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RESEARCH ARTICLE

ASSESSMENT OF THE PSYCHOLOGICAL IMPACT OF AN EPIDEMIC SITUATION (COVID-19) ON THE QUALITY OF LIFE OF A VULNERABLE POPULATION: EXPERIENCE AMONG MOROCCAN ELDERLY

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Abstract

Background: The pandemic coronavirus (Covid-19) currently represents both physical and psychic major risk to public health. The elderly people (aged 60 plus) are the most vulnerable to the coronavirus from the rest of the population. They are in fact more exposed to complications, atypical clinical presentation and therapeutic difficulties. However, this epidemic situation generates stress added to the stress related to their clinical condition, which could negatively affect their quality of life.

Objective: specify if the pandemic Covid-19 and its consequences had a short- and medium-term impact on mental health and quality of life of elderly patients after the introduction of containment measures.

Methods: We conducted an online survey from 09 May to 9 June 2020 through a questionnaire published on social networks using Google Forms and comprising several items, student demographics, overall health, and the elements of the SF-12 quality of life scale.

Results: The study population consisted of 135 elderly subjects. The average age was 65.3 years, 53% were male. 6.7% had a psychiatric history, 61.5% had a somatic illness and 42.2% reported having sleep disorders since the starting of lockdown. In our study, participants had an average scores of physical and mental health (40.62 and 38.63) significantly lower than that of the general population (= 50). Mental health was statistically more impaired in subjects having somatic illness, those who were not used to staying at home. Female gender was associated with physical health impairment. The presence of sleep disturbances has been statistically associated with impaired mental and physical health.

Conclusions: Infection with the Covid-19 is particularly serious in elderly patients with a high risk of death and a negative psychological impact affecting their quality of life. Particular attention should be brought to this vulnerable population and the implementation of various programs to reduce the negative psychological impact and offer them a better quality of life.

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Introduction:-

The pandemic of Covid-19 (SARS-CoV-2) was reported for the first time in Wuhan, China in December 2019, before it spreads rapidly throughout the world, creating a significant risk for both physical and mental health. Indeed, until October 19, 2020, there were over 40 million confirmed cases of Covid-19 and more than 1.1 million deaths worldwide, affecting 189 countries. [1] Therefore, the elderly are particularly vulnerable to the coronavirus from the rest of the population. They are, in fact, more exposed to complications, atypical clinical forms and therapeutic difficulties. Indeed, this epidemic situation generates stress added to the stress related to their clinical condition, which could negatively affect their quality of life.

The concept of quality of life is complex and is still debated. The World Health Organization (WHO) defines quality of life as "an individual's perception of his place in life, in the context of the culture and value system in which he lives, in relationship with its goals, expectations, standards and concerns. It is a multidimensional concept, encompassing in a complex way the physical health of the person, his psychological state, his level of independence, his social relations, his personal beliefs and his relation with the specialties of his environment "[2].

WHO also defines health as : "a state of complete physical, mental and social well-being, and does not consist only of the absence of disease or infirmity". An international intercultural comparison instrument has been developed by the WHO to assess the quality of life in six main areas, which are: physical health, psychological health, level of independence, social relations, environment, spirituality, religion and personal beliefs [2].

The quality of life of the elderly is determined by both objective factors (standard of living, state of health, functional capacities, participation and social contacts, leisure activities, etc.) and subjective (satisfaction with health, meaning of life ...) [3]. Wilhelmson et al [4] studied what older people consider important for their quality of life and the impact of gender, education and health status on individual perceptions. 141 people aged from 67 to 99 years were interviewed about their health, their socio-demographic profiles and what they saw as a quality of life. The study concluded that social relationships, functional abilities and activities influence the quality of life of older people as much as their state of health.

The objective of our study is to determine whether the pandemic Covid-19 and resulting measures had a short- and medium-term impact on the quality of life of a sample of elderly subjects.

Methods:-

We conducted an online survey through a questionnaire posted on Google Forms, during the period from the 09th of May to the 9th of June 2020. The subjects included in the study were older subjects 60 years and more willing to participate in the study. Psychotic and people suffering from dementia and those who refused to participate in the study were excluded. Data collection was performed using a self-administered questionnaire including medical pre socio-demographic data, overall health, and the elements of quality of life SF-12 scale (Arabic version).

