ISSN 1016-8923

اتحاد الاطباء النفسانيين العرب
ARAB FEDERATION OF PSYCHIATRISTS

المجلة العربية للطب النفسي

The Arab Journal of Psychiatry

المجلد ٣٢ العدد الأول مايو ٢٠٢١
Vo.32 No.1 May 2021

The Arab Journal of Psychiatry
Editorial Board

Instruction to Authors

The Arab Journal of Psychiatry (AJP) is published by the Arab Federation of Psychiatrists since 1989 in Jordan.
The Journal is biannual published in May and November electronically. Original scientific reports, review articles, and articles describing the clinical practice of Psychiatry will be of interest for publication in AJP. The Articles should not be published before. The articles may be written in English or Arabic and should always be accompanied by an abstract in English and Arabic. All Papers are accepted upon the understanding that the work has been performed in accordance with national and International laws and ethical guidelines. Manuscripts submitted for publication in the Arab Journal of Psychiatry should be sent to:

The Chief Editor.

Papers are submitted in electronic form

- Title, running head (Max: 40 letters), title of the article in English and Arabic, the names of authors should be without their titles and addresses in both languages.
- Abstract in English (max: 200 words). It should follow a structured format (objectives, method, results and conclusion). It should be followed by key words (max. 5).
- Declaration of interest after the key words.
- Names of authors, titles, and full addresses and address for correspondence at the end of the paper.
- Acknowledgment of support and persons who have had major contribution to the study can be included after the references.
- Arabic abstract like the English abstract should follow a structured format. In addition, it follows the references section (last page).
- All Pages should be numbered.

Tables

Tables should be typed with double-spaced in separate pages. They should be numbered with Arabic (e.g1, 2, 3) numerals and have a short descriptive headings.

Illustrations

All illustration should be submitted camera-ready; line drawings/diagrams should be approximately twice the size they will appear in the journal.

Reference List

References should follow the 'Van Couver style' only the numbers appear in the text. List them consecutively in the order in which they appear in the text (not alphabetically).

Example of references:

- Zeigler FJ, Imboden, JB, Meyer E. Contemporary conversion reactions: a clinical study. Am. J. Psychiatry 1960: 116:901 – 10.
- Mosey AC. Occupational therapy. Configuration of a profession. New York: Raven Press, 1981.

Mailing Address:

Dr. Walid Sarhan - The Chief Editor -The Arab Journal of Psychiatry
P.O. Box 541212 Postal Code 11937 Amman – Jordan
Tel: 00962 – 6 – 5335446 Fax: 00962 – 6 – 5349763
Email: wsarhan34@gmail.com, wsarhan34@hotmail.com
Journal Website: http://arabjournalpsychiatry.com/

Letter from the Editor

May 2021

Dear Colleagues,

Most of us are coming to accept that the Coronavirus pandemic is shaping our lives in profound and increasingly predictable ways. And, while there is hope there remains also despair in some parts of the world. Let us continue to support a better understanding of the psychosocial consequences and of the resilience arising from the pandemic through our research. We have a role in promoting better public mental health during such times by emphasizing the relationship between social injustice and poor mental health.

There are papers in the current volume of the Arab Journal of Psychiatry that examine experiences of anxiety, depression and coping in Oman, Algeria, Germany and among Arab university students in Israel. Substance use issues are considered in a study from Baghdad, which is a growing concern for the region that we hope can become the focus of further research to establish the most effective ways to address it.

As always, I express my full appreciation to all who contribute to the AJP whether regularly or occasionally and welcome those who have done so, in this volume, for the first time.

Sincerely,

Walid Sarhan

Editor-in-Chief

Amman, Jordan

Table of Contents

Psychiatric aspects of COVID-19

The German Experience

Original papers

Comment on a report

Arabic paper

The Arab Journal of Psychiatry (2021) Vol. 32 No.1 Page (1 - 15) (*doi-10.12816/0058760)*

Anxiety and Coping among Arab Students in Israel during the 2020 Coronavirus Lockdown

Camelia Ibrahim-Dwairy, Marwan Dwairy

القلق والمواجهة لدى الطلاّب الأكاديميين العرب في إسرائيل خلال فترة حجر فترة الكورونا 2020

كميليا إبراهيم-دويري، مروان دويري

Abstract

Many countries adopted a lockdown policy to combat the spread of the novel coronavirus disease (COVID-19). A lockdown constitutes a unique, unpreceded, complex, and ongoing situation of stress. Groups distinguished by ethnicity, age, gender and occupation may experience a lockdown in different ways and at different levels. The current study focused on Arab students studying at Israeli colleges and universities. We administered the State-Trait Anxiety Inventory and a questionnaire we developed to examine Ways of Coping During the Corona Lockdown (CDCL) to 202 male and female Arab students during the coronavirus lockdown in March and April 2020. Contrary to our expectations, our results showed that the students' anxiety decreased during the lockdown. Students used a combination of coping methods. Individual differences emerged in the students' level of state as well as trait anxiety and in the coping ways they used. Our results show that denial avoidance, wishful thinking and goal-oriented coping together with less use of thinking it over are associated with decreasing anxiety, while coping methods involving non-denial avoidance and thinking it over are associated with increasing anxiety. We discuss the theoretical and practical contributions of our study. More studies are needed to examine other ethnic, age, gender and occupational groups and use additional qualitative research paradigms.

Key words: Coronavirus, stress, state-trait, anxiety, coping, Arabs

Declaration of interest: None

Stress and coping

People experience stress depending on their perception and coping ways. Lazarus and Folkman (1984) defined two critical cognitive processes: primary appraisal, through which the individual assesses the meaning of the event, and secondary appraisal, through which the individual assesses the personal and social resources available to deal with the event. These two steps, rather than the event itself, are what determine the level of stress experienced. In addition, they distinguished between two basic categories of ways of coping: problem-focused coping, which focuses on the demands of the situation and is often directed at defining the problem, generating alternative solutions, weighing its costs and benefits and choosing a way of coping. The second group is emotion-focused coping, which focuses on controlling the emotional and physical experience. They developed the Ways of Coping Questionnaire (WCQ) that contains 64 coping items (24 problem-focused items and 40 emotion-focused items).[1] Since then, many scholars have revised this two-factor model of coping and identified other factors as well. Lazarus and other researchers identified eight groups of coping ways: confrontative coping, distancing, self-controlling, seeking social support, accepting responsibility, escape-avoidance, planful problem-solving and positive reappraisal. This revision is necessary when dealing with long-lasting stressful situations in which individuals use a dynamic and changing combination of several coping methods.[2, 3] Sørlie and Sexton[4] used factor analysis to examine the goodness-of-fit and adequacy of several models. They found that the five-factor model is the most appropriate for understanding long-lasting stress among patients under surgical conditions. The five-

factor model is the model we applied in our present research.

Individual differences between people when exposed to threatening situations are related to their personality (trait-oriented), their primary and secondary appraisals, and the ways of coping they employ in a specific situation (state-oriented). Accordingly, Cattell and Scheier[5] applied factor analysis to identify two distinct kinds of anxiety related to stressful situations: state anxiety and trait anxiety. State anxiety is evoked by a perceived stressful situation, while trait anxiety is a relatively stable personality trait. Spielberger et al.[6] developed a self-report inventory that differentiates between trait and state anxiety (STAI). In our study we applied the STAI to assess people's responses during the COVID-19 lockdown.

Culture plays a crucial role in how people experience and cope with anxiety. Research has shown varying prevalence rates among different ethnic, racial and socioeconomic groups.[7, 8] Our study focused on Arab students at Israeli colleges and universities.

Social and cultural background of the Arabs in Israel

The Arabs in Israel comprise about 20.8% of the Israeli population.[9] They are the descendants of the Palestinians who remained in their homeland after the 1948 Nakbah, when the majority of the Palestinian people were expelled or escaped to neighboring countries. The Palestinians who remained in their homeland became a national minority within a Jewish majority. They are subject to racial discrimination, social exclusion and oppression that have negative effects on everyday life in terms of income, unemployment, and harsh living conditions.[10]

Arab society is mostly collectivistic, traditional, authoritarian, and patriarchal.[11] Within this system, family members maintain strong bonds, remain loyal to the family's needs and desires and are emotionally interdependent such that individuals adopt a collective identity or self.[12.]

This type of society is marked by inequalities based on age and gender: Men have power and control over women and children, who are expected to accept the power of men and to submit to the rules of the family.[12,13]

Globalization has exposed Arab society to Western culture, such that in recent decades there has been a partial transition toward an individualistic lifestyle. Nevertheless, the collective nature of society is still dominant, and the family remains the primary support system that provides security as well as economic and other personal needs.[12, 14]

Arab students in Israeli higher education

According to an ICBS report 2016,[15] 67.3% of the Arab students in Israeli institutions of higher education are women. When Arab students begin their studies at an Israeli college or university, they move into a different culture and begin studying in a different language (Hebrew). They must face many challenges because Israeli institutions tend to overlook multicultural aspects and to adopt a Jewish-Western orientation.[13]

While studying at Israeli colleges and universities, Arab students encounter severe and multiple stressors. Some of these are universal, including academic challenges, financial obligations, the problems of living away from home and time pressures.[16,17] Others are unique to the political, social, cultural, ethnic and political context of the Arabs in Israel.[18,19]

This unique cultural and political experience can be considered an ongoing stressful situation that affects the level of anxiety among Arab students during their studies.[7,8,16.17] The current study focuses on understanding the anxiety experienced by Arab students during the coronavirus lockdown and their ways of coping with this anxiety.

Stress during the coronavirus lockdown

This study focuses on the unique and unprecedented period of stress during the coronavirus lockdown (March and April 2020). News of thousands of deaths all over the world streamed every day into every household. Ambiguity, disinformation, and misinformation prevailed in the media and in official declarations and reports. Some people felt they lost control over their lives and lost their ability to foresee and predict the future. The virus posed a threat to people's health, to economic security and indeed to their very lives. The lockdown was marked, for some people, by upheaval in people's familial, interpersonal, and social routines as well as by a great deal of uncertainty where people experience anxiety as normal reaction to uncertainty.[2] Many people

experienced isolation, stigma, anxiousness and feelings of loss (relatives, friends, entertainment). Students were obliged to adapt to a new, remote, virtual learning system.[21, 22]

The period of the coronavirus lockdown affected people in different ways and at different levels. Older people were isolated from their families and friends and suffered from loneliness and lack of support. People from the middle and lower classes found themselves unable to feed their families because their businesses were shut down for months. Children and teenagers found themselves shut up at home with their families. Mothers bore a tremendous burden at home with the whole family expecting them to cook, clean and help the children with distance learning with which they themselves were not proficient. Many people were forced to deal with new technology for which they had no previous training (such as Zoom). On the other hand, many segments of society reported that they thought of the lockdown as a period of rest, vacation, free time and family time when they could read, watch TV programs and soap operas, and work in the garden.

The present study

The theoretical model for our research is a three-component systemic model based on a combination of the theory of Spielberger et al.,[6] which differentiates between state and trait anxiety, and the theory of Lazarus, which associates stress with coping methods.[2,23] The State-Trait-Coping triangle operates within a social field that includes the stress situation (COVID-19 lockdown) and demographic variables (Figure 1).

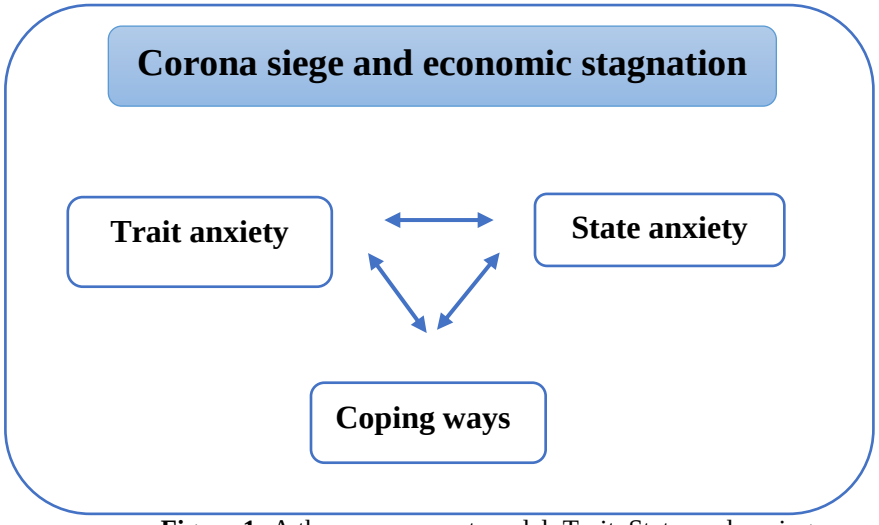

Figure 1: A three component model: Trait, State, and coping

In this research we sought to discover how Arab students experienced the period of the coronavirus lockdown. How did the lockdown influence their state and trait anxiety? Were there individual differences in level of anxiety? How did they cope with this unique experience? What is the relationship between anxiety and their ways of coping with anxiety? Were there individual differences in coping methods?

Accordingly, we posited the following hypotheses:

- State anxiety level will exceed trait anxiety level during the coronavirus lockdown.
- Individual differences will emerge in levels of trait and state anxiety, such that:
  a) Participants from lower socioeconomic strata are expected to experience higher state anxiety.
  b) Married participants who are older and studying for master's degrees are expected to have more duties and burdens than single ones and therefore to experience higher state anxiety.
  c) Female participants who are expected to be more restricted within Arab society will experience higher state anxiety.
- Positive correlations will be found between coping methods and anxiety.

- Students will apply different clusters (profiles) of coping, some that decrease anxiety and others that increase it.

Method

Procedure

During the COVID-19 lockdown in Israel in March and April 2020, we administered three questionnaires (short demographic, state-trait anxiety, and coping methods) to Arab students at Israeli colleges and universities. The questionnaires were administered electronically via Google forms through the students' WhatsApp groups and Facebook pages. We received 202 full responses from BA and MA students studying at different colleges and universities in Israel. We asked them to self-report their anxiety level before and during the coronavirus lockdown and to self-report their ways of coping. All respondents completed all the questionnaires.

Participants

Our sample consisted of 202 students (171 women, 31 men) see Table 1. Women were over-represented in our sample relative to the portion of female students (two-thirds of the Arab student population, ICBS, 2016 [15]. The participants' ages ranged between 18 and 34 years. One-fourth were studying for MA degrees and the others for BA and diploma degrees. The economic level of the participants before the lockdown was 3.45 and after the lockdown was 2.87, as evaluated on a Likert scale of 1=very low, 3=average, and 4=very high. The demographics of age, degrees and economic level were close to the distribution in the overall Arab student population.[15]

Table 1. Demographic description of the sample

Variable		**Frequency**	**Mean**
Gender			
	Female	171 84.7%	
	male	31 15.4	
Age			25.88 SD 8.09
Degree			
	Diploma	7 3.5-%	
	BA	143 70.8%	
	MA	51 25.7%	
Social Status			
	Single	152 75.3%	
	Marries	50 24.8%	
Economic level before Corona			3.45 SD .86
Economic level during Corona			2.87 SD 1.12

Tools

State Trait Anxiety Inventory (STAI):

To answer the question of whether the coronavirus outbreak and lockdown heightened the level of anxiety, we adopted the state-trait model of anxiety and used it to compare the level of state anxiety during the lockdown to personality trait anxiety before the coronavirus outbreak. The State-Trait Anxiety Inventory (STAI), developed by Spielberger et al.[6] is used to assess anxiety in specific stressful situations such as war or tests (state anxiety) as well as the anxiety of normal life (trait anxiety). The STAI contains 40 items that assess anxiety. Respondents answer on a 4-point Likert scale (1=almost never, sometimes, often, and 4=almost always). The inventory is divided into two subscales of 20 items each, with one assessing S-anxiety and the other assessing T-anxiety. Each subscale contains items that describe both the presence of anxiety (e.g., I feel nervous) and the absence of anxiety (e.g., I feel relaxed). The anxiety-absent items are negatively correlated with the anxiety-present items.

In the current study, we applied ten items from the "state-anxiety-present" and ten items from the "trait-anxiety-present" Arabic subscales. For the state-anxiety scale the students instructed to report on their anxiety during the coronavirus lockdown, while for the trait-anxiety scale they were instructed to report on their anxiety during their normal life before the lockdown. The Cronbach's alpha coefficients for "S-anxiety-present" and "T-anxiety-present" were .916 and .801, respectively. The two-factor solution for "S-anxiety-present" with a varimax rotation yielded ten items of "S-anxiety" and five items of "T-anxiety" that explain 57.82% of the variance. Five items of the T-anxiety scale were discarded because they make a better contribution to the Cronbach's alpha coefficient if deleted and because they loaded lower than .45 on the "T-anxiety" factor (Table 2).

Table 2. Loadings in two factor solution of the STAI

S-Anxiety **(Cronbach's alpha=.92)**		
I am tense	**.79**	
I feel strained	**.67**	
I feel upset	**.79**	
I am presently worrying over possible misfortunes	**.69**	
I feel frightened	**.75**	
I feel nervous	**.69**	
I am jittery	**.70**	
I feel indecisive	**.76**	
I am worried	**.87**	
I feel confused	**.78**	
T-Anxiety **(Cronbach's alpha=.80)**		
I feel frightened		**.68**
I feel nervous		**.72**
I feel jittery		**.72**
I feel worried		**.80**
I feel confused		**.75**
Eigenvalue after rotation	**5.74**	**2.94**
% of variance after rotation	**38.25**	**19.57**

Coping Ways during Coronavirus Lockdown (CDCL) Questionnaire

The CDCL is based on the Sørlie and Sexton[4] questionnaire, which was derived from the Ways of Coping Questionnaire.[2,23] The final version of the scale included 26 items, with the best-fit model of five varimax rotated factors accounting for 53.9% of the total variance: wishful thinking, goal-oriented, seeking support, thinking it over and avoidance. The Cronbach's alpha for all scales ranges from 0.75 to 0.81. Wishful thinking, avoidance and thinking it over

appeared to reflect passive coping, while goal-oriented coping and seeking-support coping reflected active coping.

The work of Sørlie and Sexton[4] was based on adults who underwent surgery. The current study examined a unique and unprecedented stressful situation: the coronavirus lockdown. This situation of stress is extremely complex in that it is marked by ambiguity and loss of control and is life threatening and economically threatening as well. Based on this complexity, we decided to expand the range of the items in our CDCL to include specific ways of coping with the coronavirus lockdown in Arab society. The development of the CDCL was done through six stages (See Table 3).

