COVID-19 IMPACT ON MEANINGFULNESS OF LIFE, QUALITY OF LIFE AND PSYCHOLOGICAL IMMUNITY

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Abstract

The pandemic period of covid-19 has been a time marked by serious declines in quality of life, affecting pervasively not only physical health but also psychological well-being. The purpose of the study was to examine the state and interrelations of the three following variables – quality of life, meaningfulness of life and the psychologically-based physical immunity. It was hypothesized that all three variables will be positively interrelated and that quality of life will fulfill a focal role in this triad of variables. The sample included 230 individuals who responded to an unanimously administered which included the following three questionnaires (all with confirmed satisfactory reliability and validity): the multidimensional quality of life inventory, the meaning-based meaningfulness of life questionnaire, and the cognitive orientation of health questionnaire. The result showed that all three variables were intercorrelated positively. The highest correlations were obtained for quality of life and meaningfulness of life. The cognitive orientation of health appears to be affected more directly by quality of life, and by meaningfulness of life more indirectly through the relation of the latter with quality of life. The impact of covid-19 on the finings was relatively limited. A major conclusion is that that the basic structure of the three variables was maintained preserving their supportive role in the psychological system.

Keywords: Covid-19, meaningfulness of life, quality of life, cognitive orientation of health, emotion.

1. Introduction

The pandemic of covid-19 has resulted already in 5,555,737 cases and 350,212 deaths worldwide (European Centre for Disease Prevention and Control, January 20, 2022). Evidence from previous large-scale health outbreaks shows that a physical health event of these proportions also impacts the mental health and quality of life (QOL) of the population (Sim & Chua, 2004). Recently published studies show that the pandemic affects seriously the well-being and QOL of populations in different countries (El Keshky, Basyouni, & Al Sabban, 2020), both healthy people and those considered as vulnerable groups (Holmes et al, 2020). Unanimous internet surveys conducted in Israel three times, during the three sequential pandemic waves, with altogether 560 participants (300, 160 100 in the different waves, respectively) showed an increase in despair assessed on a 0-10 scale, from 4.2 to 5.3 to 5.9. Major mentioned causes were fear of disease, need to keep social distance from others, withdrawal from the workplace and uncertainty (Kreitler, 2021). These observations indicate the severity of the impact of the pandemic on QOL. The lockdowns and other restrictions imposed on the population during the outbreak may have been contributing factors. It is likely that reactions of this kind will not disappear fast after the pandemic weakens and will require increased attention of psychological experts. The cited reactions served as basis for the major study that was carried out in the fourth wave of the pandemic in Israel.

2. Objectives

The present study was based on the assumptions that the effects manifested in the QOL are related to two further correlates reflecting one's meaningfulness of life and one's psychologically-based disease immunity. The objectives were to examine the interrelations between these three major variables: QOL, meaningfulness of life, and the psychologically-based physical-health immunity. It was expected that all three variables will be related positively to each other. Hence, the hypotheses were first that QOL will be elated positively to meaningfulness of life (Kreitler, 2016a, 2016b); secondly, that QOL will be related positively to psychologically-based physical immunity; thirdly, that meaningfulness of life will be related to immunity. Additionally, it was assumed that QOL is likely to fulfil the role of a dominant variable relatively to the other two due to its broad theoretical basis (Kreitler & Kreitler, 2006; Kreitler, Peleg & Ehrenfeld, 2006; Niv & Kreitler, 2001).

3. Methods

The design was of a quantitative study with three variables assessed by questionnaires.

3.1. Participants

The sample included 230 participants of both genders, in the age range 27-54 years, who responded to the online address in the period between the first and fourth weeks of the fourth wave. The sample included 130 women and 100 men. The majority were married (75%), lived in urban areas (72%) and when responding to the questionnaires were physically healthy by self reports.