In order to assess the quality of life of the participants, we used the available Moroccan Arabic version of the SF-12 scale.

The SF-12 is a generic quality of life scale that explores physical, emotional, and social health. This questionnaire includes 12 items divided into 8 dimensions (physical activity, life and relationships with others, physical pain, perceived health, vitality, limitations due to mental state, limitations due to physical condition and mental health). It is a scale that was constructed from the SF-36 scale, developed and analyzed by John Ware et al [5]. It is widely used in the English language and in 15 other translations and can be administered to patients or the general population.

The SF-12 calculates two scores: a mental quality of life score and a physical quality of life score. We obtain a score varying from 0 to 100; the scores tending towards 100 indicate a better quality of life. A Score greater than 50 thus represents, above the average state of health. In contrast, people with a score of 40 perform below 84% of the population and people with a score below 30 perform below around 98% of the population. The means and standard deviations of the two scores are published for the 9 European countries in which the validation study took place [6].

Data were entered and analyzed using SPSS 20.0 software. We calculated the frequencies and percentages for the qualitative variables, as well as the means, standard deviations for the quantitative variables. For the comparison of means, Student's "t" test was used for the comparison of two means of independent series and the parametric analysis of variance (one-way Anova) for the comparison of several means. For all statistical tests, the significance level p was set at 0.05.

Results:-

During the study period extending from the 09th of May to the 9th of June 2020, we received 153 responses to our questionnaire, after excluding 18 responses (which did not correspond to the age limit of 60 years and over), we kept 135 responses fulfilling the inclusion criteria.

Socio-demographic characteristics:

The socio-demographic characteristics are shown in Table 1. The average age of the participants was 65.3 years (with an age varying from 60 to 89 years), 53% of the participants were male, 76% were married, 47% had a higher education level, 93% lived in family and 91.9% used to stay at home before the lockdown and curfew.

Medical and psychiatric history:

6.7 % of the participants had a psychiatric history, 61.5% were followed for somatic disease and 10.4% had a smoking disorder. 42.2% reported having sleep disturbances since the beginning of the lockdown.

Assessment of mental and physical quality of life:

Table 2 shows the average of the physical and mental health scores assessed by the SF-12. The Physical Component Score (PCS) is 40.62 and the Mental Component Score (MCS) is 38.63, so we see that the average of physical and mental health scores is significantly lower than that of the general population (= 50).

Table 3 shows the results of the analytical study of the various variables studied.

For the quality of mental health, there was a statistically significant difference between participants who used to stay at home before the lockdown and those who did not, the latter having lower scores on the mental score ($p = 0.037$). Participants who were followed for summative illness had a more impaired mental health quality compared to those who did not ($p = 0.040$).

For the quality of physical health, there was a statistically significant difference compared to sex, women had more impaired physical health compared to men ($p = 0.001$).

The presence of sleep disturbances was associated with impaired physical ($p = 0.002$) and mental ($P = 0.002$) health.

There was no statistically significant difference from the other variables.

Discussion:-

To our knowledge, this study is the first to assess the quality of life in elderly subjects during the period of the lockdown in Morocco. Participants in our study had an average physical and mental health scores (40.62 and 38.63) significantly lower than that of the general population (= 50).

Indeed, the lockdown measures applied to limit the spread of the virus can lead to potentially serious complications in the elderly, in whom chronic diseases, reduced mobility, bereavement, mistreatment, social isolation and loss income are major risk factors for depression, in addition to risk factors common to all age groups, besides the prevalence of depression is of 1 to 4% from 65 years [7].

Furthermore the pandemic Covid-19 is characterized by a high mortality rate in the elderly, since it is 3% to 5% between 65 and 74 years, from 4% to 11% between 75 and 84 years, and from 10% to 27% over 85 years. Among hospitalized patients, 45% are over 65 years old and 53% of patients admitted to intensive care units are over 65 years old with a case fatality rate in intensive care of 80% [8].