Table 3. Stages of developing the CDCL

Stage 1: The English items of Sørlie and Sexton (4) questionnaire were translated to Arabic and back-translated to English by three bilingual psychologists. The Arabic items were then modified to conform to the original meaning in English.
Stage 2: We conducted personal in-depth interviews with nine Arab students at higher education institutions to examine their ways of coping during the lockdown. Based on the interviews, we identified 15 coping ways relevant to the corona lockdown. Three Arab experts in the field of stress and coping defined each of these coping ways and added another 11 relevant items from the original Ways of Coping Questionnaire.[23,27]
Stage 3: The initial CDCL questionnaire included 52 items. We administered the questionnaire to a convenience sample of 202 Arab students and conducted four factor analyses. The first was a confirmatory factor analysis on the original 26 items from SØrlie and Sexton (4) using the five-factors model. While the five factors explained 57.82% of the variance, the Cronbach's alpha coefficients of three of the five factors were far from satisfactory (.78, .78, .52. .48, and .06).
Stage 4: The second analysis was an exploratory factor analysis on the 52 items of the CDCL. The analysis yielded 12 factors with eigenvalues above 1 that explained 67.41% of the variance. The Scree plot showed five factors that contribute a great deal to the explained variance, supporting the five-factors model. The third analysis was a confirmatory factor analysis based on the Scree plot and the five-factors best-fit model of Sørlie and Sexton (4). We retained the items that were loaded significantly above 0.45 on a given factor and lower than 0.45 on other factors, and discarded items that did not meet this criterion (28). In addition, we discarded items that would enhance the Cronbach's alpha coefficient of the factor if deleted.
Stage 5: The final version of the scale included 36 items for which the best-fit model of five varimax rotated factors accounted for 55.05% of the total variance. As predicted, the items that loaded high on each factor belonged to one of the original factors in the five-factors model (4): avoidance (13 items), wishful thinking (7 items), goal-oriented (7 items), seeking support (6 items) and thinking it over (3 items). The six items in the seeking support factor included giving social support to others, which is unique to the corona lockout. We therefore renamed this factor as social-oriented coping. The avoidance factor, which after rotation accounted for 19.3% of the variance, contained six items with negative loadings and seven items with positive loadings.
Stage 6: We conducted a fourth factor analysis with varimax rotation on the 13 avoidance items and obtained two factors that explain 61.2% of the variance: denial avoidance (6 items) and non-denial avoidance (7 items).

The final CDCL included six identified ways of coping: Denial avoidance, non-denial avoidance, wishful thinking, goal-oriented, social-oriented and thinking it over with alpha Cronbach's alpha coefficients .85, .90, .81, .81, .65, and .64, respectively (Table 4). Three of them are active coping ways (non-denial avoidance, goal-oriented and social-oriented) and three passive coping ways (denial avoidance, wishful thinking and thinking it over). Based on the CDCL, each student was assigned six coping scores that are the means of the pertinent items in each sub-scale.

Table 4. Confirmatory factor analysis of CDCS and Cronbach's alphas

Denial Avoidance ***(Cronbach's alpha=.85)***					
***Refuse to think about it**	**-.759**				
***Minimize seriousness of it**	**-.775**				
***Don't let feelings interfere**	**-.674**				
****Deny the serious threat**	**-.722**				
****Sleep more than I used to before**	**-.667**				
Hide my feelings and behavior from others	**-.550**				
Non-denial Avoidance ***(Cronbach's alpha=.90)***					
***keep feelings to myself**	.720				
****Don't talk to others about the situation**	.670				
****Spend time watching TV series**	.686				
****Escape away from the stress of the family**	.738				
Avoid following the Corona news	.688				
Amused by jokes and hummer about the situation	.727				
Occupy myself with eating sweets and snacks	.763				
Wishful Thinking ***(Cronbach's alpha=.81)***					
***Hope for a miracle**		.684			
***Blame it on fate/luck**		.573		.329	-.322
***Daydream a better time**		.715		.309	
***Wish the situation away**		.755			
***Have fantasies or wishes**		.729			
***Prepare for the worst**		.514			
Find refuge in religion and praying		.649			
Goal Oriented ***(Cronbach's alpha=.81)***					
***Concentrate on what to do**			.632		
***Try to analyze the problem**			.708		
***Bargain or compromise**			.759		
***Look for the silver lining**			.627		
***Say things to oneself that help**			.775		
****Manage my daily program according to a new plan fitting the situation**		.305	.602 .515		
Obey profession's directives (siege, washing, mask)					
Social Oriented ***(Cronbach's alpha=.65)***					
***Talk to someone who could help**				.575	
***Ask advice from relative/friend**				.717	
Increase my efforts and enhance my social performance				.716	
Spend time in activity with family members				.487	
Call to rest assured about relatives and friends				.395	
Take part in volunteering activity to support weak people				.439	
Thinking it Over ***(Cronbach's alpha=.64)***					
***Draw on past experience**					.667
***Focus efforts on solution**					.680
Change my life in the future based on my experience during the siege		-.395			.436
Eigenvalue after rotation	**6.95**	**3.70**	**3.50**	**2.73**	**1.93**
% of variance after rotation	**19.29**	**10.28**	**9.72**	**7.58**	**5.37**

* Original items from Sørlie, & Sexton scale,
** original items from Folkman and Lazarus

Results

The means and standard deviations of the variables are shown in Table 5. The table shows that state anxiety is lower than trait anxiety. The coping ways that were most used were denial, avoidance, and goal-oriented coping, and those that were least used were no-denial, avoidance, and social-oriented coping.

Table 5. Means and standard deviations of the research variables

Anxiety and coping	Mean	Std.
State Anxiety	2.53	.74
Trait Anxiety	3.09	.54
Denial Avoidance	3.30	.57
No Denial Avoidance	1.88	.66
Wishful Thinking	2.59	.59
Goal Oriented	3.07	.51
Social 0riented	1.95	.48
Think It Over	2.36	.77

Demographic variables, coping ways and trait anxiety

To discover how demographic variables and coping ways are associated with trait anxiety, we conducted a multiple linear regression and found that the model is significant with adjusted R^2=.51 [F(12, 188)=18.48, α=.000]. The associations (βs) between wishful thinking and goal-oriented coping ways and trait anxiety were positive and significant [β=.24, T=4.27, α=.000; β=.54, T=9.50, α=.000 respectively]. The demographic variables and the other coping ways exhibited no significant associations with trait anxiety.

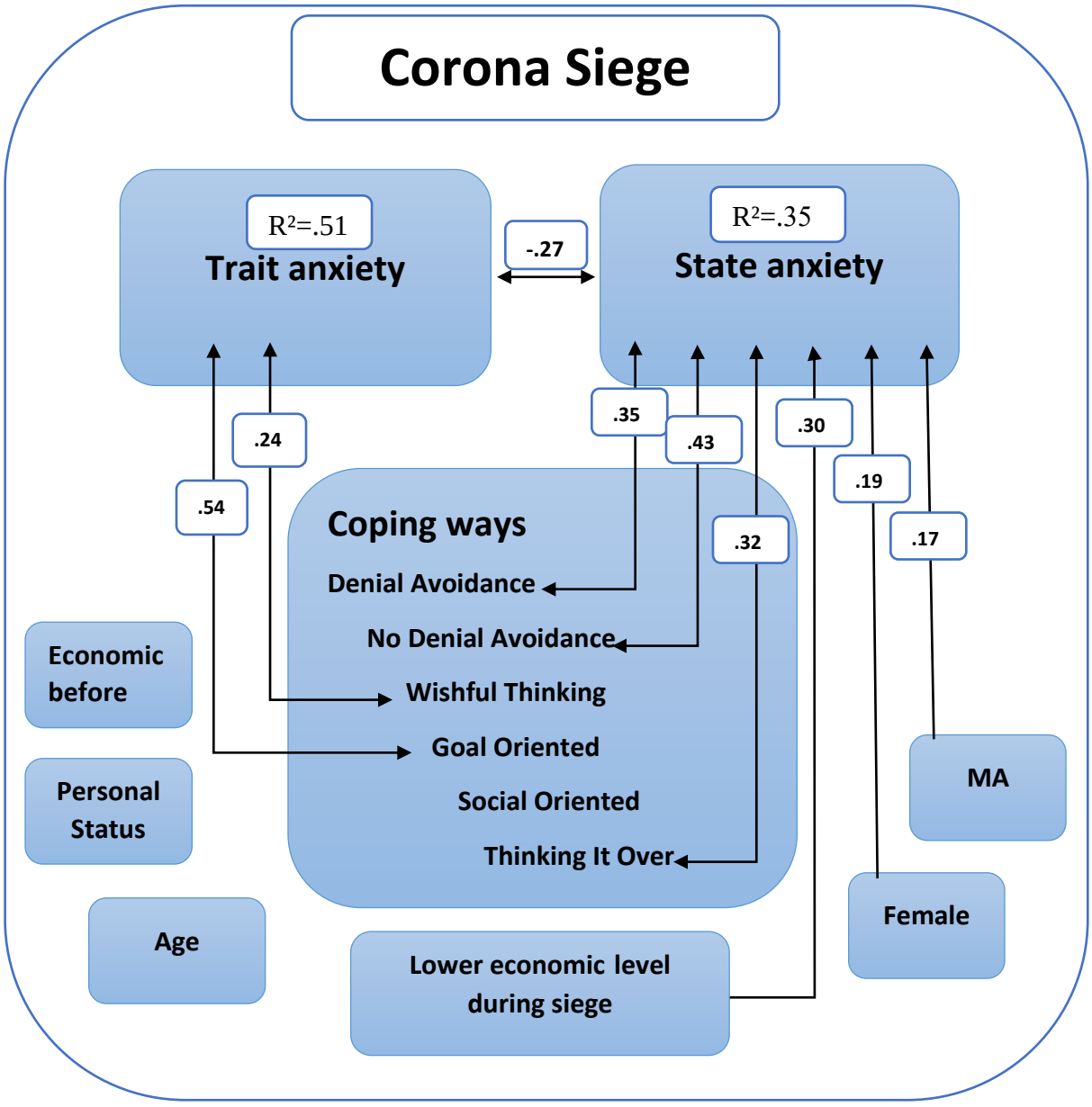

Figure 2. The associations between state-trait anxiety, coping, and background variables

Demographic variables, coping ways and state anxiety during the lockdown

To find out how demographic variables and coping ways are associated with state anxiety, we conducted a multiple linear regression and found that the model is significant with adjusted R^2=.35 [F (12, 188) =9.86, α=.000]. The βs of denial avoidance, non-denial avoidance and thinking it over coping ways were positive and significant [β=.35, T=4.27, α=.000; β=.43, T=5.16, α=.000; and β=.32, T=4.66, α=.000 respectively]. Students who applied denial avoidance, non-denial avoidance and thinking it over exhibited higher state anxiety during the lockdown.

Three demographic variables were associated with state anxiety: gender, academic degree and economic level during the lockdown [β=.17, T=2.43, α=.016; β=.19, T=3.18, α=.002; and -β=.29, T=3.28, α=.001 respectively]. Women who were studying for a master's degree and had a low economic level had higher state anxiety during the lockdown.

Did the lockdown heighten anxiety levels? Were there individual differences?

We conducted a one-way GLM repeated-measures to compare level of anxiety before the coronavirus lockdown (T-Anxiety) with level of anxiety during the lockdown (S-Anxiety). The results showed that T-anxiety (M=3.09, SD=.54) was significantly higher than S-anxiety (M=2.53, SD=.74) [F(1,201)=58.90, α=.000, Eta Sq.=.23], indicating that the students' anxiety level decreased during the coronavirus lockdown. The correlation coefficient between state and trait anxiety was low and negative [R=-27, α=.000].

To identify coping profiles among those whose anxiety increased, remained stable or decreased during the coronavirus lockdown, we calculated the difference between trait and state anxiety (DAnx). Based on a Two-Step Cluster Analysis, we identified three different profiles for these three anxiety groups. Table 6 and Figure 3 show the profiles of each group. Multivariate GLM showed significant differences between the three groups for all coping means: denial avoidance [F(2,198)=74.33, α=.000, Eta^2.=.43], non-denial avoidance [F(2,198)=107.58, α=.000, Eta^2=.52], wishful thinking [F(2,198)=12.68, α=.000, Eta^2=.12], goal oriented [F(2,198)=27.93 α=.000, Eta^2=.22], social orientation [F(2,198)=8.97, α=.000, Eta^2=.09], and thinking it over [F(2,198)=102.68, α=.000, Eta^2=.51]. Post hoc analysis revealed that only for the coping means of wishful thinking, goal oriented, social oriented, and thinking it over did no significant differences emerge between the group of those whose anxiety increased and the group of those who remained stable. All the other differences were significant.

Table 6. Means and standard deviations of ways of coping for three groups

	IncrAnx N=27	**StblAnx N=83**	**DecrAnx N=91**	**Significance**
Anxiety difference (DAnx)	.40 1.05	-.16 .87	-1.19 .72	α=.000
Denial Avoidance	2.38 .56	3.32 .39	3.55 .44	α=.000
Non-Denial Avoidance	3.02 .54	1.86 .42	1.55 .47	α=.000
Wishful Thinking	2.28* .78	2.46* .51	2.79 .53	α=.000
Goal Oriented	2.91* .52	2.83* .45	3.32 .43	α=.000
Social Oriented	2.11* .77	2.07* .37	1.80 .42	α=.000
Thinking It Over	2.94 .76	2.82 .49	1.76 .51	α=.000

* Post hoc show no significant differences

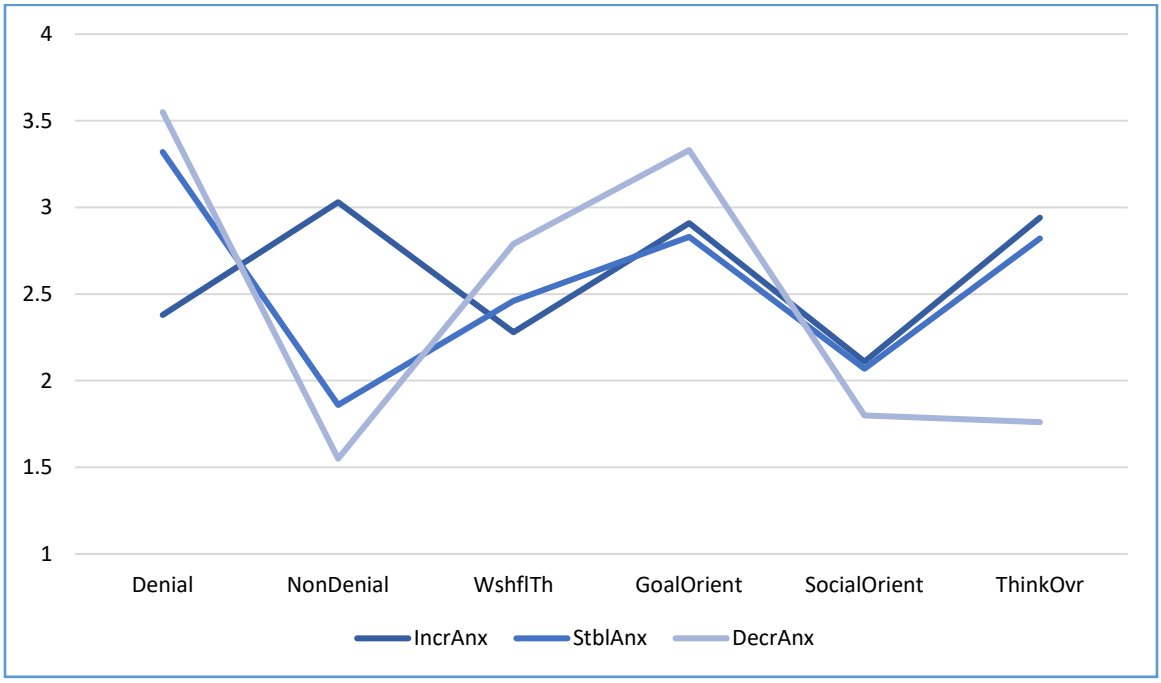

Figure 3. Coping profiles of increased, stable, and decreased anxiety

Figure 3 shows that anxiety increased among students who applied the non-denial and thinking it over coping means. In contrast, anxiety decreased among those who applied denial, wishful thinking, and goal-oriented means of coping. The only significant differences between the group with increased anxiety and the group with stable anxiety emerged for the denial and non-denial coping means, such that the first group applied more non-denial while the second apply more denial.

Discussion

Our research sought to examine state and trait anxiety among Arab students in Israel and the coping methods they employed during the coronavirus lockdown. We used a systemic model consisting of three components: trait anxiety, state anxiety and ways of coping (Figure 1). To measure anxiety, we used the anxiety items of the STAI. To assess coping methods, we devised a questionnaire called Ways of Coping during the Coronavirus Lockdown (CDCL) that includes six ways of coping: three active ways (non-denial avoidance, goal-oriented and social-oriented) and three passive ways (denial avoidance, wishful thinking and thinking it over).

Based on the assumption that the lockdown would be considered a stressful period, we hypothesized that state anxiety during the coronavirus lockdown would exceed trait anxiety before the lockdown. This hypothesis was refuted based on our results showing that state anxiety was lower than trait anxiety (Table 5). This finding indicates that the stress Arab students experience while studying at Israeli colleges and universities is higher than the stress of being at home under lockdown. It seems that academic-related stresses were more significant than stress caused by the coronavirus lockdown. During the lockdown, Arab students were able to cast aside their sense of foreignness and alienation and the moral and identity dilemmas[19,24] they experience on Israeli academic campuses, as well as other stressors aroused by the political, social, cultural, ethnic, and political context.[19]

Our results show that trait anxiety was positively associated with applying wishful thinking and goal-oriented ways of coping but not associated with any

other coping method or any demographic variables. The associations we found may point to a two-way interaction between anxiety and coping, such that students with high trait anxiety apply wishful thinking and goal-oriented coping or that students who use these two ways of coping continue to experience high levels of anxiety (Figure 2). The absence of any association between trait anxiety and the demographic variables may indicate that as a stable personality component, trait anxiety is related to genetic and developmental factors and not to demographic factors such as age, gender, academic degree, marital status, or economic level (Figure 2).

Unlike trait anxiety, level of state anxiety was found to be associated with more coping and demographic factors, indicating that it is more dynamic than trait anxiety (Figure 2). Our hypotheses concerning the associations between demographic factors and anxiety was partially corroborated: State anxiety was associated with gender, academic degree, and economic level during the lockdown. It was higher among women, MA students and those with lower SES during the lockdown. The effect of gender and academic degree may be attributed to the fact that most Arab women pursing master's degrees are married and have multiple obligations as housewives and mothers, placing an additional burden on them during the lockdown. State anxiety was positively associated with denial avoidance, non-denial avoidance and thinking-it-over. Here, too, the association is two-directional.

Our hypothesis concerning the association between coping means and anxiety was partially corroborated: Positive associations were found between trait anxiety and two specific ways of coping - wishful thinking and goal-oriented - and between state anxiety and three specific ways of coping - denial avoidance, non-denial avoidance and thinking it over. These findings point to differential coping for these two different types of anxieties. It seems that wishful thinking and goal-oriented ways tend to be trait-oriented methods that are associated exclusively with trait anxiety, while denial avoidance, non-denial avoidance and thinking it over are more dynamic and state-oriented ways of coping. This finding regarding differential and exclusive ways of coping with state and trait anxiety is another indication that state and trait anxiety are two substantially different types of anxiety.[5,6] The correlation between the two anxieties was low (R-.27). Moreover, trait anxiety was more stable than state anxiety, which was influenced by more coping and demographic factors.

The ways of coping used the most were denial, avoidance, and goal-oriented methods, while those least used were no-denial, avoidance, and social-oriented coping (Table 1). The low use of social-oriented coping within a collective society may be somewhat surprising considering that the family collective appears to serve as a supportive environment. Yet, in fact, the family may apply added pressure, especially during stressful periods,[12] such as the coronavirus lockdown, leading students to employ other solitary means of coping. One interesting finding is that both groups of coping methods - trait-oriented and state-oriented - include coping methods focusing on emotions together with those focused on problem-solving. The trait-oriented group includes wishful thinking (emotion-focused) and goal-oriented coping (problem-focused). The state-oriented group includes denial avoidance and non-denial avoidance (emotion-focused) and thinking it over (problem-focused).

Using this combination of problem-focused ways (goal-oriented) and emotion-focused ways (denial avoidance) seems reasonable in a complex and ongoing situation of stress, such as the coronavirus lockdown. The situation included controllable aspects, such as using the Zoom platform to manage study and learning assignments and adhering to protective measures that necessitated goal-oriented ways of coping (e.g., concentrate on what to do, look for the silver lining and manage my daily program). It also included uncontrollable aspects related to the spread of the virus and the behavior of others, which necessitate emotion-oriented coping methods (e.g., refuse to think about it, deny the serious threat and sleep more than I used to). This combination of coping methods is consistent with the work of other scholars,[3,25] who postulated that individuals do not cope by using either emotion-focused or problem-focused ways but rather through a combination of both.