3.2. Tools

Three tools were administered. (a) The Meaning-based questionnaire of the meaningfulness of life (MMOL) (Kreitler, 2016b, c). In contrast to most of the other tools assessing meaningfulness of life which are based on a holistic evaluation of the authenticity, creativity and meaningfulness of life as a whole, the MMOL is based on assessing the specific contribution of particular domains, defined in terms of a comprehensive meaning system (Kreitler, 2022), to the overall meaningfulness of life. It includes 38 items, e.g., to be active, to have many friends, to have a lot of possession. The respondent is asked to rate on a 4-point scale the degree to which the specific item exists in one's life as a contributing element to one's MMOL. The items contribute together one overall score as well as four scores representing the four following clusters of items: those focused on dynamic-actional aspects (actions, functions, manner of operation), perceptual-sensory aspects (colors, forms, weight, material, parts, location, state), experiential aspects (thoughts, beliefs, emotions, experiences) and contextual aspects (causes, results, contexts of belonging, possessions). The reliability was in the range of .78-.85 in different samples. The validity was checked in terms of predicted outcomes, (e.g., Kreitler, 2016a) (b) The multidimensional quality of life (QOL) inventory (Kreitler & Kreitler, 2006) that consists of 53 items referring to one's functioning and state in different domains, e.g., social, cognitive and emotional. Responses were given on a Likert scale of our degrees referring to the degree to which one had the stated property (a lot or a little). The scale provided in addition to one total summative score also scores on 15 scales, defined on he bases of factor analyses and cluster analyses (Table 3 presents the list). The reliability coefficients were in the range of .81-.88 and validity was determined in terms of correlations with other scales and behavior predictions. (c) The Cognitive Orientation of Health (COH) that provided scores on four types of beliefs – about oneself, about others and reality, about goals and wishes and about rules and norms, with 30 items in each, assessing themes underlying one's psychological immunity, e.g., coping with stress. relations with others, attitudes to oneself. The questionnaire's validity was supported by studies which showed that the scores of COH predicted significantly disease occurrence, course of disease, recovery from disease, and reactions to treatments and side-effects for example in regard to cardiological diseases, breast cancer, lymphoma, and the flu (Kreitler, 1997, 1999, 2016b; Kreitler & Richkov, 2015).

3.3. Procedure

The three questionnaires MMOL, QOL and COH were administered anonymously together in the social media, in a random order. It was decided beforehand that the data collection will continue only for four weeks in order to keep the conditions in view of the evolving pandemic approximately without change.

4. Results

4.1. Defining the variables

First, each of the three major variables (QOL, MMOL and COH) was submitted to a statistical procedure for testing the structure of the variables themselves. In regard to QOL factor analysis was performed in two stages. First, the items were submitted to a factor analysis which yielded 15 scales, as in previous applications of the QOL (see list in Table 3). In the next stage, when these 15 scales were further factor analyzed they yielded the following three factors labelled as 'positive emotions', 'functioning in everyday life' and 'negative emotions', accounting for 34.51%, 23.50%, and 10.21%, respectively (see Table 3 for the scales of QOL defining each of the three factors). In regard to MMOL the correlations between the four clusters of actional, perceptual, experiential and contextual aspects were at best of borderline significance. Hence, they were maintained as separate variables in addition to the score based on the total sum. The four variables representing the four belief types of COH were kept as separate variables due to theoretical considerations and low intercorrelations between the variables.

4.2. Descriptive data of the variables

Means and standard deviations (Sd) of the variables: for QOL, M=39.8 (Sd=13.5), for the three factors positive emotions M=17.3 (Sd=4.8), functioning in everyday life, M=11.8 (Sd=4.6), negative emotions M=10.1 (Sd=2.2). For MMOL M=20.3 (Sd=5.1), for actional M=11.4 (Sd=2.5), for perceptual M=11.8 (Sd=1.9), for experiential M= 12.6 (Sd=3.4), for contextual M=14.5 (Sd=3.3). For COH Beliefs about self M=16.4 (Sd=3.5), General beliefs M=14.9 (Sd=3.7), Norm beliefs M=15.2 (Sd=5.5), Beliefs about goals M=13.3, (Sd=4.4).

4.3. Correlations between the variables and their components

Table 1 presents the Pearson correlation coefficients between QOL scores and the MMOL scores. Table 2 complements the information in presenting the Pearson correlation coefficients of QOL with MMOL variables, on the one hand, and with the COH variables, on the other hand. The major findings in Table 1 indicate relations between the total score on MMOL and the QOL scores, both the total score and the scores on the three factors of positive emotions, functioning in everyday life and negative emotions. Notably, the highest correlation was obtained between the total scores of MMOL and QOL. A closer examination of the findings shows that the total score of QOL is related significantly not only to the total score of MMOL but also to the four clusters of MMOL variables, in particular to the contextual and experiential clusters.

Table 1. Correlation coefficients between Quality of Life (QOL) and Meaning-based Meaningfulness of Life (MMOL).

Variables	MMOL total	MMOL action	MMOL perceptual	MMOL experiential	MMOL contextual
QOL total	.39***	.26***	.13*	.31***	.45***
QOL positive emotions	.31***	.17	.15*	.28***	.14*
QOL functioning	.24***	.26***	.19**	.13	.19**
QOL negative emotions	.28***	.14	.22**	.24***	.21**

*p<.05 **p< .01 ***p<.001; Quality of Life is represented by the three major factors.

Concerning the intercorrelations between QOL and the COH, Table 2 shows that the two sets of variables are related first, in regard to beliefs about self (with the total score of QOL, and the factors of positive emotions and functioning in everyday life), secondly in regard to general beliefs and norm beliefs (the factors of functioning in everyday life and negative emotions), and thirdly, in regard to goal beliefs (QOL total score).

There are fewer intercorrelations between MMOL and COH. The most notable ones are between beliefs about self and MMOL total and the experiential cluster, as well as between the cluster of actions and goal beliefs.

