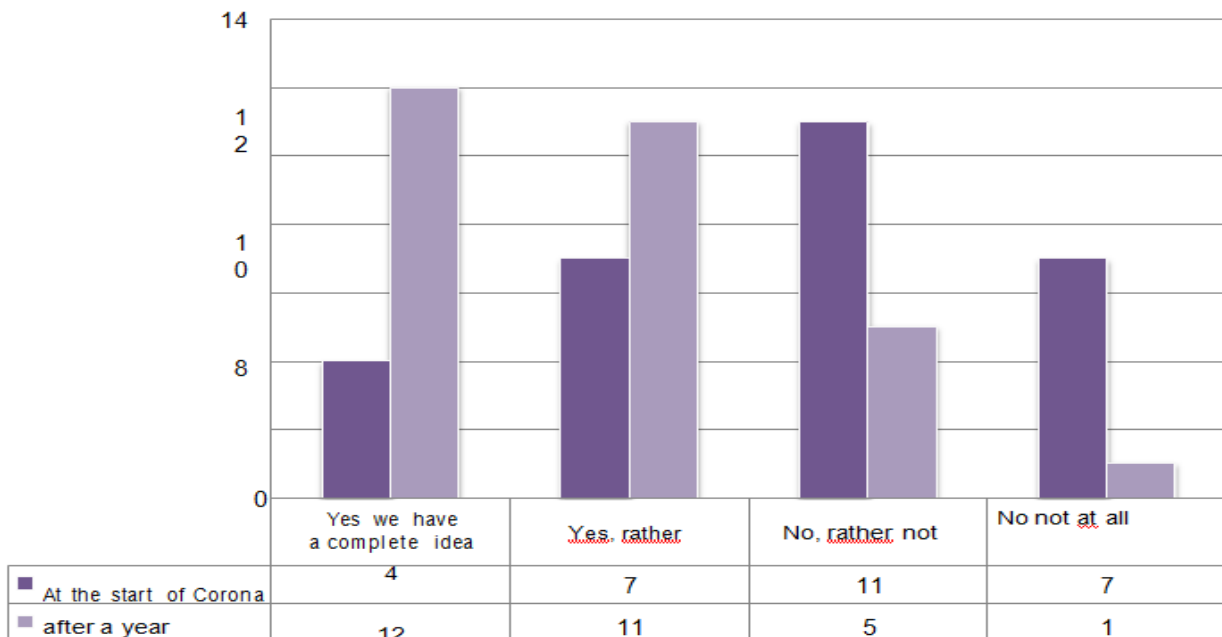
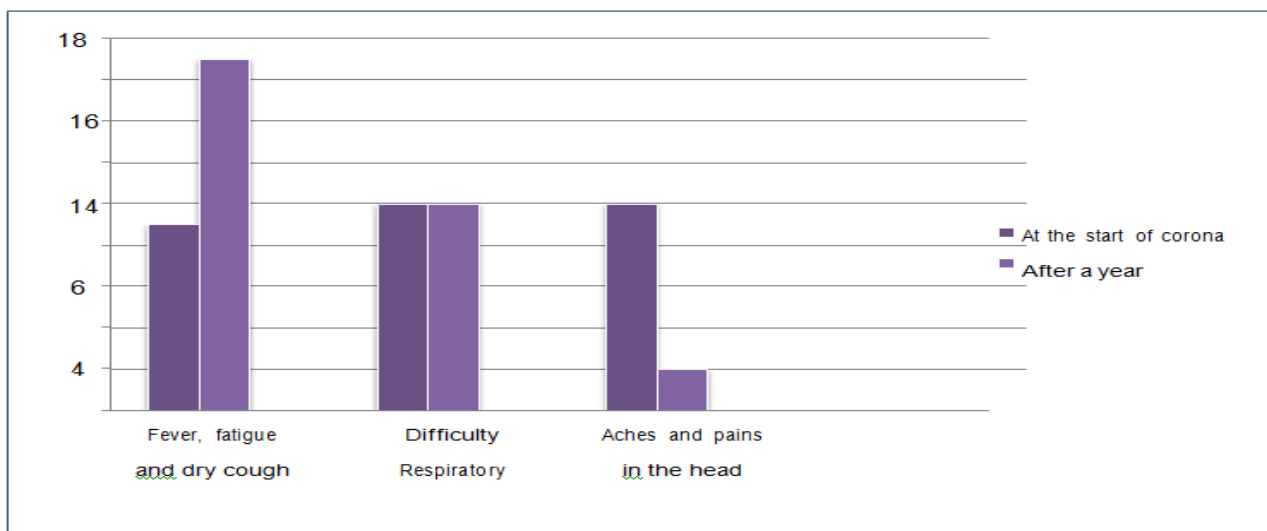


Figure 2: Number of workers who had an idea about the disease and how it is transmitted at the beginning and after one year of the disease (performed by us)

➤ Observation of figure 2:

- We notice in Figure 2 that the employees' responses are different between the two periods (At the start of the illness and after one year of the illness).