The negative correlation coefficient between state and trait anxiety (R=-.27) indicates that many of those with higher trait anxiety experienced a decrease in their state anxiety during the lockdown (Figure 2). To examine the coping means associated with this anxiety fluctuation, we conducted a cluster analysis and found three different coping profiles associated with increasing, stable, and decreasing anxiety. Figure 3 shows that increasing anxiety is associated with

employing non-denial and thinking it over coping means, while decreasing anxiety is associated with employing denial, wishful thinking, and goal-oriented means and with low use of thinking it over. Those who maintain a stable level of anxiety differ from those whose anxiety increases on two coping methods only: They employ more denial and fewer non-denial means. It seems that denial is more effective than preoccupation by distracting activities such as watching TV. The three coping means applied by those whose anxiety decreased are analogous to well-known wisdom in Arab culture. One of the main teachings of Islam calls upon believers to do what is reasonable [Aeqil] (goal-oriented) and rely on God [Tawakal] (denial and wishful thinking).[26] These results support the notion that coping is a complex process that encompasses behavioral and cognitive responses and, in most cases, entails interaction between different coping actions and episodes.[23]

The major strength of our study is that it is among the earliest studies to address the special case of stress during the coronavirus lockdown. The study developed a specific questionnaire to examine ways of coping during the coronavirus lockdown that can be applied in future studies. One limitation of our study is its use of a selective sample of Arab students with an overrepresentation of women limits the ability to generalize our results for the whole population. Another limitation is that it is based on self-report, which limits the validity of our measures due to memory distortion, denial processes and social desirability influences.

Our results encompass both theoretical and practical considerations. Our findings contribute to understanding anxiety processes and ways of coping during situations of complex and ongoing stress such as the coronavirus lockdown. The results may help in constructing guidelines to help people find better ways of coping with this kind of stress. Our tools can be used by clinicians and counsellors in academic institutions attended by Arab students to identify the level and type of anxiety and the ways of coping and to adjust their interventions accordingly.

Future research should examine other ethnic, age, gender, and occupation groups, use additional tools such as interviews and field observations, and apply qualitative research paradigms.

Conclusion

This research examined state and trait anxiety among Arab students in Israel and the coping methods they employed during the coronavirus lockdown in March-April 2020. Based on our results state anxiety was lower than trait anxiety indicating that the stress Arab students experience while studying at Israeli colleges and universities is higher than the stress of being at home under lockdown.

The ways of coping used were a combination of problem-focused ways and emotion-focused ways, which seems reasonable in a complex and ongoing situation of stress such as the coronavirus lockdown. We found that decreased anxiety is associated with using more denial avoidance, wishful thinking and goal-oriented ways of coping while using thinking it over less, while increased anxiety is associated with using more non-denial avoidance and thinking it over coping means. Denying the uncontrollable threat, maintaining hope, and doing whatever is possible serve to decrease anxiety, while being preoccupied with distractions from the threat and at the same time continuing to think about it increase anxiety.

As the stress related to the coronavirus continues, we expect more changes in anxiety level and coping methods, thus necessitating ongoing study and research.

References

1. Lazarus RS, Folkman S. Stress, appraisal and coping. N. Y. Springer Inc. 1984.
2. Folkman S, Lazarus, RS. Stress processes and depressive symptomatology. J Abnorm Psychol. 1986;95, 107-113.
3. Mitrousi S, Travlos A, Koukia E, Zyga S. Theoretical approaches to coping. Int. J Caring Sci. 2013;6(2), 131-137.
4. Sørlie T, Sexton HC. The factor structure of "The Ways of Coping Questionnaire" and the process of coping in surgical patients.

Personality and individual differences. 2000; 30:961-975.
5. Cattell RB, Scheier IH. Anxiety and motivation: Theory and crucial experiments. In: Spielberger, CD, editors. Anxiety behavior; 1966. p. 23-62.
6. Spielberger CD, Gorsuch R, Lushene R, Vagg P R, Jacobs GA. Manual for the State-Trait Anxiety Inventory (Form Y). Palo Alto, CA: Consulting Psychologists Press. 1983.
7. Abbasi A, Stacks J. Culture and anxiety: A cross-cultural study among college students. J. Professional Counselling: Practice, Theory and Research 2007;35(1): 26- 37.
8. Peleg O, Messerschmidt-Grandi C. Differentiation of self and trait anxiety: Across-cultural perspective. Int J Psychol. 2019;54(6)816-827.
9. Israeli central bureau of statistics. Demographics. Retrieved from https://www.cbs.gov.il/en/subjects/Pages/Population.aspx. 2018.
10. Rouhana N, Sabbagh-Khoury A. Memory and the return of history in a settler-colonial context: The case of the Palestinians in Israel. Int. J Postcolonial Studies. 2019;21(4): 527-550.
11. Haj-Yahia, MM. Can people's patriarchal ideology predict their beliefs about wife abuse? The case of Jordanian men. J Community Psychol. 2005;33(5): 545-67.
12. Dwairy M. From psycho-analysis to culture-analysis: A within-culture psychotherapy. London, England: Palgrave Macmillan Press; 2015.
13. Al-Haj M. Education in the shadow of conflict: Cultural hegemony vs. controlled multiculturalism. J Curriculum Inquiry. 2005 spring: 47-71.
14. Haj-Yahia, MM. In Haj-Yahia, M, Nakash O, Levav I, editors. Mental Health and Palestinian Citizens in Israel. The Palestinian family in Israel: Its collectivist nature, structure, and implications for mental health interventions. USA: Indiana University Press 2019.p 97-120.
15. Israel central bureau of statistics [Israel CBS]. Statistical abstract of Israel. Retrieved from: https://www.cbs.gov.il/en/publications/Pages/2016/Statistical- Abstract-of-Israel-2016-No-67.aspx.
16. Gnilka B, Ashby J S. Comparison of coping, stress, and satisfaction between Taiwanese and U.S. college students. J Ment Health Couns. 2015;37(3)234-49.
17. Chen Ch. Common stressors among international college students: Research and counseling implications. J College Counselling: Professional Issues. 2011;49-65.
18. Arar K. Academic spheres, students' identity formation, and social activism among Palestinian Arab students in Israel campuses. J Divers High Edu. 2017;10(4):366-80.
19. Graziano K. The everyday realities of Palestinian college students living and studying in Israel: A photovoice study. Int J Progres Educ. 2014;10(1):32-45.
20. Gudykunst WB. (2005). Theorizing About Intercultural Communication. Thousand Oaks: SAGE Publications, Inc.
21. Brooks JSK, Webster R, Smith L, Woodland L, Wessely S, Greenberg N, et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence, Lancet. 2020;395 (10227), 912-20.
22. Hadar LL, Ergas O, Alpert B, Ariav T. Rethinking teacher education in a VUCA world: Student teachers' social-emotional competencies during the Covid-19 crisis. Eur J Teach Educ. 2020. https://doi.org/10.1080/02619768.2020.1807513
23. Folkman S, Lazarus, RS. If it changes it must be a process: Study of emotion and coping during three stages of a college examination. J Pers Soc Psychol. 1985;48:150-170.
24. Ara K, Haj-Yehia K. Higher education and the Palestinian minority in Israel. New-York, NY: Paglrave Macmilan. 2016.
25. Folkman S, Lazarus RS. An analysis of coping in a middle-aged community sample. J Health Soc Behav. 1980;21:219-239.
26. Dwairy M. Personality, culture and Arab society: A psychological study. Jerusalem, Israel: Al-Noor Press (Arabic).1997.
27. Folkman S, Lazarus RS. Stress processes and depressive symptomatology. J Abnorm Psychol. 1986;95:107-113.
28. Zwick WR, Velicer WF. Comparison of five rules for determining the number of components to retain. Psychol Bull. 1986; 99:432-442.

الملخص

دول كثيرة قامت بتطبيق الحجر الصحي على السكان في فترة انتشار فايروس الكورونا .(COVID-19) هذا الحجر يشكل كرباً نفسياً مميزاً، غير مسبوق، مركباً، ومتواصلاً. خبرة المجموعات الإثنية، العمرية، الجندرية والمهنة في هذ الحجر ربما تكون مختلفة. البحث الحالي يتركز في خبرة الطلاب العرب الذين يدرسون في الجامعات الإسرائيلية. لقد تم تمرير مقياس حالة وسمة القلقState-trait anxiety ، واستمارة أخرى لقياس طرق المواجهة الخاصة في فترة الحجر ل 202 طالب وطالبة عرب خلال فترة الحجر في آذار ونيسان 2020. نتائج البحث دلت، بعكس التوقعات، بأن مستوى القلق قد انخفض عند الطلاب والطالبات العرب في فترة الحجر. لقد استعمل الطلاب والطالبات تشكيلات مركبة من طرق المواجهة وظهرت فوارق فردية ذات دلالة في حالة القلق وفي سمة القلق وفي طرق المواجهة. النتائج أظهرت أن استعمال التحاشي والإنكارdenial avoidance ، التمنيwishful thinking ، والمواجهة الرامية للهدف goal-oriented والتقليل من التفكير المتواصل thinking it over ارتبط مع انخفاض درجة القلق، بينما استعمال التحاشي الواعي non-denial avoidance والتفكير المتواصل thinking it over ارتبط مع ارتفاع درجة القلق. المقال يوضح القيمة النظرية للبحث ويقترح إجراء أبحاث أخرى على مجموعات إثنية وعمرية وجندرية ومهنية واستخدام طرق بحث كيفية.

Corresponding author

Dr Camelia Ibrahim-Dwairy (Ph.D) - Oranim Academic College - Israel

Email: ib.camelia@gmail.com

Address: Eriz 22, Nof Hagali - Israel

Authors

Dr Camelia Ibrahim-Dwairy, (Ph.D) - Oranim Academic College - Israel

Professor Marwan Dwairy, Oranim Academic College - Israel

The Arab Journal of Psychiatry (2021) Vol. 32 No.1 Page (16 - 20) (doi-10.12816/0058761)

The Social Determinants of Mental Health, the Pandemic and Social Justice

Rob Poole, Sadia Nafees

المحددات الاجتماعية للصحة العقلية والوباء والعدالة الاجتماعية

روب پُول، سعدية نفيس

Abstract

The SARS-CoV-2 (COVID-19) pandemic has highlighted the central importance of social determinants of health to human welfare. This highly infectious disease has followed well-recognized patterns whereby people who have poor personal and financial resources are most at risk of contracting the disease, and of experiencing poor outcomes, including death, when they do. Unless action is taken across the world, the long-term socio-economic consequences of the pandemic are likely to lead to a wave of mental illness, as it is now well established that disorders such as psychosis are strongly associated with childhood exposure to disadvantage, and that the association is probably causal. There is good reason to believe that action to reduce inequality will mitigate this risk. Inequalities apply both within nations and between nations. Disadvantage aggregates in such a way that disasters such as the Beirut Harbor explosion of August 2020 particularly affect populations already struggling with multiple health challenges. Psychiatrists should take a role in promoting better public mental health by emphasizing the relationship between social injustice and poor mental health to employers, policy makers and the public.

Keywords: mental health, social determinants, social justice, pandemic, inequality

Declaration of interest: None

Introduction

Over the last few decades, it has been convincingly demonstrated that inequality, social justice, and health (physical and mental) are intimately connected and cannot be separated.[1,2] It has been known for two hundred years that psychosis particularly affects people living in urban poverty. Throughout most of the twentieth century, psychiatry tended to see the relationship between mental illness, poverty and social inequality as an association that had to be controlled for in order to understand supposedly more fundamental causal factors, such as genetics. More recently, social conditions, particularly those experienced during childhood, have emerged as likely causal factors for mental disorders of all types.[3] In high income countries, it is well established that growing up in urban poverty or as part of an ethnic minority are major independent risk factors for developing psychosis in adulthood.[4] Although the evidence is not complete (as it never can be), we have known enough for some time to justify action to prevent psychosis through public health measures.[5] It is important to recognize that the greatest burden of mental health morbidity lies within Low- and Middle-Income Countries (LMIC), and that the public health imperative for greater equality transcends national boundaries.

Since the emergence of the COVID-19 pandemic, a massive global research effort has been mounted to understand the virus and to develop technical means of preventing its spread. At the time of writing, it is a task that is by no means complete. Similarly, within mental health, it has been important to understand the immediate mental health consequences of the pandemic, such as the neuropsychiatric complications of COVID-19 infection and the psychological impact of lockdowns, bereavement and trauma (especially for health personnel and children). However, the longer-term risk of persistent and wide scale global public health problems related to increases in inequality between social groups and between nations/regions are equally as important.

The known effects of inequality mean that if we fail to act there are likely to be long-term increases in incidence and prevalence of major mental illness, particularly psychosis. In a worse-case scenario, this could mimic the early 19th century epidemic of mental illness that accompanied the industrial revolution and overwhelmed the European care facilities of the time. That epidemic led to the establishment of European mental hospitals and the birth of modern psychiatry. On this occasion, the population affected would likely be much larger, akin to a mental health pandemic. Set against this gloomy prospect is the fact that this is not inevitable. There are realistic measures that can mitigate such an outcome, but it will require a major international effort to avoid it. Psychiatrists across

the world can be effective agents to prevent it if they chose to be.

Social determinants of health

Many commentators have expressed a hope that the convulsive effects of the COVID-19 pandemic will allow the world to reboot; to remake itself as a more just, equal and rational place. The World Health Organization (WHO) defines Social Determinants of Health (SDH) as "conditions in the places where people live, learn, work, and play that affect a wide range of health risks and outcomes".[6,7] SDH profoundly affect the health of individuals and societies. All major international and regional public health organizations recognize the importance of SDH in addressing the challenges posed by both chronic non-communicable diseases and communicable disease crises, including the evolving global 2020 pandemic.

The pandemic

The current world crisis has illuminated the importance of SDH. Social inequality and injustice are not the sole cause, but they are the primary determinants of who is most likely to suffer and die from COVID-19-related illness. Low, middle- and high-income countries all confront the same reality, that the patterns of the burden of COVID-19 closely map social inequalities.[8]

In high income countries (HICs), where we have the best data, the poorest section of the urban population and people belonging to ethnic minorities face the highest risk of infection and, once infected, of death. Crowded living spaces, multigenerational living arrangements and poor working conditions contribute to further stress related to lockdowns and social distancing.[9] Obesity, diabetes and smoking-related diseases are COVID-19 mortality risk factors and are highly correlated with poverty in HICs.[9-11] Old age is the only major general population mortality risk factor that is not closely associated with low income. Although data is not available from all parts of the world, it is almost certain that similar factors operate in Low- and Middle-Income Countries (LMICs), especially in those settings where structural health inequalities are exacerbated by armed conflict and socio-economic dislocation.

The suggestion that the pandemic is a great leveler has been discredited. As the situation has progressed, it has exposed fault lines in the fabric of societies across the world.[12] In the UK, a report by the Office for National Statistics (ONS) of COVID-19 mortality rates by area level of deprivation[13] shows a clear social gradient. Mortality is proportional to area deprivation. Similar trends can be seen in other countries.[14] Even Sweden, one of the most equal of HICs, conforms to the pattern. In Stockholm, the infection rate was found to be 3-4 times higher in socioeconomically disadvantaged areas compared to the regional average.[9]

Public Mental Health

The UK's 2020 Marmot review[15] concluded that political policies of austerity had very likely contributed to worsening health inequalities. Consequently, the UK faced the pandemic with already struggling health and social services. UK ONS analyses suggest that over half of cases in people of African, Pakistani and Bangladeshi background can be attributed to multiple deprivation,[13] rather than genetic or cultural factors. Similar issues affect other high-income countries. In the United States, black people form 13% of the population, but CDC reported that they make up 28% of COVID-19 cases and 33% of hospitalizations. Hispanic/Latino and other disadvantaged groups are similarly overrepresented.[8,16-18]

Societal responses, such as lockdown and work from home, amplify health and social inequalities, including job and food insecurity.[19] Whilst almost everyone welcomes the huge global effort to develop COVID-19 vaccines, these less well publicized SDHs create a public health imperative. We need to reduce inequalities and achieve greater health equity. This should have been recognized by governments long ago with regard to chronic diseases, including mental illness, in HICs and LMICs alike.[1, 2]

Marmot describes a paradox whereby health ministers have responsibilities for health and health services but lack authority to address the key determinants of health. The WHO has a similar dilemma as it is governed by national ministers of health. Improvements in health

require universal health coverage and, critically, improvement in the conditions in which people are born, grow, live, work and age.[20] This applies everywhere.

Prevention of mental disorders and of infection

In psychiatric practice, we focus on individual-level risk factors, biological and psychological. The same factors are seen to be relevant to doctors treating COVID-19 infection. In both cases, a neglect of SDHs limits the effectiveness of prevention and mitigation measures.[21] The living circumstances of marginalized groups increase disease burden in terms of risk of developing the disorder and of experiencing poor outcomes. Effective and equitable interventions can only be designed and implemented if their design takes the social origins of disease into account and prioritizes those populations most at risk.

Awareness of regional, cultural, linguistic and ethnic diversity are relevant when planning effective responses to COVID-19 and its likely mental health sequelae. We know that addressing the SDH can help avert the societal costs in LMICs and mitigate infrastructural insufficiencies in health systems.[22,23] The Ebola crisis in Africa highlighted this, whereby a sudden rise in cases can cripple a fragile health system.[24-26] The effectiveness of an early response in mitigating the current pandemic amongst the lower socioeconomic groups was evident in a study reported from China.[27] The National Healthcare Security Administration and Ministry of Finance levied all out-of-pocket medical expenses for patients confirmed to have COVID-19 (later applied to all suspected cases). The removal of a perverse financial barrier to medical treatment also prevented the amplifying consequences of impoverishment. There are lessons concerning the similar barriers to mental health care, which can have long-term health consequences for the individual and for those close to them, particularly their children.

What should psychiatrists do?

We cannot expect a massive transnational change in public and policy thinking about health unless we, the health professions, are effective in promoting an approach that emphasizes social justice, cooperation between social and health sectors, and the applicability of the public health lessons of the pandemic to all areas of human health, including mental health.[23,28]

The penalty of failure will be harsh. Unless coordinated responses can be organized by international bodies, the world is unlikely to escape disasters such as major famines in the short- to medium-term. In the longer-term, a sharp increase in destitution appears likely for a significant proportion of people in HICs and, to a greater extent, in LMICs. Timely action to address social determinants and improved accessibility of basic health care are critical. Inaction now will have long-term consequences.[27] These changes are not utopian dreams. Spending on biomedical health interventions is considerably less effective in improving health than measures that address SDH. The United States illustrates this. The USA has some of the worst overall population health indices amongst HICs despite very high spending on health care (17.7% of GDP in 2018 versus OECD average 8.8%).[29,3]

It seems clear that change will not happen spontaneously. So far, the evidence about 2020 suggests that deep seated inequalities have been amplified. In some parts of the Arab world, such as Syria and Yemen, the pandemic has been worsened by conflict and displacement. The huge explosion in Beirut in August 2020 illustrated how misfortune aggregates. A country with a strong case to be considered one of the birthplaces of civilization has suffered from the effects of regional conflict, and economic and political crises. These problems have made responses to the pandemic more difficult to organize. The explosion did not occur when and where it did by chance. It was a consequence of a series of prior misfortunes.[31] The tendency for disadvantage to aggregate affects countries and individuals alike. Those parts of the world most likely to see a sharp increase in mental illness due to the pandemic in years to come are those areas where mental health care has long been scarce.