In our study, 42.2% of participants reported having sleep disturbances since the start of the lockdown, and the presence of these was associated with both physical ($p = 0.002$) and mental ($P = 0.002$).

Several studies have pointed out that the lockdown and the associated consequences (economic, socio-professional, family) can lead to significant disturbances in the biological rhythms of sleep. In fact, the sleep-wake rhythm depends on biological and environmental parameters: in particular exposure to daylight, physical activity during the day and especially in the morning, meals at times, regular and social interactions [9]. During the lockdown period, the majority of these parameters (light, physical activity, diet, social interactions) are totally modified or even eliminated, and as a result sleep disorders can appear [10]. In addition, the lockdown is a significant stressor, which increases the risk of developing symptoms of insomnia or even a sleep disorder. The impact of the lockdown on sleep may be further increased in people living alone, especially in the elderly who represent a vulnerable category [11].

In our study, participants who were followed for chronic illness (61.5%) had a more impaired mental health quality compared to those who did not ($p = 0.040$).

Wong et al [12], assessed changes in feelings of loneliness, mental health problems, and attendance at planned medical services before and after the onset of the COVID-19 pandemic in 583 elderly subjects (≥ 60 years) with comorbidity. They noticed a significant increase in feelings of loneliness, anxiety and insomnia after the onset of the epidemic. Missed medical appointments over a 3-month period fell from 16.5% a year ago to 22.0% after the start of the epidemic. Being a woman, living alone and having more than 4 chronic health problems are factors associated with a tendency to be lonely. Women were more likely to have anxiety and insomnia. In our sample, female sex was associated with impaired physical health ($p = 0.001$).

In our study, the fact that 93% of participants lived with families impact significantly their quality of life.

Van Tilburg and colleagues [13] assessed whether social distancing, personal loss and general threats to society reduced the well-being of 1,679 Dutch people aged 65 to 102 during the Covid-19 pandemic. The results showed that the isolation of the elderly increased, but mental health remained roughly stable. Political measures of physical distancing have not caused much social isolation, but personal loss, concerns about the pandemic, and loss of trust in social institutions have been associated with an increase in mental health issues and especially the feeling of loneliness.

Parlapani et al [14] in their study of the psychological response of the elderly (103 participants over the age of 60) during the acute phase of the pandemic in Greece, showed that a significant proportion of participants reported moderate to severe depressive symptoms (81.6%), moderate to severe anxiety symptoms (84.5%), as well as sleep disturbances (37.9%). Women reported significantly higher levels on the Covid-19 fear scale, more severe depressive symptoms and sleep disturbances, as well as higher levels of intolerance to uncertainty. Participants living alone showed higher levels of loneliness. Intolerance of uncertainty modulated levels of loneliness.

In our study, there was a statistically significant difference between participants who used to stay at home before the lockdown and those who did not for average mental health score, the latter getting scores lower ($p = 0.037$). This could be explained by the fact that the lockdown has radically changed the way people live and significantly limited their physical activity.

Callow et al [15] sought to determine the relationship between the amount and intensity of physical activity practiced by 1046 subjects over the age of 50 living in North America (United States and Canada) and the symptoms of depression and anxiety during the lockdown during the Covid-19 pandemic. Subjects who engaged in higher levels of physical activity experienced lower levels of depression symptoms when age, gender, and education were taken into account; however, no relationship between physical activity and anxiety symptoms was found. Even light physical activity during the Covid-19 pandemic can help cut down the negative impact on the mental health of older adults.

Goethals et al [16] conducted a survey to assess the impact of the lockdown period on physical activity and on the physical and mental health of older people who intend to find alternatives to physical activity programs that could be offered to this population in order to avoid a sedentary lifestyle. They demonstrated that the Covid-19 epidemic affected, before the quarantine measures, the number of elderly people participating in group physical activity programs. In addition, despite the decline in their participation in group physical activities before the quarantine, the

elderly expressed the need to practice physical activity at home, so it is necessary to help them integrate simple means and safe to stay physically active in a limited space.