- At the start of the illness: (37.93%) of workers said they had a complete idea about the illness, or at least they knew about it, (62.06%) of workers said they had no idea no idea and didn't know how it was transmitted.
  - After one year of illness: (79.31%) of workers said they had a complete idea of the illness, or at least they knew about it and (17.24%) of workers said they had no idea about it. disease and did not know how it was transmitted.
- **Q n+1: What do you think are the following most common symptoms of Coronavirus (COVID-19)?**



**Figure 3: represents the symptoms of covid-19 at the beginning and after the illness.**

➤ **Observation of figure 3:**

- We notice here that the employees' responses are different between the two periods (At the start of the illness and after one year of the illness).
- At the start of the illness: we notice that the employee responses are almost evenly divided where the proportions of the selected responses are very close, these percentages are represented in the following:

1 - Fever, fatigue and dry cough (31.034%) 2 - Respiratory difficulty (34.034%)

2 - Aches and pains in the head (34.482%)

- After one year of illness: we notice that the answers chosen by employees have changed compared to first answers, these percentages are represented in the following:

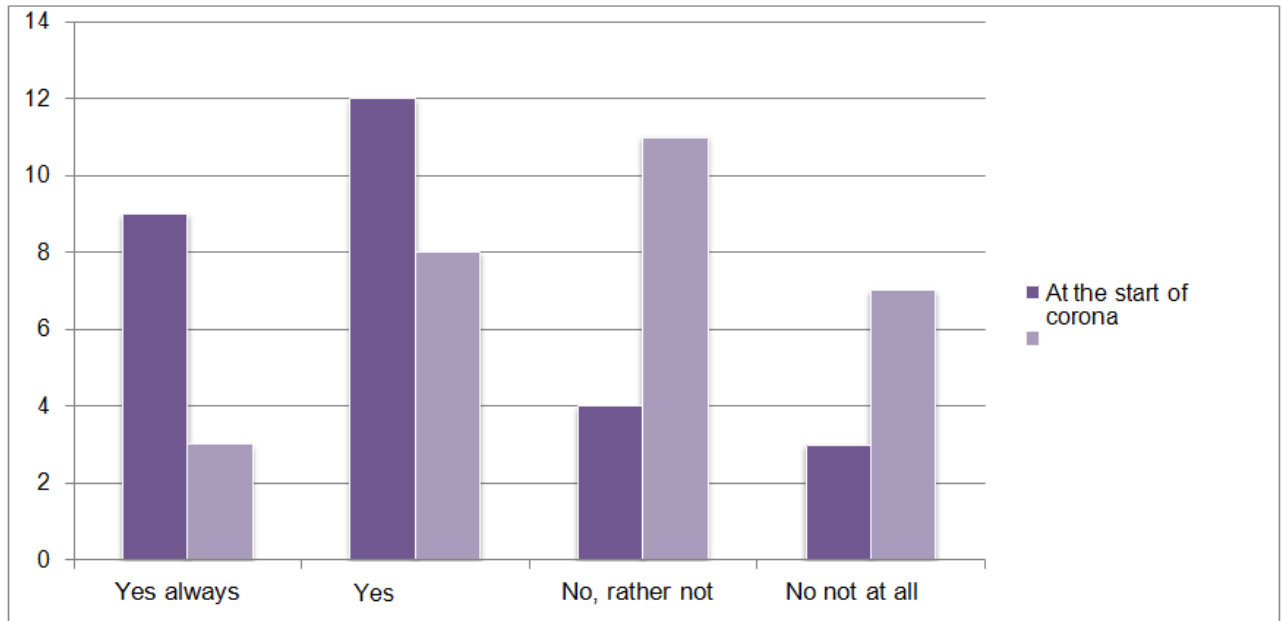
1 - Fever, fatigue and dry cough (58.6206%) 2 - Respiratory difficulty (34.034%)

3 - Aches and pains in the head (6.896%)

As a result, it can be said that the first response percentage increased because most workers were frequently exposed to these symptoms.

As a result, it can be said that the first response percentage increased because most workers were frequently exposed to these symptoms.