If we are going to mitigate the risk of a global mental illness crisis, hoping for the best is not enough. Psychiatrists must take the lead in pressing for action in the interests of public mental health. Inequality and social justice must be understood as public health priorities as well as political issues. Political and economic tolerance of increases in poverty (as has been seen in the UK since 2010) are false economies.[12]

'Health Equity in England: The Marmot Review 10 Years On'[15] painted an alarming picture in the run-up to the pandemic. Over 10 years there had been a slowdown in the increase in life expectancy; worsening inequalities in life expectancy between more and less deprived areas; and

a decline in life expectancy in women in the most deprived areas.[15] By way of comparison, much of London was bombed during World War II and those who survived were traumatized. The war was followed by a period of economic austerity. Nonetheless, that UK generation was healthier than their predecessors, because the effect of their traumatic experiences was outweighed by an increase in social equality and welfare provision. It is shameful that UK health gains made in the 1940s are threatened in 2021.

Conclusions

Like all medicine, psychiatry should be about relieving human suffering. Providing effective care for people with mental illness is an important and legitimate part of what we do. For most branches of medicine, from gerontology to pediatrics, prevention is understood to be a priority of equal importance. For a variety of reasons, psychiatry has been persistently negative about the prevention of mental illness. Even where the desirability of achieving it is acknowledged, it is often dismissed as idealistic and unattainable. All prior assumptions have been stood on their head during 2020, and there is a new global emphasis on using public health measures to save lives and to keep nations functioning. Psychiatrists must take their place in the effort to prevent mass mental health casualties due to the socio-economic aftermath. We must articulate the case for treatment and for social justice as the two irreducible components of a mental health strategy. We must argue this case to our employers, within our professional organizations and to policy makers. We have no vaccines, but neither did John Snow when he ended a 19th Century cholera epidemic in Soho, London by removing the handle from the Broad Street pump.[32] Like him, we should argue that social conditions can and should be changed to protect and improve health, including mental health.

References

1. Wilkinson RG, Pickett K. The Spirit Level: Why More Equal Societies Almost Always Do Better: Allen Lane; 2009.
2. Marmot M. The Health Gap: The Challenges of an Unequal World. 1st ed. London: Bloomsbury Publishing; 2015 10-09-2015. 400 p.
3. Murray RM. Mistakes I Have Made in My Research Career. Schizophren Bull. 2016;43(2):253-6.
4. Pearce J, Rafiq S, Simpson J, Varese F. Perceived discrimination and psychosis: a systematic review of the literature. Soc Psychiatry Psychiatr Epidemiol. 2019;54(9):1023-44.
5. Poole R, Higgo R, Robinson CA. Mental Health and Poverty: Cambridge University Press; 2013.
6. World Health Organization. About Social Determinants of Health. 2020.
7. Bukhman G, Mocumbi AO, Atun R, Becker AE, Bhutta Z, Binagwaho A, et al. The Lancet NCDI Poverty Commission: bridging a gap in universal health coverage for the poorest billion. The Lancet. 2020;396(10256):991-1044.
8. Macharia PM, Joseph NK, Okiro EA. A vulnerability index for COVID-19: spatial analysis at the subnational level in Kenya. BMJ Glob Health. 2020;5(8):e003014.
9. Burström B, Tao W. Social determinants of health and inequalities in COVID-19. Eur J Public Health. 2020;30(4):617-8.
10. Jordan RE, Adab P, Cheng KK. COVID-19: risk factors for severe disease and death. BMJ. 2020;368:m1198.
11. Sommer I, Griebler U, Mahlknecht P, Thaler K, Bouskill K, Gartlehner G, et al. Socioeconomic inequalities in non-communicable diseases and their risk factors: an overview of systematic reviews. BMC Public Health. 2015;15(1):914.
12. Marmot M, Allen J. COVID-19: exposing and amplifying inequalities. J Epidemiol Community Health. 2020;74:681-2.
13. Office for National Statistics. Deaths involving COVID-19 by local area and deprivation. London 2020.
14. Cox C. Older Adults and Covid 19: Social Justice, Disparities, and Social Work Practice. J Gerontol Soc Work. 2020:1-14.
15. Marmot M. Health equity in England: the Marmot review 10 years on. BMJ. 2020;368:m693.
16. Dorn Av, Cooney RE, Sabin ML. COVID-19 exacerbating inequalities in the US. The Lancet. 2020;395(10232):1243-4.
17. Centres for Disease Control and Prevention. Demographic Trends of COVID-19 cases and deaths in the US reported to CDC. US Government 2020.
18. Whitehead M, Barr B, Taylor-Robinson D. COVID-19: we are not "all in it together"-less privileged in society are suffering the brunt of the damage. BMJ Opin. 2020.
19. Connors C, Malan L, Canavan S, Sissoko F, Carmo M, Sheppard C, et al. The lived experience of food insecurity under COVID-19: A Bright Harbour Collective Report for the Food Standards Agency. In: Agency FS, editor. 2020.

20. Marmot M, Allen J. Health priorities and the social determinants of health. EMHJ-East Mediterr Health J. 2015;21(9):671-2.
21. Afifi RA, Novak N, Gilbert PA, Pauly B, Abdulrahim S, Rashid SF, et al. 'Most at risk' for COVID19? The imperative to expand the definition from biological to social factors for equity. Prev Med. 2020;139:106229.
22. Ataguba JE. COVID-19 Pandemic, a War to be Won: Understanding its Economic Implications for Africa. Appl Health Econ Health Policy. 2020;18(3):325-8.
23. Ataguba OA, Ataguba JE. Social determinants of health: the role of effective communication in the COVID-19 pandemic in developing countries. Global Health Action. 2020;13(1):1788263.
24. Kruk ME, Myers M, Varpilah ST, Dahn BT. What is a resilient health system? Lessons from Ebola. The Lancet. 2015;385(9980):1910-2.
25. Kieny M-P, Evans DB, Schmets G, Kadandale S. Health-system resilience: reflections on the Ebola crisis in western Africa2014; 92(850).
26. O'Hare B. Weak health systems and Ebola. The Lancet Global Health. 2015;3(2): e71-e2.
27. Wang Z, Tang K. Combating COVID-19: health equity matters. Nature Medicine. 2020;26(4):458-.
28. Smith JA, Judd J. COVID-19: Vulnerability and the power of privilege in a pandemic: Australian Health Promotion Association; 2020.
29. Centers for Medicare and Medicaid Services. National Health Expenditure Data. USA: US Gov; 2019.
30. Tikkanen R, Abrams, MK. US health care from a global perspective: higher spending, worse outcomes? USA: The Commonwealth Fund; 2020.
31. Abouzeid M, Habib RR, Jabbour S, Mokdad AH, Nuwayhid I. Lebanon's humanitarian crisis escalates after the Beirut blast. The Lancet. 2020.
32. British Society for Immunology. John Snow's pump (1854). 2020 [cited 2020 23 Oct.]; Available from: https://www.immunology.org/john-snows-pump-1854

الملخص

ان جائحة كورونا المتحورة لعام 2019 قد كشفت عن الأهمية المركزية للمحددات الاجتماعية للصحة ورفاهية الناس. هذا المرض شديد العدوى قد اتبع نمط مميز بشكل خاص حيث ان الاناس ذوي المصادر الشخصية المالية الصغيرة كانوا هم الأكثر عرضه للإصابة بالمرض وتكون خبراتهم بالمخرجات ضعيفة، ويشمل الوفاة. مالم يتم اتخاذ عمل عبر العالم فإن العواقب الاجتماعية الاقتصادية طويلة الأمد للجائحة على الاغلب ستؤدي الى موجة من المرض النفسي، وقد أصبح من الثابت الان ان الاضطرابات كالذهان ترتبط بقوه مع التعرض لمحن الطفولة، وأن هذه العواقب ربما تكون سببيه. هناك سبب جيد للاعتقاد ان العمل لتخفيف عدم العدالة سوف يخفف من هذه الخطورة. عدم العدالة تكون في الدولة الواحدة وبين الدول، المساوئ سوف تتفاقم بطريقة ان الكوارث مثل تفجير مرفأ بيروت في أب/أغسطس 2020 قد أثر بشكل خاص على السكان الذين يصارعوا العديد من التحديات الصحية النفسية. الأطباء النفسيين يجب ان يأخذوا دوراً في الترويج للصحة النفسية العامة ومن الأفضل التركيز على العلاقة بين عدم العدالة الاجتماعية وضعف الصحة النفسية، وذلك لأصحاب العمل وصانعي السياسات والقرارات والجمهور.

Corresponding author

Professor Rob Poole, Professor of Psychiatry, Centre for Mental Health and Society, Bangor University - UK

Email: r.poole@bangor.ac.uk

Authors

Dr Sadia Nafees, Research Officer, Centre for Mental Health and Society, Bangor University - UK

Professor Rob Poole, Professor of Psychiatry, Centre for Mental Health and Society, Bangor University - UK

The Arab Journal of Psychiatry (2021) Vol. 32 No.1 Page (21 - 28) (doi-10.12816/0058762)

Impact of COVID-19 on Experiences of Anxiety, Depression, and Coping Ability in Oman

Eman Elsheshtawy, Ahmed Qoura, Amani AlRaisi, Sirous Golchinheydari, Alaa Mahfouz, Miriam Simon

دراسة تأثير وباء الكوفيد على انتشار القلق والاكتئاب واستراتيجيات المواجهة المرتبطة به بين العمانيين

ايمان الششتاوى، احمد قورة، امانى الرئيسية، سيرس جولشنهيدارى، الاء محفوظ، ميريام سيمون

Abstract

Background: The COVID-19 pandemic has severely disrupted the social and economic activities of the world as it forced most countries to lockdown with many consequences. **Objectives:** The current study assessed the impact of lockdown on the experiences of stress, anxiety, depression, and coping ability in a cohort in Sohar, Sultanate of Oman. **Method:** A cross sectional study involved 289 participants who completed a socio-demographic questionnaire along with the Perceived Stress Scale (PSS), the Hospital Anxiety and Depression Scale (HADS), and the COPE Inventory. **Results:** In total, 227 (78.5%) participants reported moderate to high levels of stress; 62 (21.4%) reported high anxiety; and 40 (13.8%) had moderate to severe depression. Coping strategies were mean 65.1 ± 12.9. the highest was acceptance (6.2 ± 1.6) followed by positive reframing, religion (5.8 ± 1.7). Anxiety correlated with denial (r^2.230, p .001) while depression was negatively correlated with active coping (r^2-135, p.021). Being a woman and single predicted anxiety. **Conclusion:** There is high use of coping strategies which relatively mitigate the effects of stress. Vulnerable groups should be offered support.

Key words: pandemic, stress, anxiety, depression, coping, Oman

Declaration of interest: None

Introduction

The COVID-19 pandemic has taken the entire world by storm within economically poor and rich countries. Though critical physical symptoms are experienced by patients, the psychological impact of the disease seems also to be widespread. Most nations in the world remain in lock down. There have been drastic shifts in people's routines and socialization opportunities whilst society more widely face additional restrictions imposed to control the spread of infection.[1,2] The most commonly reported emotional challenges include panic reactions, stress, anxiety, worry, depression and loneliness.[3,4] In addition, insomnia, denial, anger and fear have been reported globally.[5] Across the globe, suicides have been linked to COVID-19 and experiences of heightened psychological distress.[6]

The many strains of coronavirus could induce psychopathological sequelae through direct viral infection of the central nervous system (CNS) or indirectly via an immune response. Other factors include the development of peripheral immunological alterations with increased levels of pro inflammatory cytokines that resemble the changes that happen in people experiencing major depression.[7]

The correlation that exists between stress and coping strategies is well researched in that stress responses are different depending on the type of coping strategies used.[8,9] Coping strategies refer to the cognitive and behavioral efforts people use to reduce stress. According to the effectiveness of different coping skills used, people may achieve acceptance and peace or experience depression, anxiety, and feelings of anger.[10] In Arab countries, research on the impact of the recent pandemic on the use of coping strategies is limited so far.

The current study aimed to assess the impact of COVID-19 and lockdown in the Sultanate of Oman on people's experiences of anxiety, depression, stress, and coping ability in order to establish which factors might predict the development of anxiety or depression.

Methods

A cross sectional study was conducted through the College of Medicine and Health Sciences in Sohar, Sultanate of Oman from March-May 2020. All scales were distributed online and as paper forms after obtaining approval from the ethics and biosafety committee (NU/COMHS/EBC0016/2020). These were distributed by students to family members, neighbors and friends. The purpose of the research was explained; informed consent obtained. Exclusion criteria included anyone below 18 years of age; anyone having a known psychiatric, neurological illnesses, chronic medical condition, or intellectual disability. A convenience sample comprised 289 participants who responded to a sociodemographic questionnaire and the following outcome measures:

Perceived Stress Scale (PSS)

This self-reported questionnaire assesses perception to stressful life situation over the last month. An Arabic translated and back-translated version was used.[11,12]

The Hospital Anxiety and Depression Scale (HADS)

An Arabic version was used with a score of 12 or more denoting possible anxiety or depression. The cut-off point had a sensitivity of 0.89 and a specificity of 0.75.[13,14]

COPE Inventory[15]

The COPE Inventory is a multidimensional coping inventory to assess the different ways in which people respond to stress. An abbreviated, Arabic version was used, which included 28 items scored from one ("I haven't been doing this at all") to four ("I've been doing this a lot"), exploring 14 strategies. Higher scores reflect a higher tendency to implement the corresponding coping strategies.[16]

Statistical analysis

Data were analyzed using the Statistical Package for the Social Sciences, Version 15.0 (SPSS, v15.0) where descriptive and analytic analyses including mean and standard deviations, for comparison of quantitative and qualitative variables, respectively. Pearson correlation coefficients were used to detect associations between variables, a p value of < 0.05 was considered significant. Stepwise regression analysis was used to determine which factors predicted anxiety or depression.

Results

A total of 289 participants completed the study: 196 (67.8%) women and 93 (32.2%) men. The mean age was 28.3 ± 10.8; 141(61.8%) were single and five were separated (2.2%). All were educated where 180 (62.3%) were college graduated, 250 (86.5%) of middle socioeconomic class.

Of the 289 participants, 227 (78.5%) reported experiencing moderate to high stress levels; 62 (21.4%) elevated level of anxiety; and 40 (13.8%) reported high level of depression (Table 1).

Table 2 shows a statistically significant correlation between perceived stress with anxiety (r^2= 164, p=.005) and depression (r^2= .258, p=.005). Participants reported greater use of coping strategies (Table 3) with a mean of 65.1 ± 12.9. Acceptance (6.2 ± 1.6) was the most endorsed category followed by positive reframing and religion both of which were (5.8 ± 1.7) followed by distraction and active coping (5.4 ± 1.7). The least endorsed category was substance use (2.3 ±.99).

The correlation between stress, anxiety, depression, and coping strategies is shown in Table 4. Perceived stress correlated with total coping (r^2.118, p .044), denial (r^2.184, p.002), behavioral disengagement (r^2.135, p.021), self-blame (r^2.180, p.002). Anxiety correlated with acceptance (r^2-.171, p .003), denial (r^2.230, p .001), while depression was negatively correlated with emotional support (r^2-.199, p.001), active coping (r^2-135, p.021), religion (r^2-.170, p .004), acceptance (r^2 -.215, p .001).

Table 5 and 6 show that predictors of anxiety and depression where predictors of anxiety with the presence of depression (beta.393), female gender (beta -.716), single (beta -.152), using denial (beta .166) or self-blame (beta -.136) coping strategies. Depression predictors were presence of anxiety (beta .423), high perceived stress (beta .229), younger age (beta -.236), being separated (beta .178) and less use of planning (beta -.170).

Table 1. Levels of perceived stress, anxiety and depression

	Perceived stress		**Anxiety**		**Depression**	
	No	**%**	**No**	**%**	**No**	**%**
No	0	0	162	56.1	198	68.5
Borderline	62	21.5	65	22.5	51	17.6
Moderate - High	227	78.5	62	21.4	40	13.8

Table 2. Correlation between perceived stress with anxiety and depression

	Anxiety	**Depression**
Perceived stress	.164**	.258**
p value	.005	.001

** Highly significant $p<.01$

Table 3. Brief cope scores by sub-scale

	Minimum - Maximum	**Mean ± SD**
Self-distraction	2 - 8	5.4 ± 1.7
Active coping	2 - 8	5.4 ± 1.6
Denial	2 - 8	4 ± 1.5
Substance use	2 - 8	2.3 ± .99
Emotional support	2 - 8	4.6 ± 1.7
Informational support	2 - 8	4.5 ± 1.5
Behavioral disengagement	2 - 8	3.5 ± 1.6
Venting	2 - 8	4.4 ± 1.6
Positive reframing	2 - 8	5.8 ± 1.7
Planning	2 - 8	5.3 ± 1.7
Humor	2 - 8	3.8 ± 1.8

Acceptance	2 - 8	6.2 ± 1.6
Religion	2 - 8	5.8 ± 1.7
Self-blame	2 - 8	3.8 ± 1.8
Total	28 - 112	65.1 ± 12.9

Table 4. Correlation between perceived stress, anxiety, depression, and coping strategies

	Perceived stress		**Anxiety**		**Depression**	
	r^2	**p**	**r^2**	**p**	**r^2**	**p**
Self-distraction	.078	.187	.037	.535	-.062	.294
Active coping	.041	.484	-.050	.400	-135*	.021
Denial	.184**	.002	.230*	.001	.057	.332
Substance	.007	.907	.111	.060	-.043	.470
Emotional support	-.053	.367	-.051	.392	-.199**	.001
Informational support	.610	.304	-.072	.220	.150*	.011
Behavioral disengagement	.135*	.021	.071	.232	-.039	.508
Venting	.121*	.041	.087	.141	-.055	.353
Positive reframing	.075	.203	-.052	.376	-.181*	.002
Planning	.060	.310	.001	.980	-.179*	.002
Humor	.083	.158	.111	.061	-.036	.541
Acceptance	-.068	.251	-.171**	.003	-.215**	.001
Religion	.014	.819	.002	.970	-.170**	.004
Self-blame	.180*	.002	.090	.125	-.009	.880
Total	.118*	.044	.035	.558	-.183**	.002

*significant $p<.05$

** Highly significant $p<.01$

Table 5. Predictors of anxiety in the studied population

	B	Beta	T	P
Depression	.464 ± .069	.393	6.733	.001
Gender	-2.123 ± .715	-.716	-2.969	.003
Substance use	.953 ± .356	.163	2.680	.008
Marital status	-1.601± .611	-.152	-2.619	.009
Denial	.681 ± .258	.166	2.644	.009
Self-blame	.438 ± .208	-.136	-2.130	.034

R^2= .264 Dependent factor: anxiety

Table 6. Predictors of depression in the studied population

	B	Beta	T	P
Anxiety	.358 ± .048	.423	7.426	.001
Stress	.175 ± .043	.229	4.074	.001
Planning	-.479± .153	-.170	-3.024	.003
Age	-.104 ± .031	-.236	-3.389	.001
Marital status	1.582 ± .626	.178	2.528	.012
Substance use	-.653 ± .280	-.132	-2.327	.021

Discussion

The current study was conducted in Sohar, Sultanate of Oman. The aim was to assess the impact of lockdown on the experiences of stress, anxiety, depression and associated coping strategies in a group of people contacted through the College of Medicine and Health Sciences.