Table 2. Correlation coefficients between Quality of Life (QOL) and Cognitive Orientation of Health (COH) and Meaning-based Meaningfulness of Life (MMOL).

Variables	COH Beliefs about self	COH General beliefs	COH Beliefs about norms	COH Beliefs about goals
QOL total	.39***	.16	.13	.31***
QOL positive emotions	.25***	.12	.15*	.17*
QOL functioning	.29***	.23**	.21**	.13*
QOL negative emotions	.10	.28***	.35***	.11
MMOL total	.25***	.08	.13*	.14*
MMOL action	.13*	.13*	.10	.37***
MMOL perceptual	.11	.15*	.17*	.12
MMOL experiential	.34**	.11	.16*	.21**
MMOL contextual	.19**	.18**	. 16*	.11

*p<.05 **p< .01 ***p<.001; Quality of Life is represented by the three major factors.

4.4. Analyzing the interrelations between QOL, MMOL and COH variables by factor analysis

Factor analyzing all the variables in the study, including their components, was undertaken in order to examine in depth their mutual interrelations. The factor analysis yielded the following three factors, accounting together for 68.22%. The major factor is based on two foci: positive emotions

including their contributing scales and the self-including its experiential and sensory aspects, joined by beliefs about self of the COH. The second factor represents negative emotions, including bewilderment and confusion, stress, health worries, supported by two important belief types (general beliefs and norms) of COH. The third factor represents hard-core reality, with emphases on work, action, social relations and contextual aspects of one's life (place, time, possessions).

Table 3. Factor analysis of the variables of QOL, MMOL and COH.

Variables	Factor 1	Factor 2	Factor 3
QOL positive emotions	.875		
QOL sense of mastery	.682		
QOL cognitive functioning	.655		
QOL functioning in the family	.528		
COH Beliefs about self	.491		
MMOL experiential	.463		
MMOL sensory	.459		
QOL sexuality	.382		
COH beliefs about self	.366		
QOL self-image	.312		
QOL confusion and bewilderment		.794	
QOL negative emotions		.672	
QOL physical functioning		.581	
COH general beliefs		.570	
QOL stress		.566	
COH norm beliefs		.563	
QOL Health worries		.472	
QOL body image		.319	
QOL work and profession			.522
QOL social Functioning			.481
MMOL action			.437
QOL entertainment			-.406
COH beliefs about goals			.399
MMOL contextual			.384
Eigenvalue	7.92	5.42	2.35
% of variance	34.51	23.50	10.21

Note. The numbers represent communalities based on rotated varimax with Kaiser normalization. A communality of .300 was considered as the threshold beyond which no further variables were considered in defining the factor.

5. Discussion

The study dealt with three sets of variables: QOL, MMOL and COH. These sets represent specific aspects of three major realms of psychological functioning which are emotions, cognition and health. The findings show that all three sets are interrelated, thereby supporting the three hypotheses of the study. The obtained interrelations were in different degrees and different aspects. The closest interrelations were found between QOL and MMOL. Further, QOL was related to more aspects of COH than MMOL was. However, when considering the close relations of COH with QOL and the close relation of QOL with MMOL, it seems likely to conclude that COH is directly impacted by QOL and only indirectly by MMOL, through the relations of MMOL with QOL.

As was expected, concerning QOL it is of importance to emphasize that it affects both MMOL and COH through its triadic structures of positive emotions, negative emotions and its involvement in the functioning of everyday life.

The findings were also examined for possible effects of covid-19. The search for signs of the impact of covid-19 was undertaken by comparing the results with those of former studies that were available. The major detected effects were the following: the third factor included components that usually did not appear together, such as the actional cluster, social relations, and entertainment which may have been affected negatively in a similar way by covid-19. Other signs were the prominence of bewilderment and confusion that appeared in the second factor in a higher place than negative emotions; the inclusion of body image under the second factor of negative emotions, possibly due to weight issues promoted by the lockdowns; and the lower means of a the actional and perceptual clusters of the MMOL that may have been reduced by the lockdowns relative to the increase in the means of the experiential and contextual clusters that were favored by the different covid-19 restrictions. However, the noted signs are relatively small, while the basic structure of the three variables, especially of the QOL and COH remains

stable. This is in accordance with the expectation that factors that fulfill basic functions in the psychological system are maintained as supportive vectors homeostatically regardless of or in particular when environmental conditions shift (Kreitler, 2005; Kreitler et al., 2005).

6. Conclusions

The major conclusions are that QOL, COH and MMOL are positively related variables, with QOL filling a major and focal role in this triad. All the components of the three variables are involved in the interrelations, which indicates that any attempt at intervention should consider the whole compositional structure of the variables. An important conclusion concerns COH. The findings show that it is related directly by QOL and to MMOL through QOL. The findings show relatively small changes attributable to the impact of Covid-19 while the basic structure and properties of the variables remain stable, maintaining their supportive role and functioning in the psychological system.

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