➤ **Q n+2: Has the covid19 pandemic increased your stress at work?**



**Figure 4: Number of workers who experienced stress at the start and after one year of illness.**

➤ **Observation of figure 4:**

- We notice that the employees' responses are different between the two periods (At the start of the illness and after one year of the illness).
- At the beginning of the illness: we notice that the percentage of workers who were always stressed (31.034%) or who were sometimes stressed (41.379%) increased compared to the percentage of those who were not stressed at work (24.137% ).
- After one year of illness: we notice that the percentage of workers who have always been stressed (10.793%) or who have been stressed sometimes (27.58%) has considerably decreased (6.896%) compared to the percentage of those who have not. not stressed (62.067%).

As a result, stress among workers increased at the start of the illness because of their fear of infecting with covid19 or transmitting the disease to these families

➤ **Example of some questions asked to HSE managers on the psychological state of employees**

Question number	The questions	Yes	No	emergency level	The observations of the HSE manager.
	Have you got noticed signs of stress psychological in employees during	X			◦ most employees suffer from a little stress at work due to the pandemic.

01	the period of the pandemic?				
02	Have you got noticed signs of depression among employees during the period of the pandemic?	X			° there was a small group of employees who suffered from depression at work cause of covid19

**Table 2: Example (Open questionnaire) of some questions asked to HSE managers**

➤ **Observations from Table 2:**

- After completing our survey, we noticed many changes among workers during the COVID-19 period.
- Among all employees studied, 97.7% said the current Covid-19 coronavirus pandemic had had a detrimental impact on their mental health and 40.8% felt this impact was serious. Among all participants, 68.2% reported that their mental health was impaired after the Covid-19 pandemic and only 13.4% of participants reported that their mental health had become seriously unbearable.
- We notice that the pandemic brings its share of changes and concerns. Work-life balance can pose challenges for many employees, particularly due to family and work constraints, the fear of contracting COVID-19 and transmitting it to family members, as well as the repercussions Financial issues are also among the concerns felt by many workers.
- In response to this situation, a person can develop various reactions related to stress, anxiety or depression. The manifestations of stress are numerous and manifest on several levels:
  1. Psychological: concerns related to the virus and its collateral effects, negative view of things, discouragement, sadness, anger, etc.
  2. Behavioral: crying, irritability, isolation, difficulty concentrating, difficulty making decisions, etc.
  3. Physical: fatigue, headaches, skin problems, gastrointestinal problems, insomnia or sleep disturbances, increased consumption of alcohol, drugs and medications, etc.
- After studying observations in the company, we concluded that psychosocial risks are very high in workplaces, have a significant impact on the lives of workers, their way of working and their productivity.

Therefore, managers must take measures to also preserve the mental health of workers.

**Table 3: Example (Psychotechnical test) some questions asked to employees**

Question number	The questions	Test results
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1	<p>I feel tense or angry</p> <ul style="list-style-type: none"> <li>- Most of the time 3</li> <li>- Often 2</li> <li>- From time to time 1</li> <li>- Never 0</li> </ul>	most employees are often angry
2	<p>I have feelings of fear and my stomach is in knots</p> <ul style="list-style-type: none"> <li>- Never 0</li> <li>- Sometimes 1</li> <li>- Quite often 2</li> <li>- Very often 3</li> </ul>	Most employees are panicking and afraid of the CORONA VIRUS pandemic

➤ **Observation of Table 3:**

The results obtained by this self-questionnaire were evaluated by the clinician on a 5-point scale.

Spearman coefficients were 0.70 for depression and 0.74 for anxiety.

Certain cases for the clinician corresponded to a score of 3 or 4 in his assessment and doubtful cases to a score of 2. Cut-off scores for the two subscales of the HAD were then determined with the following values: 7 or less: absence of cases, 8 to 10: doubtful case, and 11 and more: certain case. Under these conditions, 100 employees were taken into consideration to adjust the scale; for depression we observed 10% false positives and 15% false negatives.

For anxiety, these figures were 60 and 30%, respectively.

**5. Economic impact on the socio-professional experience of employees:**

This section highlights the economic resilience mechanisms deployed by employees to cope with the various economic consequences linked to the occurrence of the COVID-19 pandemic. The analysis reveals two forms of resilience: that relating to people who continue to carry out their economic activities and that relating to people who have lost their job or are ceasing their activity and are waiting for new opportunities. Overall, it appears that the resilience of employees is mainly based on the ability of women to retrain in other sectors of activity or to diversify their sources of income.

**6. Psychological and social impact of the covid-19 pandemic**

This part plans to highlight the various psychological and social problems observed among employees in this context of COVID-19. More specifically, it plans to identify the different types of cognitive and social imbalances that employees experience on a daily basis, as well as the way in which the context linked to the pandemic influences the relationships between the different actors. Table 3 shows that firstly, COVID-19 led to a weakening of relationships (77/216) within the groups they belong to.