A high proportion of those studied (78%), reported having experienced significant levels of stress with more than 20% reporting moderate to severe anxiety symptoms. Moderate to severe depressive symptoms were present in 13%, which suggested a correlation between the anxiety, depression, and levels of perceived stress. This is supported in recent studies which suggest a circular relationship between high psychological distress, anxiety and depression where perceived threat leads to negative mood and irritability in response to an existing situation that exacerbates the threat response.[17,18,19] In one study a linear continuum was discussed in which fear, anxiety, depression and suicidality were associated with the coronavirus lockdown.[20] Most studies in Arab countries found higher rates for depression than for anxiety.[21,22] The lower incidence of depression may be due to greater ability for using emotion, problem solving, and coping strategies within the Omani population.

The duration of quarantine together with lack of information and supplies, fear of infection, frustration, boredom, stigma and financial loss would increase the risk of having negative psychological consequences.[19] Social isolation was found to increase the risk of having depression or anxiety.[23,24]

There was significant use of different coping strategies mainly acceptance, positive reframing, religion, and

distraction. These strategies are considered important for managing stress.[25] As evident from the results, most participants reported significant levels of stress, but used strategies that mitigate stress and minimize its consequences such that fewer developed anxiety or depression. This was supported by recent studies that a greater focus on media, eating, cooking, and similar served as a distraction and that avoidance or emotion focused strategy tended to decrease stress.[26,27] A further study supported the role of physical activity on reducing the stress of COVID-19.[28]

Individuals with significant levels of perceived stress and anxiety used denial and avoidance as ways of coping, which can be beneficial when dealing with high levels of stress to eliminate negative mood, avoid thinking about stressful events. The presence of denial was found to predict high stress and anxiety.[29,30]

On the other hand, depression was negatively correlated with emotion and coping strategies, such as religion, emotional support, acceptance; and problem-solving strategies, such as active coping, planning, positive reframing. This was similar to recent studies which suggest depression is negatively correlated with certain positive strategies that focus on the future, goal setting and broadening experience.[31,32]

From the social factors that predicted anxiety and depression were female gender, being single or separated and young age. This was supported by recent studies done in Egypt, Jordan, Saudi Arabia and Oman which concluded that female gender increases the risk for developing anxiety due to social factors of losing supporting environment, fear of illness and arguing about families and friends.[33,34,35,21,22,36]

Conclusions and recommendations

The recent COVID-19 pandemic and consequent lockdown was associated with increased perceived stress, anxiety, and depression among the studied population. The Omani population use a variety of coping strategies that focus on emotion and problem solving, which can reduce depression.

The current study was applied to a relatively small sample, which makes it less generalizable. Future studies should consider a larger sample size to ensure greater representation. A longitudinal study rather than cross sectional one might identify a causal relationship between the pandemic and its consequences on depression, anxiety, perceived stress, and coping.

References

1. Moukaddam N, Shah A. Psychiatrists beware: the impact of COVID-19 and pandemics on mental health. Psychiatric Times: MH Life Sciences 37. 2020;1-3.
2. Wang C. Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. Int J Environ Res Public Health. 2020;17(5),1729.
3. Cullen W, Gulati G, Kelly BD. Mental health in the COVID-19 pandemic. QJM: Int J Med. 2020;113(5),311-312.
4. Rajkumar R. COVID-19 and mental health: A review of the existing literature. Asian J Psychiatr. 52. 2020;102066. 10.1016/j.ajp.2020.102066.
5. Torales J, O'Higgins M, Castaldelli-Maia JM, Ventriglio A. The outbreak of COVID-19 coronavirus and its impact on global mental health. Int J Soc Psychiatry. 2020; 002076402091521. doi: 10.1177/0020764020915212
6. Vindegaard N, Benros M. COVID-19 pandemic and mental health consequences: Systematic review of the current evidence. Brain, Behavior and Immunity 89. 2020;531-542.
7. Wu Y, XiaolinXu, Zijun Chen Nervous system involvement after infection with COVID-19 and other coronaviruses Brain, Behavior, and Immunity. 2020; 87:18-22.
8. Khalid I, Khalid TJ, Qabajah MR, Barnard AG, Qushmaq IA. Healthcare workers emotions, perceived stressors and coping strategies during a MERS-CoV outbreak. Clin Med Clin Med Res. 2016;14(1):7-14.
9. Cai H, Tu B, Ma J, Chen L, Fu L, Jiang Y, Zhuang Q. Psychological impact and coping strategies of frontline medical staff in Hunan between January and March 2020 during the outbreak of coronavirus disease 2019 (COVID-19) in Hubei, China. Med. Sci. Monit. 2020;26 doi: 10.12659/2FMSM.924171.
10. Elsheshtawy E, Abo-Elez W, Ashour H et al. Coping strategies in Egyptian ladies with breast

cancer. Breast Cancer: Basic and Clinical Research. 2014:8;97-102
11. Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. J Health Soc Behav. 1983;24:385-396
12. Chaaya M, Osman H, Naassan G, Mahfoud Z. Validation of the Arabic version of the Cohen perceived stress scale among pregnant and postpartum women. BMC Psychiatry. 2010; 110:111.
13. Zigmond, AS; Snaith, RP. The hospital anxiety and depression scale. Acta Psychiatrica Scandinavica. 1983;67(6):361-370.
14. Malasi TH, Mirza IA, el-Islam MF. Validation of the Hospital Anxiety and Depression Scale in Arab patients. Acta Psychiatr Scand. 1991; 84(4):323-326.
15. Carver CS. You want to measure coping but your protocol's too long: consider the Brief COPE. Int J Behav Med. 1997;4:92-100.
16. Alghamdi, M. Cross-cultural validation and psychometric properties of the Arabic Brief COPE in Saudi population. Med J Malaysia. 2020;75(5):502-509.
17. Alison Knopf. During and after COVID-19, anxiety and depression will increase. The Brown University Child and Adolescent Behavior Letter. 2020;6-7.
18. Brooks S, Webster R, Smith L. et al. The impact of quarantine and how to reduce it: rapid review of the evidence. The Lancet. 2020;395:912-920.
19. Perez-Fuentes MDC, Molero Jurado, MDM, Martos Martinez A, Gazquez Linares JJ. 2020. Threat of COVID-19 and emotional state during quarantine: Positive and negative affect as mediators in a cross-sectional study of the Spanish population. PLoS One 15, e0235305.
20. Konstantinos N, Fountoulakis, Maria K. Apostolidou et al. Self-reported changes in anxiety, depression and suicidality during the COVID-19 lockdown in Greece. J Affectiv Disord (pre-print) https://doi.org/10.1016/j.jad.2020.10.061
21. Massad I, Al-Taher R, Massad F, Al-Sabbagh MQ, Haddad M, Abufaraj M. The impact of the COVID-19 pandemic on mental health: early quar¬antine-related anxiety and its correlates among Jordanians. East Mediterr Health J. 2020;26(10):1165-1172.
22. Alkhamees A, Alrashed S, Alzunaydi A. et al, The psychological impact of COVID-19 pandemic on the general population of Saudi Arabia, Comprehensive Psychiatry. 2020;102.
23. Gualano MR, Lo Moro G, Voglino G, Bert F, Siliquini R, 2020. Effects of Covid-19 Lockdown on Mental Health and Sleep Disturbances in Italy. Int J Environ Res Public Health 17.
24. Solomou I, Constantinidou F. Prevalence and Predictors of Anxiety and Depression Symptoms during the COVID-19 Pandemic and Compliance with Precautionary Measures: Age and Sex Matter. Int J Environ Res Public Health. 2020;17.
25. Johnson JE. Self-regulation theory and coping with physical illness. Res Nurs Health. 1999;22: 435-448.
26. Sameer AS, Khan MA, Nissar S, Banday MZ. Assessment of Mental Health and Various Coping Strategies among general population living Under Imposed COVID-Lockdown Across world: A Cross-Sectional Study. Ethics Med Public Health. 2020;15:100571. doi:10.1016/j.jemep.2020.100571
27. Eden AL, Johnson BK, Reinecke L and Grady SM (2020) Media for Coping During COVID-19 Social Distancing: Stress, Anxiety, and Psychological Well-Being. Front. Psychol. 11:577639. doi: 10.3389/fpsyg.2020.577639
28. Mazza C, et al. 2020. A nationwide survey of psychological distress among Italian people during the COVID-19 Pandemic: immediate psychological responses and associated factors. Int. J. Environ. Res. Public Health 17.
29. Martínez JP, Méndez I, Ruiz-Esteban C, et al. Profiles of Burnout, Coping Strategies and Depressive Symptomatology. Frontiers in Psychol. 2020;11:591.
30. Zhang Y, Zhang H, Ma X, Di Q. Mental Health Problems during the COVID-19 Pandemics and the Mitigation Effects of Exercise: A Longitudinal Study of College Students in China. Int. J. Environ. Res. Public Health. 2020;17: 3722; doi:10.3390/ijerph17103722
31. Skapinakis P, Bellos S, Oikonomou A. Depression and Its Relationship with Coping Strategies and Illness Perceptions during the COVID-19 Lockdown in Greece: A Cross-Sectional Survey of the Population. Depression Research and Treatment Volume 2020, Article ID 3158954, https://doi.org/10.1155/2020/3158954
32. Orzechowska A, Zajączkowska M, Talarowska M, Gałecki P. Depression and ways of coping with stress: a preliminary study. Med Sci Monit. 2013;19:1050-1056.
33. Lai J, et al., 2020. Factors associated with mental health outcomes among health care workers

exposed to Coronavirus Disease 2019. JAMA Net. Open 3, e203976.
34. El-Zoghby S. Soltan E, Salama H. Impact of the COVID-19 Pandemic on Mental Health and Social Support among Adult Egyptians. J Community Health https://doi.org/10.1007/s10900-020-00853-5
35. Abdel-Fattah H, Hussein K, Bahary H. Covid-19 Impact on Mental Health of Egyptians Patients. J Psychiatry Psychiatric Disord. 2020;4(3):87-93
36. Al-Senawi H, Al-Balushi N, Al-Mahrouqi T, et al. Predictors of psychological distress among the public in Oman amid coronavirus disease 2019 pandemic: a cross-sectional analytical study. Psychol Health Med. 2020.

الملخص

الخلفية: لقد تسببت جائحة COVID-19 في تعطيل الأنشطة الاجتماعية والاقتصادية في العالم بشدة حيث أجبرت معظم البلدان على الإغلاق مع العديد من العواقب. **الأهداف:** هدفت هذه الدراسة إلى استكشاف آثار الانغلاق على وجود التوتر والقلق والاكتئاب واستراتيجيات المواجهة المرتبطة التي يستخدمها الأفراد. **الطريقة:** أجريت دراسة مقطعية على 289 شخصًا تم تقييمهم من خلال دراسة للبيانات الاجتماعية والديموغرافية وباستخدام المقاييس التالية: مقياس الإجهاد المدرك لكوهين، ومقياس المستشفى للقلق الاكتئاب ومقياس التأقلم القصير. **النتائج:** 227 (78.5٪) منهم لديهم مستوى متوسط إلى مرتفع من التوتر، 62 (21.4٪) لديهم قلق مرتفع و40 (13.8٪) لديهم اكتئاب متوسط إلى شديد. الاستخدام العالي لاستراتيجيات المواجهة كان المتوسط 65.1 ± 12.9. وكان أعلاهم القبول (6.2 ± 1.6) يليه إعادة الصياغة الإيجابية، والتدين (5.8 ± 1.7). وارتبط القلق بالإنكار (r2.230، ص .001)، بينما كان الاكتئاب مرتبطاً سلباً بالتكيف النشط (r2-135 ، ص 021) . كونك أنثى وعازبة تنبأت بالقلق. **الاستنتاجات:** ارتبط جائحة COVID 19 الأخير بزيادة التوتر والقلق والاكتئاب. هناك استخدام كبير لاستراتيجيات المواجهة بين المواطنين العمانيين. يجب تحديد المجموعة الضعيفة لتقديم الدعم لهم.

Corresponding Author

Dr Eman Elsheshtawy, Professor of Psychiatry, School of Medicine, Mansoura University - Egypt

E-mail: emanmady85@yahoo.com

Authors

Dr Eman Elsheshtawy, Professor of Psychiatry, School of Medicine, Mansoura University - Egypt

Dr Ahmed Qoura, Intern at Sultan Qaboos University Hospital - Sultanate of Oman

Dr Amani AlRaisi, Intern at Sultan Qaboos University Hospital - Sultanate of Oman

Dr Sirous Golchinheydari, Intern at Royal Hospital, Muscat - Sultanate of Oman

Mr Alaa Mahfouz, 6th year medical student, School of Medicine, Mansoura University - Egypt

Dr Miriam Simon, Assistant Professor. Department of Psychiatry and Behavioral Science, National University of Science and Technology - Sultanate of Oman

The Arab Journal of Psychiatry (2021) Vol. 32 No.1 Page (29 - 34) (doi-10.12816/0058763)

The German Experience: Psychiatric Hospitals in Times of Pandemic

Peter Falkai, Kristina Adorjan, Dorothée Streb

دور المستشفيات النفسية خلال جائحة كورونا

بيتر فالكاي، كريستينا ادورجان، دوروثي ستريب

Abstract

Psychiatric patients are considered extremely vulnerable in a pandemic for a multitude of disease-specific, comorbid, and sociodemographic reasons. Based on the experience of the Department of Psychiatry and Psychotherapy of the University Hospital of LMU Munich, psychiatric hospitals/units cannot only substantially contribute to the care of patients with mental disorders suffering from SARS-CoV-2 infection, but also attend to non-psychiatric COVID-19 positive patients in the need of hospitalization but not intensive care. The Munich Psychiatric COVID-19 Pandemic Contingency Plan (MPCPCP) offers guidance on how to position psychiatry in such critical and challenging times. In summary, psychiatric services are an essential part of medicine and this does not change during a pandemic; on the contrary, we believe that they are as important as or even more important than during the onslaught of a pandemic like COVID-19.

Key words: psychiatry, pandemic, Covid-19, university hospitals

Declaration of interest: None

Introduction

Psychiatry is facing major challenges during times illustrated by the current COVID-19 pandemic. In the current crisis of uncertain duration and effect on society, rather than a wait-and-see approach, we recommend psychiatry make active use of the opportunities at hand to optimize care for people with and without a history of mental illness. The undoubtedly widespread negative effects of the COVID-19 pandemic on mental health and mental health care challenge psychiatry's actual and perceived role within the medical system, particularly how psychiatric hospitals can maintain their core mission of attending to people who experience mental illness while at the same time providing relief to general medicine.

Psychiatric disorders are doubtless the top leading causes of global burden of disease. However, since the beginning of the crisis we were able to witness mental health care deemphasized in the wake of the massive onslaught of the pandemic, which challenged the maintenance of medical care for patients with mental disorders. Reduced therapy programs, cut back on hospital beds or even closing services entirely as well as quarantine periods and isolation – these measures hinder psychiatric hospitals adequately provide sufficient care for their patients. Moreover, to make room for emergency care, psychiatric wards were downsized, clinics closed, psychiatric support systems discontinued etc. Nobody will deny the need to act decisively and briskly and boost intensive care readiness. There is, however, no need to shut down our capacities at the expense of psychiatric care.

In the Department of Psychiatry and Psychotherapy at the University Hospital of LMU Munich, we have consequently developed the Munich Psychiatric COVID-19 Pandemic Contingency Plan (MPCPCP). Thus, we demonstrate how a psychiatric hospital can contribute to the acute care of a health care system as well as provide support for people who experience mental health difficulties at the same time and develop mid and long-term plans for coping with the aftermath of the pandemic.

Cutbacks in psychiatric services combined with preventive measures and isolation periods can have fatal consequences on patients with mental disorders. Psychiatric patients are extremely vulnerable in the COVID-19 pandemic and may find it hard to appraise and comply with cutback measures. Curfews, quarantine, social isolation, and the uncertainties around the virus may bring about depressive thoughts, despair, anxiety, and loneliness. Consequently, not only may preexisting psychiatric conditions worsen, but also psychiatric symptoms in people without a history of mental health difficulties may emerge. People experiencing mental disorders frequently face chronic illness courses and a reduced median life expectancy. They often deal with poverty. Housing, access to educational institutions and/or activities as well as social contacts are often limited due to their poor capability of communication skills and

interpersonal abilities. Hence, what urgently requires attention is the unknown impact of the COVID-19 pandemic on people with psychiatric disorders as regards symptom severity and/or relapses, as well as an increased frequency and intensity of mental healthcare.

Psychiatric hospitals as an indispensable element of medical care must therefore fully maintain their operability. This is the goal of the Munich Psychiatric COVID-19 Pandemic Contingency Plan (MPCPCP), which offers specific recommendations on how to adjust to the present situation. While the MPCPCP was developed and put into action for the Munich University Hospital, incorporating recommendations of the "National Pandemic Plan" (NPP), the guidelines of the "Robert Koch Institute" (RKI) as well as the "Supplement to the National Pandemic Plan-COVID-19" in Germany, it is designed to serve as an easily adaptable blueprint for psychiatric hospitals around the world.

The overall goal of the MPCPCP is to establish psychiatric care within the framework of a large maximum care center as a fully integrated partner of other disciplines within the scope of its possibilities. In addition, the aim of this pandemic contingency plan is to contain, decelerate, and preferably avoid transmission of COVID-19 in a psychiatric hospital and to enable and maintain medical healthcare for patients with mental disorders. The pandemic plan applies primarily to university clinics or clinics where a cooperation between psychiatry and internal medicine or tertiary care units can be ensured.

Munich Psychiatric COVID-19 Pandemic Contingency Plan (MPCPCP)

The MPCPCP covers five phases dictated by the course of the pandemic and a health care system's overall preparedness to adapt to this course (Fig. 1). The phases will show a high degree of temporal overlap. The course of action in patients with and without mental disorders and SARS-CoV-2-Infection over all five phases (Table 1) may differ from region to region and from institution to institution.

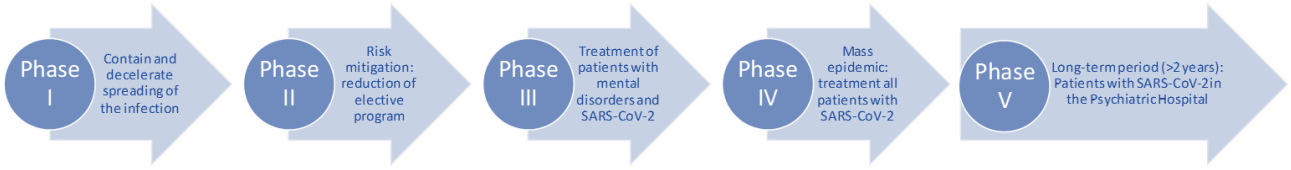

Figure 1. Munich Psychiatric COVID-19 Pandemic Contingency Plan (MPCPCP) - Overview

Phase I: Increasing hygienic measures and raising awareness and preparedness with staff and patients are predominant at this stage.

Phase II: Once the infection rate in the population is increasing and general elective medical care is restricted the hospital enters Phase II. Here, the focus lies on a carefully considered reduction of the elective program to free up resources to treat patients with COVID-19.

Phase III: As soon as patients with mental health difficulties plus a SARS-CoV-2 infection arrive for treatment, a psychiatric hospital moves into Phase III. The Phase III of the MPCPCP describes the necessary measures for the treatment of patients with mental disorders and a positive SARS-CoV-2 diagnosis. The Munich University Hospital for Psychiatry and Psychotherapy has converted one of its regular wards into the "Psychiatric COVID-Ward (Fig. 2).