Bidzan-Bluma and his colleagues [17] were interested in studying the predictors of a good quality of life, well-being and life satisfaction (including risky behaviors, anxiety, sense of threat, quality of sleep and optimism) during the Covid-19 pandemic among elderly Germans and Poles and compared them to three different age groups. Quality of life, satisfaction and well-being during the pandemic are affected by age, anxiety and the threat of the coronavirus. Older people rated their quality of life, satisfaction and well-being during the pandemic higher compared to younger people, and experienced lower levels of anxiety and coronavirus threat than younger people. They exhibited greater risk tolerance, better quality of sleep and optimism, and had less difficulty relaxing compared to middle-aged participants.

Limitations:

Our study has limitations: our sample is relatively small and cannot be representative of elderly subjects, many of whom do not have access to new communication technologies. We did not use other scales to assess the level of stress and the psychological impact in elderly people of the pandemic.

Conclusions:-

Covid-19 infection is particularly serious in older people at a high risk of death.

The containment put in place to limit the spread of this pandemic has had direct deleterious effects in the general population and especially the elderly, especially those with somatic and psychiatric comorbidity.

Particular attention should be paid to this vulnerable population as well as the establishment of various forms of assistance in order to reduce the negative psychological repercussions and to offer them a better quality of life.

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Appendices :

Table 1:- Socio-Demographic And Clinical Characteristics Of The Sample:

Variables	Number of participants (N)	Percentage (%)
Average age (years):	65.3 years	(min =60, max= 89)
Sex :		
Men	71	52.6 %
Women	64	47.4 %
Marital Status :		
Single	3	2.2 %
Married	102	75.6 %
Divorced	6	4.4 %
Widower	24	17.8 %
Level of study :		
unschooled	34	25.2 %
Primary	17	12.6 %
Secondary	21	15.6 %
University	63	46.7 %
Living conditions		
Alone	9	6.7 %
With family	126	93.3 %
Presence of child		
Yes	124	91.9 %
No	11	8.1 %
Habit of staying at home		
Yes	124	91.9 %
No	11	8.1 %
Health Insurance		
Yes	114	84.4 %
No	21	15.6 %
History of somatic disease		
Yes	83	61.5 %
No	52	38.5 %
History of psychiatric disorder		
Yes	9	6.7 %
No	126	93.3 %

Taking psychiatric treatment		
Yes	8	5.9 %
No	127	94.1 %
Sleep disturbances		
Yes	57	42.2 %
No	78	57.8 %

Table 2:- Means of the Physical Component Score (PCS) and the mental Component Score (MCS) assessed by the SF-12 Scale:

	PCS – SF12	MCS – SF12
Mean (M)	40.62	38.63
Standard Déviation (SD)	9.11	10.65
Maximum	57.28	60.79
Minimum	20.34	14.92

Table 3:- Correlation between the variables and the mean of the Physical Component Score (PCS) and the mental Component Score (MCS).

Variables		MCS			PCS	
		Number	Average score	p	Average score	p
Sex	Men	71	39.77	0.19	43.17	0.001
	Women	64	37.37		37.79	
Marital status	Single	3	47.80	0.12	40.25	0.007
	Married	102	39.30		42.10	
	Divorced	3	33.08		36.73	
	Widower	24	36.05		35.35	
Level of study	Unschoolled	34	37.53	0.61	37.24	0.081
	Primary	17	36.32		41.52	
	Secondary	21	39.05		40.69	
	University	63	39.71		42.17	
Living conditions	Alone	9	36.04	0.45	37.52	0.29
	With family	126	38.82		40.84	
Presence of child	Yes	124	38.7	0.92	40.75	0.54
	No	11	38.38		38.91	
Habit of staying at home	Yes	58	40.38	0.037	41.19	0.52
	No	77	36.98		40.19	
Health Insurance	Yes	114	39.37	0.061	41.12	0.13
	No	21	34.64		37.90	
History of somatic disease	Yes	83	37.15	0.040	39.43	0.055
	No	52	41.01		42.51	
History of	Yes	9	34.61	0.24	40.52	0.97

psychiatric disorder						
	No	126	38.92		40.62	
Taking psychiatric treatment	Yes	8	34.34	0.24	40.51	0.97
	No	127	38.90		40.62	
Sleep disturbances	Yes	57	35.29	0.002	35.82	0.002
	No	78	41.08		42.66	