**Table 4: Distribution of participants according to the type of impact of COVID-19 at the psychological and social level (by us)**

Categories of	Impact of COVID-19 on a psychological and social level	Total
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actors	Lower self-esteem	Weakeningsocial connections	Physiological suffering	Physical and mental violence	Stigmaeopleinfected	
<b>Women</b>	3	18	16	14	2	<b>58</b>
<b>Youth</b>	10	26	9	10	0	<b>59</b>
<b>Adolescents</b>	7	19	21	19	1	<b>72</b>
<b>Men</b>	2	14	4	4	1	<b>27</b>
<b>Total</b>	<b>22</b>	<b>77</b>	<b>50</b>	<b>47</b>	<b>4</b>	<b>216</b>

### 5.1 Observation of table 4:

According to the participants, the measures adopted reduce physical contact with members of their belonging group (religious, family, ethnic). However, these links functioned before COVID 19 as informal means of social protection, in the event of death, illness or shock, and created a feeling of collective belonging.

These traditional or informal social protection mechanisms are support mechanisms for actors when unpredictable events occur, especially because they do not benefit from a formal protection mechanism.

So these relationships serve as a sort of safety net for them and their maintenance requires the existence of direct interactions between members of the community they belong to: discussing, shaking hands, visiting each other, organizing an activity together, etc. .

Apart from the weakening of the links mentioned above, COVID 19 is creating a resurgence of violence within the professional experience, especially towards adolescents (19/47) and women (14/47).

### 6. Some recommendations:

As illustrated by the results above, despite its health nature, the Covid-19 crisis has had an economic, social and psychological impact on populations in the workplace. Despite institutional, community and individual response initiatives, it appears necessary to adapt to government response measures, to strengthen the implementation of response plans, particularly respect for barrier measures and post-COVID-19 management.

Several proposals are made by employees in view of the constraints and difficulties they have encountered since Covid-19. They carry awareness messages, barrier gestures and government response measures.

Several areas of recommendation should be mentioned, limiting ourselves to the area of our research to prevent psychosocial risks during a health crisis:

- The employer must assess its professional risks by taking into account the potential situations of exposure of its employees to the virus and put in place the necessary actions to avoid the risks of contamination.
- Informing and opening dialogue on the distribution of work during this period is important given the means available and the work to be done.
- Evaluate emergencies and define action priorities for each employee.

- Collect ideas from staff regularly
- Offer internal or external support and help (psychological support, internal or external social service, etc.)
- Offer a space and opportunities to speak, even virtual, to allow dialogue and mutual assistance.
- Identify and generalize the modes of organization and collective regulation which have made it possible to resolve difficulties during the crisis.
- regulate work (adapt objectives, balance workload, adapt prevention measures to actual work, etc.)
- Organize with the occupational health service the dissemination of information and support actions to employees.
- Measures related to preventing the risk of virus contamination must be developed and communicated to all employees (e.g. social distancing measures, cleaning of equipment, etc.).
- Regulate possible tensions between employees.
- Prevent the risks of aggression and violence towards employees
- Develop an effective social dialogue mechanism to improve consideration of the safety and health of workers and working conditions, requirements linked to the Covid-19 pandemic in this company
- Raise awareness about the modes of transmission and reassure agents in the face of fear (fear of falling ill, fear of being a vector of the disease, fear of the future, fear of being stigmatized because of a related contraindication with the epidemic risk, etc.)
- Communicate about barrier gestures and provide the necessary protective equipment.

## **7. Conclusion :**

Adopting a qualitative approach, the objective of this action research is to analyze the psychological consequences of the COVID-19 pandemic for employees of SMEs in the wilaya of Batna.

In companies, employees and managers are not spared from these phenomena, having to suffer in addition to a disruption in their working habits, a fear of being contaminated at their place of work, or the closure of their services depending on sectors, their confinement and major uncertainties regarding the future generate anxiety and depression.

We saw that the stress due to confinement could reveal a fragility that was previously inapparent. Punctual but extremely intense, it can lead to the creation of a picture of post-traumatic stress which will make the person relive the event in a lasting manner in the form of awakenings or repetitive nightmares. Such a feeling can build up after a strictly applied confinement.

The psychosocial risks linked to the COVID 19 pandemic cover professional risks, which harm both the mental and physical health of workers and which have an impact on the proper functioning and performance of businesses as well as on safety. The results of the study demonstrate that employees affected by the COVID 19 pandemic perceive, experience and react differently in relation to perceptions of the disease, government prevention measures, the effects of the pandemic and forms of resilience.

Psychological consequences were observed on the participants in the study, the observed loss of memory, the fear of contamination, of frequenting health centers, disrupting their psychological dispositions.

Its repercussions can be severe among the most vulnerable people or if the conditions in which it takes place are experienced as restrictive, as are its impacts on society and the global economy.

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