Phase IV: In case of a mass epidemic (increased incidence of SARS-CoV-2 within a noticeably short time) (Phase IV) an interdisciplinary admission of COVID-19 patients at the psychiatric department is envisaged. Patient admission is independent of psychiatric diagnoses; in phase IV, the clinic is open to all patients and psychiatry is fully integrated into somatic medicine.

Phase V: Phase V is considered a long-term period (more than two years: duration of the pandemic or until availability of a vaccine), in which patients with mental health difficulties and a SARS-CoV-2 infection are expected to be seen continuously in the psychiatric hospital.

Table 1. Munich Psychiatric COVID-19 Pandemic Contingency Plan (MPCPCP) – Detailed approach and procedures

Course of action in patients with and without mental disorders and SARS-CoV-2-Infection: Munich Psychiatric COVID-19 Pandemic Contingency Plan (MPCPCP)						
	General measures	Outpatient care	Inpatient care	Therapies	Staff	COVID-Ward
Phase I	• Events postponed • Teachings cancelled • **EEG/EKG** √ • **ECT** √	• Hygienic measures • Separate room / face mask • Screening questions regarding possible SARS-CoV-2 infection at first contact	• Hygienic measures • No therapy restrictions	• Psychotherapy / occupational therapy / physical therapy / social services / addiction treatment / Supervision: fully available	• Hygienic measures • Staff with risk region contacts: 14 days quarantine	-/-
Phase II	• Patient contact restricted • Visiting ban • **EEG/EKG** √ • **ECT** √	• Emergencies • Cases which prevent inpatient admissions	• Reduction of therapy group size (2 m distance) • Reduction of therapy contents (no sports, cooking, etc.)	• Psychotherapy: Groups across wards cancelled, groups within wards reduced (2m distance), single sessions where possible • Occupational therapy / physical therapy: 1 session/week • Social services: available, 2m distance, hygienic measures, no bodily contact	• Protection mask obligatory • Backup rules for MD • Home office options	-/-

				• Addiction therapy reduced to detoxification • Supervision		
Phase III	• Protection mask obligatory • **ECT √** • PCR testing for staff and patients	• Entry controls, screening	• Isolation measures in suspicious cases • Preparation of COVID-Ward	• Reduced multimodal therapy program, s. Phase II • Telemedical psychotherapy • Crisis management via telephone	• Protective mask obligatory • Team building preparations / emergency • (Team A: direct patient care; Team B: home office) • Mobilization of medical students • Crisis intervention for staff via telephone • Daily conference calls for staff	• Close interac-tion with internal Ward • Daily testing available • O2 admini-stration available
Phase IV	• Consideration of ethical issues • Patient provision, health care proxy • Dealing with fatality/death	See phase III		• Further reduction of multimodal therapy program • Telemedical basic psychotherapy	• Crisis intervention for staff via telephone	**COVID-Ward:** • Mental disorder plus positive SARS-CoV-2 diagnosis • PCR testing

				• Multimodal therapy program cancelled • Preparation for psychosocial rehabilitation ward	• Shifting of staff	**Mass epidemic:** • Any disorder plus positive SARS-CoV-2 diagnosis • Internal medicine care prioritized
				-/-	• Further shifting of staff	**Emergency plan:** • Coping with high number patients
Phase V	Phase V is considered a long-term period (more than 2 years). Patients with SARS-CoV-2 infection are expected to keep on presenting themselves continuously in the Psychiatric Hospital.					

Preparation of the Psychiatric COVID-Ward

The Psychiatric COVID-Ward is fully pandemic serviceably equipped and employees are extensively trained in hygiene measures. Two permanent teams exclusively treat COVID-19 patients. One team is involved in direct patient care in the first two weeks, the other team works in a home office. Psychiatric patients positive for SARS-CoV-2 and considered for inpatient treatment at a psychiatric hospital are mainly patients who are in stable medical condition, but mentally too unstable for an outpatient treatment. Specialists in appropriate internal or intensive care units should treat severe cases. (Fig. 2).

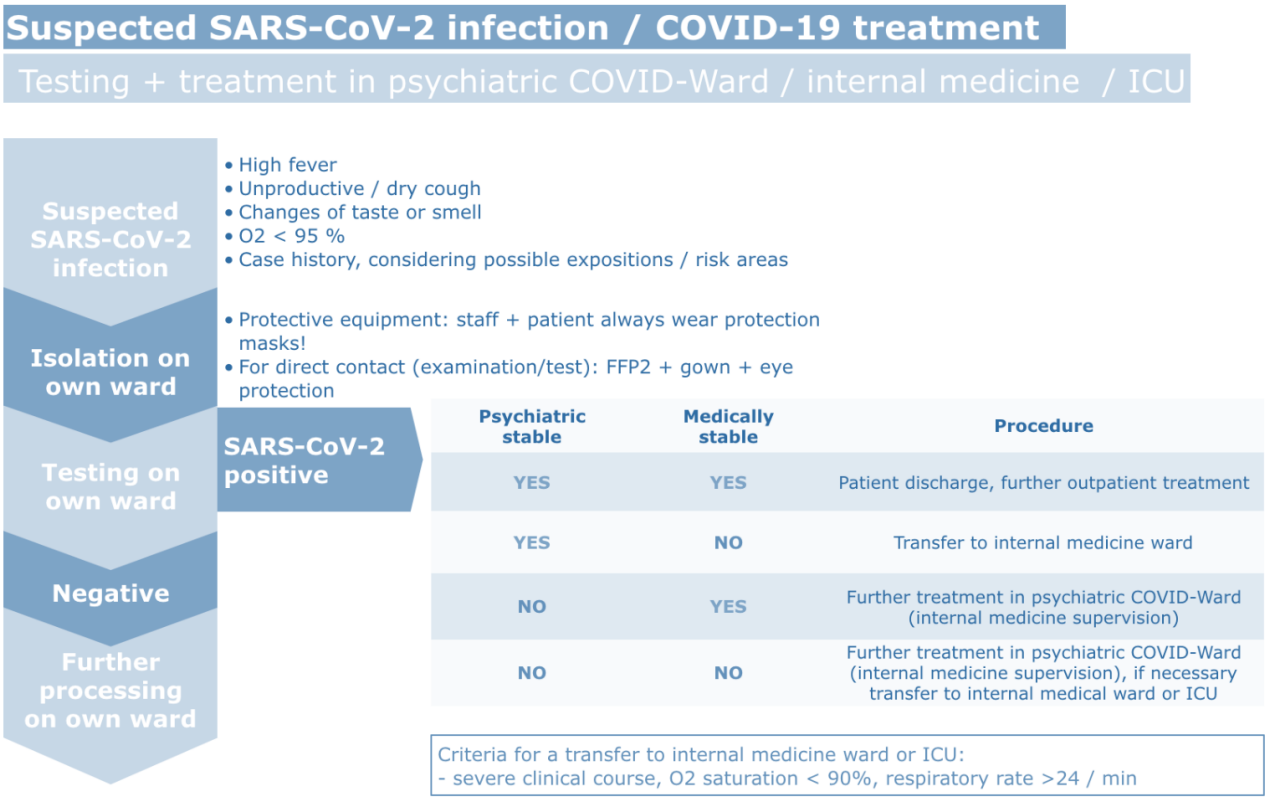

Figure 2. Testing and treatment procedure on a psychiatric COVID-Ward

الملخص

المرضى النفسيين يعتبروا شديدي الهشاشة في الجائحة لأسباب متعددة منها ما يتعلق بالمرض، المرضية المشتركة، والعوامل الاجتماعية السكانية. بناءاً على الخبرة في قسم الطب النفسي والعلاج النفسي في المستشفى الجامعي ميونخ، المستشفيات / الوحدات الطب النفسية لا تستطيع فقط ان تساهم بشكل جوهري في رعاية المرضى مع اضطرابات نفسية للذين يعانون من الإصابة بكورونا ولكنها أيضا تقوم برعاية المرضى الغير نفسيين الذين لديهم إصابة نفسية الكورونا والذين بحاجة لتنويم بالمستشفى ولكن ليس بوحدات الرعاية المكثفة.

خطة الطوارئ لجائحة كوفيد-19 للطب النفسي في ميونخ تقدم ارشاد لكيفية تحديد وضع الطب النفسي في هذه الأوقات المتحدية الحرجة. وفي الخلاصة، خدمات الطب النفسي هي جزء مهم في لطب وهذا لا يتغير خلال الجائحة، بل على العكس، نحن نعتقد أنها بنفس الأهمية أو أكثر، خلال المعاناة من جائحة مثل كوفيد - 19.

Corresponding author

Prof Peter Falkai MD, Department of Psychiatry and Psychotherapy and University Hospital, LMU - Munich, Germany

Email: peter.falkai@med.uni-muenchen.de

Authors

Prof Peter Falkai, Department of Psychiatry and Psychotherapy, University Hospital, LMU Munich - Munich, Germany

Dr Kristina Adorjan, Department of Psychiatry and Psychotherapy, University Hospital, LMU Munich - Munich, Germany

Institute of Psychiatric Phenomics and Genomics (IPPG), University Hospital, LMU Munich - Munich, Germany

Dorothée Streb, Department of Psychiatry and Psychotherapy, University Hospital, LMU Munich - Munich, Germany

The Arab Journal of Psychiatry (2021) Vol. 32 No.1 Page (35 - 42) (doi-10.12816/0058764)

Adverse Life Events and Family Distress During the Coronavirus Pandemic: A Field Study in Algeria

Aiche Sabah, Senouci Boumediene, Djellouli Zineb

أحداث الحياة السلبية والعبء الأسري خلال جائحة كورونا دراسة ميدانية في الجزائر

عايش صباح، سنوسي بومدين، جلولي زينب

Abstract

Objective: The current study sought to assess what adverse life events were experienced by people living in Algeria during the coronavirus pandemic and the impact of these experiences on families. The country went into a first lockdown in March 2020 with a further significant increase in cases of coronavirus in November 2020. **Method:** N=123 were randomly recruited via the internet in November 2020 and completed two outcome measures assessing negative life events and family burden. **Results:** Among the most common events reported Participants reported a high frequency of adverse life events during the pandemic. Participants also perceived the impact of events as being like a 'moderate crisis' concerning the perceived burden placed on their families. also a relationship between the termination of the relationship with the partner and the loss of a close family member to his job and the family burden. **Conclusion:**

Key words: adverse life events, family burden, coronavirus pandemic, field study

Declaration of interest: None

Introduction

A pandemic is a widespread infectious disease leading to mass physical illness and death across a wide geographical area with risk of major economic, social, and political unrest. Evidence suggests that the spread of pandemics has been more prolific over the last century due to the increase in travel, urbanization, and changes in land use. These patterns are likely to persist and will heighten. In December 2019, a viral outbreak in Wuhan, China is believed to have been the cause of a what is now known as the COVID-19, or the coronavirus.

It spread rapidly in Wuhan, then in various parts of China, within several weeks. Many Asian, European, North American and Oceania countries reported confirmed cases, with the total number worldwide rising rapidly to more than 5.35 million resulting in more than 343,000 deaths worldwide by 24 May 2020 the World Health Organization (WHO) announced in January 2020 that the new COVID-19 virus outbreak represented a public health emergency of international concern and warned of a the significant risk of COVID-19 spreading to other countries around the world, which became reality by March 2020 after which time the WHO upgraded COVID-19 to pandemic status.[2]

The coronavirus pandemic is not merely a medical phenomenon. It affects individuals and society to the extent that it has led to unrest, anxiety, social tension, stigma, and xenophobia, among other responses. Individual behavior as a microcosm of society has significant influences on the pandemic dynamics that involve intensity, degree of flow and subsequent effects. The rapid human-to-human transmission of the coronavirus has led to regional restrictions to halt the spread of the disease, and isolation, social exclusion and closure of educational institutions, workplaces, and entertainment places. People all over the world have largely remained in their homes to help break the disease transmission chain. However, restrictive measures undoubtedly affect the social and mental health of individuals from all areas.[2] COVID-19 threatens not only people's health and lives, but also risks causing short- and long-term adverse psychological consequences. Early studies on the

psychological effects of COVID-19 suggest anxiety and depression,[3,4,5] and posttraumatic stress disorder (PTSD) will not be uncommon.[6,7] Prolonged deployment of COVID-19 is still a major psychological source of stress.[8]

In life, people will experience a range of positive milestones from high school graduation, job changes, marriage, and the birth of children. Adverse experiences, such as divorce, death of loved ones, ill health, and financial crisis are also equally life changing.[9] Such life events can predict psychological distress.[10,11,12,13] The coronavirus pandemic remains an ongoing problem for the world, such that it is increasingly seen as a traumatic life event characterized by an increase in stressful and negative experiences. This poses new and significant challenges, including major public health considerations that highlight the psychological burden for families.

In the shadow of the pandemic, which has engulfed the globe, there are many painful accounts of people managing their diagnosis of COVID-19 on their own without the presence of a family member. Patients who are admitted to ICU must leave behind their families in the emergency department and do not know if they will see each other again, and the closures and quarantine measures are taken in many countries which have also created risk, including within families. In short, the coronavirus has subjected many families and their mutual relations to significant and sometimes unprecedented pressures.[14] Family stress models indicate the pandemic can affect family functioning through adverse life events experienced by individual members who in turn directly affect the wider family. Indirect models may lead to indirect effects, which might reflect that the way parents respond to pressure extends to their relationships within the family, such as matters to do with family performance (e.g., marital relations and paternal behavior) that in turn affect child adaptation. Parental stress models extend indirect models to also indicate that the ways in which children manage stress can affect family systems, including by invoking paternal behaviors that shape family relationships, family conflict, and parental performance together. These models assume that the stress to which a family member is exposed affects the performance of the family system in general, which can influence the adaptation of each family member in turn.

Given the potential long-term effects associated with COVID-19, the impact of pressure can be magnified by the simultaneous direct effects on each family member as well as the family system and indirect effects on relationships and individuals within the family. In this way, pandemic pressure may reverberate within the family, creating cycles of disruption in family processes and relationships that affect individual performance and adaptation.[15] Daks et al.[16] found greater stress arising from COVID-19, greater disagreements having to do with marriage and family differences, less positive regard for education, greater distress between parents and children, and the results also indicated that stress caused by the coronavirus predicted more family conflicts and problems, which in turn predicted greater use of authoritarian parenting (inconsistent, aggressive), which in turn predicted greater restraint on the child and parents. According to Panchal et al.,[17] COVID-19 and the resulting economic recession have adversely affected mental health for many.

In a mid-July KFF Health Tracking survey, 53% of adults in the United States reported that their mental health had been negatively affected by anxiety and stress because of the coronavirus. Many adults also reported specific adverse effects on their mental health and well-being, such as difficulty sleeping (36%) and eating (32%), increases in alcohol consumption or drug use (12%), and worsening chronic conditions (12%). Due to anxiety and stress from the coronavirus, we have noted that isolation and a sense of unity during the pandemic may pose health and psychological risks to families with adolescents and elderly people. The proportion of older persons (65 years and older) who have reported negative effects on mental health has increased since March 2020. Survey data shows that women with children under 18 are likely to report significant negative effects on mental health compared with men.

Adverse life events can add to the burden on families. It can be argued that the coronavirus is an adverse event itself and, as such, may be linked to increased burden on families. The threat posed by the pandemic has risked increasing the symptoms associated with the family burden, and these events can cause great hardship to families, which can sometimes develop into a full-blown crisis. From this standpoint, the current study examined adverse life events during the coronavirus pandemic and their relationship to the family burden.

Field Study

Sample

The study sample consisted of 123 participants (77 men; 44 women) aged 18-60 years. A survey questionnaire was distributed electronically. Table 1 represents the socio-demographic characteristics of the sample.

Table 1. Study sample characteristics

Variable	Percentage		
Gender	**Male**	Frequency	77
		Percentage	63.6
	Female	Frequency	44
		Percentage	36.4
Age	**18-23 years**	Frequency	30
		Percentage	24.8
	24-30 years	Frequency	41
		Percentage	33.9
	31-40 years	Frequency	27
		Percentage	22.3
	41-50 years	Frequency	19
		Percentage	15.7
	51-60 years	Frequency	4
		Percentage	3.3
Civil status	**Single**	Frequency	75
		Percentage	62.5
	Married	Frequency	41
		Percentage	34.2
	Divorced	Frequency	3
		Percentage	2.5
Education Level	**University**	Frequency	3
		Percentage	2.5
	Masters'	Frequency	56
		Percentage	46.7
	PhD	Frequency	22
		Percentage	18.3

Study Tools

Life Events Inventory[18] is a self-report questionnaire that has been developed to assess the experiences of various negative life events. The scale is comprised of 18 questions ranging from receiving a rejection notification from a college or a university to the death of a family member. Each statement yields either a "yes" or "no" response option. Cronbach's alpha is acceptable at 0.89. In our study, the alpha coefficient was found to be 0.928 and the measured Omega value was 0.925.

Perceived Family Distress Scale[19] was originally designed to measure the family burden of autism-disrupting families. Respondents in the family's brief distress scale answer a 10-point scale by indicating the perceived level of crisis they and their families experienced. Answers range from non-stress to full crisis with four sets of crises making up the scale. Scores from 1 to 3 indicate "no burden" group or a normal level of perceived family distress. Scores from 4 to 5 indicate "moderate burden" while scores from 6 to 7 indicate "significant burden" or proximity to crisis and scores from 8 to 10 indicate crisis.

Study Procedures

N=123 respondents were recruited to the study in Algeria and provided an electronic questionnaire indicating the different categories of distress and life events. Results were analysed using SPSS to calculate the correlation coefficient between negative life events and the family burden during the pandemic.

Results

Adverse life events during the coronavirus pandemic

Table 2. Repetitions and percentages of negative life events during the coronavirus pandemic

Item numbers	**Description of event**	**Experienced during pandemic?**			
		Yes		**No**	
1	Loss of my job	**Frequency**	**Percentage**	**Frequency**	**Percentage**
		27	21.6	98	78.4
2	Loss of a job by a member of my immediate family	47	37.6	78	62.4
3	Personal life-threatening injuries due to auto accident or other accidents	32	25.6	93	74.4
4	Life-threatening injuries by a member of my immediate family due to auto accident or other accidents	36	28.8	89	71.2
5	Personal life-threatening illness	34	27.2	91	72.8
6	Life-threatening illness by a member of my family	53	42.4	72	57.6
7	Having to care for an elderly parent or family member	52	41.6	73	58.4
8	Ending of a relationship with a partner (boyfriend or girlfriend)	60	48.0	65	52.0
9	Marital separation or divorce	22	17.6	103	82.4
10	Rejection notice(s) from colleges or universities	31	24.8	94	75.2
11	Rejection notice(s) from employer(s) where I applied or interviewed	33	26.4	92	73.6
12	Losing your financial assets such as retirement savings	59	47.2	66	52.8
13	Losing your real-estate properties such as home	25	20.0	100	80.0
14	Death of a pet	36	28.8	89	71.2
15	Death of a co-worker	45	36.0	80	64.0
16	Death of a friend	41	32.8	84	67.2
17	Death of a family member	41	32.8	84	67.2

Table 2 demonstrates a significant percentage of people experiencing adverse life events during the coronavirus pandemic with 20% experiencing a high frequency of events. The most significant occurrences endorsed by participants involved the ending of a relationship with a partner (48%), the loss of financial assets such as retirement savings (47.2%), having a family member with a life-threatening illness (42.4%), having to care for an elderly parent or family member (41.6%), loss of a job by an immediate family member (37.6%), death of a co-worker (36%), and death of a friend or family member (32.8%). The remainder of events listed were experienced by fewer than 30% of respondents.

Family burden

The perceived family stress scale has been applied to the study sample and repetitions and percentages have been used to determine the level of burden during the coronavirus pandemic (Table 3)

Table 3. Repetitions and percentages of family burden during the coronavirus pandemic

Crisis groups	**Frequency**	**Percentage**
Normal level of perceived family distress (responding 1 to 3)	82	65.6
Non-referred level of distress (responding 4 to 5)	19	15.2
Close to crisis (responding 6 to 7)	13	10.4
Crisis (responding 8 to 10)	11	8.8

Table 3 shows the majority (65.6%) believe that the pandemic is normal, (15.5%) describe being at the non-referred level and (10.4%) were close to crisis with a final 8.8% describing being in crisis.

The relationship between negative life events and the family burden

Pearson's correlation coefficient has been calculated for between adverse life events and family burden as (Table 4).

Table 4. Pearson's correlation coefficient between negative life events and family burden

Correlations	
Description of event	**Perceived Family Distress**
Loss of my job	0.011
Loss of a job by a member of my immediate family	**0.246****
Personal life-threatening injuries due to auto accident or other accidents	0.096
Life-threatening injuries by a member of immediate family due to auto accident or other accidents	0.034
Personal life-threatening illness	0.060
Life-threatening illness by a member of the family	0.137
Having to care for an elderly parent or family member	0.070
Ending of a relationship with a partner	**255****
Marital separation or divorce	-0.014

Rejection notice(s) from colleges or universities	0.083
Rejection notice(s) from employer(s) where I applied or interviewed	0.155
Losing your financial assets such as retirement savings	0.141
Losing your real-estate properties such as home	0.015
Death of a pet	-0.004
Death of a co-worker	0.005
Death of a friend	0.011
Death of a family member	-0.047

Table 4 describes only two adverse events of statistical significance relating to burdens experienced by participants, which are:

- Loss of a job by an immediate family member
- Ending of a relationship with a partner

Discussion

The coronavirus pandemic has resulted in worldwide restrictions that have affected millions of people in ways that have impacted on psychological health and led to many adverse life events. According to the results of the current study, participants reported experiencing a range of life events during the pandemic, which may have long-term consequences regardless of their frequency and duration.

The current study assessed adverse life events of experienced by people living in Algeria during the coronavirus pandemic. According to the survey sample responses, the rate of negative life events was low compared with those who reported not experiencing any adverse events; however, results suggest a reasonable cause for concern even though few rated their experiences as being a crisis. There was a strong relationship between perceived family burden and the experience of having gone through adverse events during the pandemic, particularly as relates to job loss and the breakdown of an intimate relationship.

The ending of an intimate relationship during the pandemic, e.g., between boyfriend and girlfriend, was among the more frequently reported events and contributed to the family burden for many. Partners and friends are generally 'safe havens' who can ease loneliness and isolation and when such relationships are strained or, indeed, end the burden to mitigate against such losses may fall to the family.

A key factor influencing family pressures during the coronavirus pandemic has been financial instability. Financial burden may contribute to domestic violence, which is an important consideration.[21] Job losses and the cessation of work or study during the pandemic were commonly reported sources of stress for participants. Loss of financial assets, such as reinvestment savings, was also a commonly reported problem, which is consistent with other findings.[22]

In the current study, having a close family member experience a life-threatening illness was also among the more notable events endorsed by participants. Poor health and the threat of illness can pose a burden on families, which may have been exacerbated by the inconsistent and often less restrictive measures that governments imposed on communities to ease the socio-economic pressures of lockdown e.g., partial quarantine, opening transportation inside cities, opening universities and schools. These approaches offered temporary reprieve for families that were otherwise forced to stay at home; however, also had consequences, including the further spreading of the virus within communities.

Study limits

In terms of limitations, the survey was conducted via internet, which meant only people who were able to access it participated. This approach excludes those who do not have such access and, likely, limits the generalizability of the study to people from a higher socio-economic class within Algerian society.

Conclusion

The current study surveyed a small cohort of people living in Algeria during coronavirus pandemic to understand the frequency of adverse events in their lives and impact on family life. Participants reported having experienced a significant number of adverse life events during the pandemic with some rating it as

a moderate crisis in relation to perceived family burden. Among the most reported events to place a significant burden on families was the breakdown of intimate partner relationships and the death of a close family member. Despite its limitations, the current study provides a preliminary indication of the magnitude of adverse events experienced during the coronavirus pandemic in Algeria. Future research should consider the impact of such events on mental health.

Reference

1. Kontoangelos K, Economou M, Papageorgiou C. Mental health effects of COVID-19 pandemic: a review of clinical and psychological traits. Psychiatry Investigation. 2020;17(6):491.
2. Javed B, Sarwer A, Soto EB, et al. The Coronavirus (COVID-19) pandemic's impact on mental health. Int J health planning and management. 2020;35(5):993-996.
3. Hyland P, Shevlin M, McBride O, Murphy J, Karatzias T, Bentall RP, Vallières F. Anxiety and depression in the Republic of Ireland during the COVID-19 pandemic. Acta Psychiatrica Scandinavica. 2020;142(3):249-256.
4. Lee SA, Jobe MC, Mathis AA, Gibbons JA. Incremental validity of coronaphobia: Corona virus anxiety explains depression, generalized anxiety, and death anxiety. J Anxiety Disord. 2020;74:102268.
5. Nie XD, Wang Q, Wang MN, Zhao S, Liu L, Zhu YL, Chen H. Anxiety and depression and its correlates in patients with corona virus disease 2019 in Wuhan. Int J Psychiatry Clin Pract. 2020;1-6.
6. Chang MC, Park D. Incidence of post-traumatic stress disorder after corona virus disease. Paper presented at the Healthcare. 2020;8(4):373.
7. Liang L, Gao T, Ren H, Cao R, Qin Z, Huy, Mei S. Post-traumatic stress disorder and psychological distress in Chinese youths following the COVID-19 emergency. J Health Psychol. 2020;25(9):1164-1175.
8. Brown SM, Doom JR, Lechuga-Peña S, Watamura SE, Koppels T. Stress and parenting during the global COVID-19 pandemic. Child Abuse & Neglect 2020: 104699.
9. Slotter EB. Negative Events. In Zeigler-Hill V & Shackelford TK (Eds.), Encyclopedia of Personality and Individual Differences (pp. 3158-3161). Cham: Springer International Publishing, 2020.
10. Herrington AN, Matheny KB, Curlette WL, McCarthy CJ, Penick J. Lifestyles, Coping Resources, and Negative Life Events as Predictors of Emotional Distress in University Women. J Individ Psychol. 2005;61(4):343-364.
11. Jackson PB, Finney M. Negative life events and psychological distress among young adults. Soc Psychol Q. 2002;65(2):186-201.
12. Marum G, Clench-Aas J, Nes RB, Raanaas RK. The relationship between negative life events, psychological distress and life satisfaction: a population-based study. Qual Life Res. 2014;23(2):601-611.
13. Swearingen EM, Cohen LH. Life events and psychological distress: A prospective study of young adolescents. Dev Psychol. 1985;21(6): 1045.
14. Ones L. The COVID-19 pandemic: A family affair. J Fam Nurs. 2000;26(2):87-89.
15. Hussong A, Midgette A, Richards A, Petrie R, Coffman J, Thomas T. COVID-19 Life Events Spill-Over on Family Functioning and Adolescent Adjustment. Research Square 2020: DOI: 10.21203/rs.3.rs-90361/v1.
16. Daks JS, Peltz JS, Rogge RD. Psychological flexibility and inflexibility as sources of resiliency and risk during a pandemic: Modeling the cascade of COVID-19 stress on family systems with a contextual behavioral science lens. J Contextual Behav Sci. 2020;18: 16-27.
17. Panchal N, Kamal R, Orgera K, Cox C, Garfield R, Hamel L, & Chidambaram P. The implications of COVID-19 for mental health and substance use. Kaiser Family Foundation 2020.
18. Ozawa M. Perceptions about Negative Life Events: A Comparison of Japanese Living in Japan and in the United States. (10684091 Ph.D.), Alliant International University 2018:

Ann Arbor. Retrieved from https://search.proquest.com/dissertations-theses/perceptions-about-negative-life-events-comparison/docview/1976921798/se-2?accountid=63189 ProQuest Central database.

19. Weiss JA, Lunsky Y. The brief family distress scale: A measure of crisis in caregivers of individuals with autism spectrum disorders. J Child Fam Stud. 2011;20(4):521-528.
20. Kouros CD, Papp LM, Goeke-Morey MC, Cummings EM. Spillover between marital quality and parent–child relationship quality: Parental depressive symptoms as moderators. J Fam Psychol. 2014;28(3):315-325. https://doi.org/10.1037/a0036804
21. Arenas-Arroyo E, Fernández-Kranz D, Nollenberger N. Can't Leave You Now! Intimate Partner Violence under Forced Coexistence and Economic Uncertainty 2020.
22. Gao Y, Wang L, Lin B, Mao H, Zhang M. Overview of the COVID-19. In: Diagnostic Imaging of Novel Coronavirus Pneumonia. Springer, Singapore, 2020. p. 1-7.
23. Carroll CD, Crawley E, Slacalek J, White MN. How has the US coronavirus aid package affected household spending? Res Bull. 2020;(75).

الملخص

هدفت الدراسة الحالية إلى الكشف عن أحداث الحياة السلبية خلال جائحة كورونا وعلاقتها بالعبء الأسري لدى عينة من المستجيبين في الجزائر. تم إجراء الدراسة على عينة متكونة من (123) فردا من مختلف الفئات تم اختيارهم بطريقة عرضية، ولتحقيق أهداف الدراسة تم استخدام المنهج الوصفي بالاعتماد على أداتي قياس هما مقياس أحداث الحياة السلبية ومقياس العبء الأسري. أشارت النتائج إلى وجود مستوى معتبر من الاحداث السلبية خلال جائحة كورونا، كما توصلت إلى وجود أزمة معتدلة فيما يتعلق بالعبء الأسري، كما تم التوصل إلى وجود علاقة بين إنهاء العلاقة مع الشريك وفقدان أحد أفراد الأسرة المقربين لوظيفته والعبء الأسري.

الكلمات المفتاحية: أحداث الحياة السلبية، العبء الأسري، فيروس كورونا، الجائحة، دراسة ميدانية .

Corresponding author

Dr Aiche Sabah, Faculty of Human and Social Sciences, Hassiba Benbouali University of Chlef - Algeria

Email: s.aiche@univ-chlef.dz, aichsabah@yahoo.fr

Authors

Dr Aiche Sabah, Faculty of Human and Social Sciences, Hassiba Benbouali University of Chlef - Algeria

Dr Senouci Boumediene, specializing in psychological measurements and educational assessment, Faculty of Human and Social Sciences, Alger 2 University, Boumediene - Algeria

Dr Djellouli Zineb, specializing in counseling and guidance, Faculty of Human and Social Science, oran02 University

The Arab Journal of Psychiatry (2021) Vol. 32 No.1 Page (43 -52) (*doi-10.12816/0058765)*

The British Experience of Person-Centered Medicine: from Conception to Innovations in Health Care and Psychiatric Education

Mohammed T Abou-Saleh

التجربة البريطانية في الطب المرتكز على الشخص: من المفهوم إلى الابتكارات في الرعاية الصحية والتعليم الطبي النفسي الاختصاصي

محمد طموح أبو صالح

Abstract

The National Health Service (NHS) was established in 1948 as a publicly funded healthcare system in the UK providing universal health coverage that is comprehensive, equitable and free at the point of delivery. The British experience of person-centered medicine (PCM) is enshrined in its constitution. Examples of PCM initiatives include the establishment of the National Institute for Health and Care Excellence (NICE); the introduction of values-based medical practice and innovations in person-centered coordinated care (P3C). There have been person-centered innovations in undergraduate and postgraduate medical education. The landmark development was the production by the Royal College of Psychiatrists in the UK of the first blueprint for a postgraduate psychiatric curriculum that is in tune with person-centered psychiatry. Whilst the British experience of PCM is in some respects unique, it could contribute to universal development of person-centered healthcare and health education.

Key words: British, medical education, medicine, NHS, person-centered, psychiatry

Declaration of interest: None

Introduction

Advances in medicine in the latter part of the 20th Century have been formidable and on par with advances in all sciences that have eclipsed advances in centuries of human endeavor: diagnosis of diseases have been well established, their etiology and pathogenesis elucidated, and pharmaceuticals have been introduced to treat these conditions.

Advances in medicine were made by converging on specific diseases and thus paving the way for the establishment of medical specialties that are focused on specific systems including psychiatric medicine. Inevitably this led to fragmentations of care for individual patients who may have more than one medical condition and importantly the whole person of the patient has been overlooked and almost became out of bounds. Individuals with a specific medical condition were reduced in common parlance to being labelled and defined by their disease: a patient may be labelled as asthmatic, diabetic, epileptic, schizophrenic or addict, labels that are reductionist and almost pejorative.

It is against this background and developments that person-centered medicine (PCM) was introduced: its aims are achieved by the promotion of medicine of the person (of the totality of the person's health, including their ill and positive aspects), for the person (assisting the fulfilment of each person's life project), by the person (with clinicians extending themselves as full human beings, scientifically grounded, and with high ethical standards), and with the person (in respectful, enabling and empowering partnership with the person presenting for care). The person is conceived of in a contextualized manner, in line with the words of Ortega y Gasset, "I am I and my circumstance and, if I do not save it, I do not save myself".[1]

Among the medical specialties, general practice by necessity has enacted what is conceived as whole person medicine laying the foundations for PCM. Importantly psychiatry led the way in adopting the biopsychosocial model for the comprehensive formulation of diagnosis and treatment of persons with psychiatric disorders and established the foundations of person-centered psychiatry. This notion was manifest in Carl Rogers' "client-centered psychotherapy". In the words of Carl Jung "Medicine has until recently gone on the supposition that illness should be treated and cured by itself; yet voices are now heard which declare this view to be wrong and demand the treatment of the sick person and not of the sickness. The

same demand is forced upon us in the treatment of psychic suffering."

The article provides an overview of the British experience and evolution of person-centered medicine (PCM) with focus on developments in person-centered care and innovations in undergraduate medical education and importantly the recent report from the Royal College of Psychiatrists in the UK on person-centered care and its implications for training in psychiatry.

The NHS Constitution

Person-centered healthcare is enshrined in the National Health Service (NHS) Constitution, uniting patients and staff in a shared vision, mission, and values of working together for patients; respect and dignity; commitment to quality of care; compassion; improving lives and everyone counts. The NHS over seven decades has faced many challenges and undergone much reorganization. However, it has maintained its person and people's centeredness. Moreover, the quality of care in all health and social care providers in England is assured by the Care Quality Commission for their safety, effectiveness, compassionate care, responsivity, and good leadership.

The NHS belongs to the people and it is there to improve their health and wellbeing, supporting people to keep mentally and physically well, to get better when they are ill and, when they cannot fully recover, to stay as well as they can to the end of their lives. It works at the limits of science – bringing the highest levels of human knowledge and skill to save lives and improve health. It touches peoples' lives at times of basic human need when care and compassion are what matter most.

The NHS is founded on a common set of principles and values that bind together the communities and people it serves – patients and public – and the staff who work for it.

Seven key principles guide the NHS in all it does. They are underpinned by core NHS values (Working together for patients, Respect and dignity, Commitment to quality of care, Compassion, Improving lives and Everyone counts) which have been derived from extensive discussions with staff, patients and the public: The NHS provides a comprehensive service, available to all and free at the point of delivery: access to NHS services is based on clinical need, not an individual's ability to pay; aspires to the highest standards of excellence and professionalism; the patient will be at the heart of everything the NHS does. The NHS works across organizational boundaries; is committed to providing best value for taxpayers' money and is accountable to the public, communities, and the patients that it serves.

In the words of Stephen Hawking "I have had a lot of experience of the NHS and the care I received has enabled me to live my life as I want and to contribute to major advances in our understanding of the universe, I would not be here today if it were not for the NHS".

Historical origin

The earliest reference to PCM in the British medical press was in 1974 by Tait on "person-centered perspectives in medicine", the title of the Gale Memorial Lecture in 1972.[2] The article was a visionary view on the paramount need to balance the predominance of the disease-centered knowledge base and practice of medicine by the perspective of PCM. On the imbalance in perspectives, Tait stated "the very success of scientific medicine is forcing doctors back into an area of work where the answers provided by the biological sciences are not by themselves enough. In that sense we are back where medicine found itself before the huge therapeutic triumphs of this century. Back to a position where we must attend much more specifically to the individuality of the ill person. This way of looking at medical care, by paying particular attention to the person in relation not only to his disease but also to his total environment can be called the person-centered view. It can be contrasted with the disease-centered view where the central concern is the disease process itself". Moreover, Tait highlighted the serious defect in medical education and the need to reform the training of doctors in person-centered aspects of medical care "in the words of the Royal Commission on Medical Education (1968) to produce doctors who are highly competent scientists, but who are not interested in or suited to handle the day-to-day needs of patients".

Tait provided insights and criticisms of the methods of medical training that disconnect basic sciences particularly behavioral sciences from the realities of medical practice. On what to teach in PCM, Tait stated "In simple language I think we could express it in terms of a progressive source of questions that the doctor has to ask and answer for himself. What kind of person (strengths and weaknesses)?, what kind of situation (supports and stresses)? making, what kind of adaptive responses (appropriate or inappropriate)? calling for What kind of help (from self or others)?".

The practical setting for teaching and learning PCM was general practice with "contributions from the behavioral sciences, which is appropriate in type and enough in

quantity. In considering what this contribution should be it is easier to think in terms of areas of concern rather than the contribution of separate disciplines".

NICE

The National Institute for Health and Care Excellence (NICE) is an executive public body of the Department of Health in England which publishes guidelines in four areas: the use of health technologies (new and existing medicines, treatments and procedures) within the NHS (England); clinical practice (guidance on the appropriate treatment and care of people with specific diseases and conditions); guidance for public sector workers on health promotion and ill-health avoidance and guidance for social care services and users.

These appraisals are based primarily on evidence-based evaluations of efficacy, safety, and cost-effectiveness in various circumstances.

The main principle for all guidance is person-centered care. For example, the guideline on coexisting severe mental illness (psychosis) and substance misuse: assessment and management in healthcare settings[3] offers best practice advice on the assessment and management of people with psychosis and coexisting substance misuse.

Treatment and care should consider people's needs and preferences. People with psychosis and coexisting substance use should have the opportunity to make informed decisions about their care and treatment, in partnership with their healthcare professionals. If people do not have the capacity to make decisions, healthcare professionals should follow the Department of Health's advice on consent and the code of practice that accompanies the Mental Capacity Act.

Good communication between healthcare professionals and service users is essential. It should be supported by evidence-based written information tailored to the person's needs. Treatment and care, and the information people are given about it, should be culturally appropriate. It should also be accessible to people with additional needs such as physical, sensory, or learning disabilities, and to people who do not speak or read English.

If the person agrees, families and carers should have the opportunity to be involved in decisions about treatment and care. Families and carers should also be given the information and support they need.[4]

Values and ethics: perspectives on psychiatry for the person

Fulford et al. proposed that a key challenge for person-centered psychiatry is to combine the generalized findings of objectives to the diverse values of each individual patient.[5] They referred to the two main ethical resources for responding to this challenge, substantive/absolute and analytic/critical ethics.[6]

Analytic ethics is particularly relevant as "it is concerned with correct standards of reasoning as a basis for answering problems rather than with the answers to problems as such "This notion has ushered 'philosophical value theory' which is the basis for values-based practice: these issues facilitate the reconciliation of science (facts), evidence-based medicine with values that are unique to each individual."

Compulsory treatment in psychiatry offers a particular example of the ethical paradox that is resolved by substantive and analytic ethics: compelling patients to treatment contravenes a core ethical tenet of respecting autonomy and violates their human rights. In Britain, the Mental Health Act is complimented by the Code of Practice that provides guiding principles with training material that incorporate ethical moral reasoning. It is concluded that "the new philosophy of psychiatry as a whole represents a rich conceptual resource for a psychiatry that, is both firmly science-based but also genuinely person-centered".[7]

Fulford et al. outlined the UK experience of bringing together values-based and evidence-based medicine exemplified in initiatives in the 'personalization' of care.[8]

Values-based practice adds to the growing 'toolkit' for working with values, a new and primarily skills-based approach to balanced decision making where complex and conflicting values are involved.

Values-based practice has been adopted as integral to essential skills in mental health in the UK and in major policy initiatives besides the aforementioned one on the Mental Health Act Code of Practice. A second example of the policy applications of values-based practice has been assessment in mental health, as set out in a guidance document, called the '3 Keys to a Shared Approach in Mental Health Assessment':[9] The Department of Health of the UK government has included within a range of recent policy and service development initiatives under the broad banner of 'personalization', a program specifically concerned with diagnosis.

The 3 Keys are three aspects of assessment that a majority stakeholder in a wide-ranging consultation, including patients and carers as well as professionals, agreed are important: Key 1 is active participation of the service user concerned in a shared understanding with service providers and where appropriate with their carers; Key 2 is that there should be input from different provider

perspectives within a multidisciplinary approach, and Key 3 emphasizes the importance of building on the strengths, resiliencies and aspirations of the individual service user as well as identifying his or her needs and challenges.

Person-centered coordinated care (P3C)

Lloyds et al,[10] highlighted three potent and interacting problems that have contributed to the fragmentation of health and social care in the UK over the last 25 years: the first is increasing specialization of medicine and professional roles, the second is governments' initiation of repeated, rapid cycles of service reorganization, privatization and contracting and third concerns the nature of the available evidence and the accessibility of it to inform service delivery improvements.

These concerns led to the development of the innovative approach of person-centered coordinated care (P3C): an approach to support the development of a comprehensive system-wide solution to fragmented care.[10]

The P3C Group developed the Organizational Change Tool (P3C-OCT) to create and facilitate change for P3C based on its six core domains: (I) my goals, (ii) care planning, (iii) transitions, (iv) decision making (v), information and communication and (vi) organizational support activities.[11]

Further, they developed Patient-Reported Measures (PRM) providing a detailed compendium of P3C-PRMs using a pragmatic systematic approach supported by stakeholder engagement. The PRMs include all the known mental health patient reported measures. The user-friendly suite of tools is designed to act as a portal to the world of PRMs for P3C, and have utility for health care commissioners, managers, and researchers.[12]

The P3C Group then codesigned a measure of P3C to capture the experience of the patient and developed the P3CEQ, a brief, generic measure that covers core domains of P3C from the perspective of the patient. This measure is based on the Long-Term Condition-6 questionnaire including mental conditions, preferred for its brevity, utility, and tone.[13] The P3CEQ was validated and found to be a reliable measure of P3C: it is considered to have strong face, construct, and ecological validity, with demonstrable sensitivity to change in a primary healthcare intervention.[14]

Evaluation of P3C showed that medical practitioners use both Patient Reported Experience Measures (PREMs) and Patient Reported Outcome Measures (PROMs) in various ways to improve different aspects of patient care. By sharing experiences, professionals can benefit from each other's learning and work together to extend the potential value that PRMs can offer to P3C delivery.[15]

Multimorbidity and 3D medicine

The concept of multimorbidity has attracted increasing interest in the past decade with the recognition of multiple burdens of disease and their escalating costs for the individual and the community. It is evident in clinical practice that multimorbidity has become the norm rather than the exception, occurring in an increasingly younger population particularly in areas of socioeconomic deprivation and in low-income countries.[16]

People with mental illness have a markedly reduced life expectancy due to NCDs predominantly cardiovascular and metabolic diseases. The combination of a chronic medical condition and a mental health problem presents specific complex challenges for the single disease model of care which continues to prevail as the current delivery system in which health care professionals are trained and operate.

The growing research and experience have indicated the need for adopting an integrated collaborative person-centered approach and models of care that are more individualized and focused on patient engagement to manage their multimorbidity and to enable them with preventative interventions including self-management.

Given the limited resources in current health care systems, this approach requires innovation and redesign of the system to provide comprehensive person-centered care encompassing early detection, coordinated multidisciplinary working across specialties as well as between primary and secondary care with easy access to basic healthy lifestyle care programs.[17]

Research in the UK has addressed the issue of multimorbidity and the challenge of developing patient-centered medical interventions. Salisbury et al.[18] in a landmark research project recognized that "Whilst there is international consensus that care for multimorbidity should be patient-centered, focus on quality of life, and promote self-management towards agreed goals, there is little evidence about the effectiveness of this approach". They conducted a systematic review that found few randomized trials of interventions, with many remaining uncertainties about their effect on a range of outcomes.[19] These findings prompted the introduction of a new patient-centered model of care that was investigated in a pragmatic cluster-randomized trial of the 3D approach

(based on Dimensions of health, Depression, and Drugs) for patients with multimorbidity aimed at improving their health-related quality of life.[18] The 3D intervention is based on a patient-centered care model and seeks to improve continuity, coordination, and efficiency of care by replacing disease-focused reviews of each health condition with one 6-monthly comprehensive multidisciplinary review. The results were disappointing: that although the intervention was effective at improving experience of patient-centered care, it was not associated with benefits in quality of life or the burden of illness or treatment. The authors concluded "It is possible that the 3D intervention improves patients' perceptions of the quality of their care but not the quality of their lives. Improving patient experience is one of the triples aims of health care, so providing care that is demonstrably more patient-centered is arguably sufficient justification for implementation in itself, especially since our evidence shows it is not associated with disadvantages in terms of disease management or hospital use".

Person-centered undergraduate medical education

The Medical Act 1858 established the General Council of Medical Education and Registration of the United Kingdom. The General Medical Council (GMC) is the public body that maintains the official register of medical practitioners in the UK. Its chief responsibility is to "protect, promote and maintain the health and safety of the public" and sets the standards for medical schools in the UK. It runs 'quality assurance' programs for UK medical schools and postgraduate deaneries to ensure that the necessary standards and outcomes are achieved.

In 2010, the GMC took responsibility for regulating and quality assurance of postgraduate medical education and training to oversee 'the continuum of medical education', from the moment someone chooses a career in medicine until the point that they retire.

The contribution of psychiatry to teaching undergraduate medicine in the UK has been studied since the 1960s.The first survey conducted by Carstairs et al.[20] showed great diversity in the amount, content, and methods of teaching psychiatry "no two schools are quite alike in the type of staff facilities, in the allocation of teaching time in the several years of the course, or in the persons available to act as teachers".

The second survey was conducted by the author on behalf of the Association of University Teachers of Psychiatry.[21] The survey involved 27 schools in the UK and Ireland. The findings showed variations in the number of teaching staff, the amount of clinical and non-clinical teaching of general psychiatry, and of sub-specialties and assessment procedures and regulations. All schools provided teaching of interview skills. Some schools provided teaching in community settings. Elective studies in psychiatry occurred in most schools. All schools had external examiners in psychiatry.

The teaching of interview skills and clinical communication was considered a core element and was championed by psychiatrists.[22]

In the late 1980s, the author in collaboration with teachers of general practice at the University of Liverpool introduced a core module on communication skills training early in the medical curriculum. The module was later introduced and evaluated at UAE University.[23] The aim of the study was to investigate the effectiveness of a five-day communication skills training course held during the second year of a six-year medical program. The results showed that the teaching was highly effective and the ability to establish rapport was the best predictor of skill in other components.

The author conducted two further studies on teaching psychiatric interview and therapeutic skills to medical students at the University of Liverpool. A teaching package of interview skills was introduced to large blocks of medical students whilst on their psychiatric attachment. The aims of this package were to reduce students' concerns about interviewing psychiatric patients, to reinforce students' knowledge of basic interviewing skills and to introduce students to the particular skills required in taking a psychiatric history and mental state examination. The package emphasizes the following teaching methods: 'hands-on' experience of interviewing a patient in front of small groups of peers; peer feedback using checklists which focus on three major aspects of interviewing; elicitation of facts, elicitation of feelings and control of the interview; facilitation of small group discussions in the presence of a senior psychiatrist. The active involvement of all students in interviewing psychiatric patients engages them in the learning process. Peer involvement increases motivation and was deemed by students as a supportive and constructive exercise. The presence of a senior psychiatrist ensured that discussion is focused on the process of interviewing rather than on patient pathology. Ideally this package would precede focused training throughout the subsequent psychiatric placement.[24]

We have developed a package for teaching psychotherapeutic skills for medical students at the University of Liverpool.[25] The aims of the package were to develop basic psychotherapeutic skills in the general student that would not only make the process of psychotherapy interesting and intelligible, but also sow

the seed that these skills, if generalized, could enhance all fields of medical practice. The skills would therefore be developed to be used in a continuum from the undergraduate to postgraduate trainee. Its methods were based on the Conversational Model of Psychotherapy[26] and the Grammar of Psychotherapy.[27]

A landmark development in UK undergraduate medical education has been the introduction of clinical communication as a core element of the undergraduate medical curriculum in the 1990s. In 2008, a consensus statement, reached by an iterative consultative process involving representation from all 33 UK medical schools, crystallized the core curriculum for clinical communication for undergraduate medical education.[28] A central component of this consensus statement is the communication curriculum wheel, a diagrammatic representation of the content of clinical communication curricula in undergraduate medical education. In this wheel, the key domains of clinical communication are shown as concentric rings, starting in the centre with 'respect for others' and moving outwards through the specific domains of communication learning which are set within a milieu of four over-riding principles which govern not only communication, but all areas of medicine.

In 2018, the consensus statement was updated, a revision that was driven by the relational, contextual, and technological changes which have affected clinical communication.[29]

The updated curriculum defines the underpinning values, core components and skills required within the context of contemporary medical care. It incorporates the evolving relational issues associated with the more prominent role of the patient in the consultation, reflected through legal precedent and changing societal expectations. The impact on clinical communication of the increased focus on patient safety, the professional duty of candour and digital medicine are discussed. The practice implications of the updated curriculum are that it provides a model of best practice to help medical schools develop their teaching and argue for resources. The authors concluded that "this is the consensus reached by UK medical schools about how to prepare our students to meet the demands of delivering effective, compassionate and contemporary patient-centered care". Further they aptly noted that "in the past ten years, there have been subtle but important changes in the use of language. Language plays a key role in the framing of the doctor-patient relationship and signaling to students that the patient is an equal partner and stakeholder in the consultation. Language of course continues to evolve; perhaps by the time the curriculum is updated again, 'patient' will be replaced by 'person'.

In a seminal publication titled "towards a person-centered medical education: challenges and imperatives", Miles et al. posited that whilst there have been unprecedented advances in medical sciences, that "modern medicine has entered into crisis - a crisis of knowledge (uncertainty over what counts as "evidence" for decision-making and what does not), of care (a deficit in sympathy, empathy, compassion, dignity, autonomy), of patient safety (neglect, iatrogenic injury, malpractice, excess deaths), of economic costs (which threaten to bankrupt health systems worldwide) and of clinical and institutional governance (a failure of basic and advanced management, inspirational and transformational leadership)". The authors advocated for the compelling need for the reform of medical educational programs towards person-centered approaches that will enable future health professionals to deliver person-centered care.[30]

A recent study of the inclusion of person-centered care (PCC) in medical and nursing undergraduate curricula in the UK, identified PCC components and themes in medical (GMC) and nursing (NMC) professional standards and university curricula.[31] The authors reported that "the GMC appears to promote a more paternalistic model of care with discrete PCC components in specific sections and the NMC a more collaborative model with PCC distributed throughout". Moreover, medical educators perceived greater barriers to inclusion of PCC than nursing educators including cultural and organizational attributes. There was a lack of clarity in PCC definition, how to teach/assess PCC, and competence expectations. The authors advocated the "development of a PCC skills competence framework would increase consistency and support teaching and assessment in undergraduate curricula. Further research to understand the perspectives of healthcare professionals involved in placements would help inform PCC teaching recommendations".

Person-centered care: implications for training in psychiatry

In a landmark development, the Royal College of Psychiatrists in the UK, produced a blueprint for a postgraduate psychiatric curriculum that is in tune with person-centered psychiatry.[32] The project was developed by the College's Person-Centered Training and Curriculum (PCTC) Scoping Group.[33]

The Report reviews 15 definitions and components of person-centered care including 12 definitions of patient-centered and three definitions of person-centered care. The three definitions of person-centered care were:

- Person centeredness has four main meanings: addressing the person's specific and holistic properties; addressing the person's difficulties in everyday life; regarding the person as an expert who should participate actively in their rehabilitation; respecting the person behind the impairment or disease.[34]
- Person-centered medicine is dedicated to the promotion of health as a state of physical, mental, sociocultural, and spiritual well-being, as well as to the reduction of disease, and founded on mutual respect for the dignity and responsibility of each individual person.[35]
- Person-centered care: (1) Affording people dignity compassion and respect; (2) Offering coordinated care, support, or treatment; (3) Offering personalized care, support or treatment; (4) Supporting people to recognize and develop their own strengths and abilities to enable them to live an independent and fulfilling life.[36]

The executive summary of the Report states the case of need for strengthening the focus on the person in clinical practice and giving person-centered approaches a central position in the practice and training of psychiatrists.

The aims of the project are to outline the rationale for embedding person-centered practice in postgraduate training and assessment and provide recommendations to enable the delivery of person-centered care through postgraduate psychiatric training and assessment.

In setting out a case for reinforcing and prioritizing person-centered care, the report offers guidance on bridging the gap between values and experience, principles and practice, and intention and achievement.

The PCTC Scoping Group reported their key findings: (1) There is an extensive literature that supports the benefits of person-centered approaches for clinicians, patients and service delivery; (2) The adoption of a person-centered approach is supported by other medical Royal Colleges and health professional bodies, UK government's health and social policies, and international bodies such as the World Health Organization and the World Psychiatric Association; (3) The core curriculum survey showed overall satisfaction with the curriculum but identified gaps in learning objectives related to therapeutic relationship building. A survey of MRCPsych courses showed patchy availability of person-centered training across the country, despite an overwhelming wish for its inclusion in psychiatric training on the part of both trainers and trainees and (4) The current RCPsych core curriculum signals the importance of respect towards people who use services but it makes no reference to 'co-production', 'values', 'personalization', 'personal budgets', 'ethics', 'human rights', the community context of people's lives, 'self-care' or 'self-directed care'.

The 17 Recommendations are extensive and comprehensive covering the prime areas of (1) Revising the curriculum; (2) Postgraduate psychiatric training; (3) Assessment of competencies related to person-centered care; (4) Quality assurance and (5) Values: reinforce the importance of the set of core values for psychiatrists.

The Report provides the first blueprint for a person-centered postgraduate curriculum for general professional training in psychiatry in the UK. Importantly it recognizes the paramount principle of 'personhood' and the overarching ethical core and values in medicine. It also recognizes the distinction of person-centered form patient-centered care: person-centered care goes beyond patient-centered care in placing the person with ill health rather that the patient - who is often labelled by their disease - at the center of a holistic, humane, compassionate, enabling them to utilize their strengths and personal resources, respecting their values and culture on the journey to recovery.

The PCTC Scoping Group recommended that training and the curriculum should be explicitly person-centered. Among its other recommendations was that skills relating to person-centered practice should be assessed, and the planning, development, and delivery of local MRCPsych courses should be coproduced alongside people with lived experience of mental health conditions.[33]

Further, this initiative has been matched by several positive initiatives aimed at supporting implementation.[33] There have been changes in regulation and medical law, reflecting GMC guidance. The UK Supreme Court's Montgomery ruling has made shared decision-making based on evidence and values the foundation of consent to treatment,[37] and NICE has set up a joint training program with the Academy of Medical Royal Colleges and the Collaborating Centre for Values-Based Practice in Oxford on values in shared decision-making[38] and the University of West London has established a new Master's program in Person-Centered Care under the joint leadership of Professors Andrew Miles and Michael Loughlin.[39]

It is timely for the College "to weave clear links between its person-centered values and the articulation of those values explicitly in the curriculum, their delivery in training through MRCPsych courses and, finally, their assessment through WPBAs and CASC".

Finally, the PCTC Scoping Group concluded that public demand, national policies, and legal and regulatory developments in areas such as shared decision-making are driving good medical practice towards more person-

centered practice. The challenges of the implementation of these recommendations can be addressed by a concerted effort from trainees, trainers, scheme organizers and indeed the patients and carers we work with: "Co-production in training can sow the seeds for collaboration and co-production in clinical practice, and we urge readers to acquaint themselves with the growing body of resources for co-production of training between clinicians and the people who use our services, as signposted in our report".[33]

The Report would have been enriched by accomplishments the global initiative of the International College of Person-centered Medicine ICPCM).

The ICPCM has introduced the major conceptual and operational advance of person-integrated diagnosis, published the international textbook on person-centered psychiatry and held its first international congress of the ICPM on the theme of Whole Person Health Education and Training.[40,41]

Conclusions

The British experience of person-centered medicine (PCM) has evolved perhaps deterministically over seven decades in the context of the establishment of the NHS and its universal health coverage that is free at the point of delivery. Person-centered healthcare is enshrined in its constitution, uniting patients and staff in a shared vision, mission and values of working together for patients; respect and dignity; commitment to quality of care; compassion; improving lives and everyone counts.

The British experience of PCM was first captured by Tait's Memorial Lecture in 1972 on "person-centered perspectives in medicine". The article was a visionary view on the paramount need to balance the predominance of the disease-centered knowledge base and practice of medicine by the perspective of PCM.

There emerged many initiatives on PCM in the establishment of the National Institute for Health and Care Excellence (NICE) as an executive public body of the Department of Health in England which publishes national guidelines on evidence-based medicine adopting the principles of PCM.

The British experience was enriched by the introduction of values-based medical practice.

There followed innovations in person-centered care: person-centered coordinated care (P3C) model of care and a new patient-centered model of care that was investigated in a pragmatic cluster-randomized trial of the 3D approach (based on Dimensions of health, Depression, and Drugs) for patients with multimorbidity aimed at improving their health-related quality of life.

There have been innovations in undergraduate and postgraduate medical education. The landmark development was the production by the Royal College of Psychiatrists in the UK of the first blueprint for a postgraduate psychiatric curriculum that is in tune with in person-centered psychiatry.

Whilst the British experience of PCM is in some respects unique, it could contribute to universal development of person-centered healthcare and health education.

References

1. Mezzich JE, Snaedal J, van Weel C, Botbol M, Salloum I. Introduction to person-centred medicine: from concepts to practice. J Eval Clin Pract. 2011;17(2):330-2.
2. Tait I. Person-centred perspectives in medicine.J R Coll Gen Pract., 1974;24(140):151-160.
3. Abou Saleh, M., Crome, I. National Institute for Health and Clinical Excellence (NICE) guideline: psychosis with coexisting substance misuse. Addiction. 2012;107(1):1-3.
4. National Institute for Health and Clinical Excellence (NICE) Coexisting severe mental illness (psychosis) and substance misuse: assessment and management in healthcare settings (CG120) .2011 https://www.nice.org.uk/guidance/cg120
5. Fulford KWM, Christodoulou GN, Stein DJ. Values and Ethics: Perspectives on Psychiatry for the Person. Int J Pers Cent Med. 2011;1(1):131-133.
6. Warnock GJ. Contemporary moral philosophy. London and Basingstoke. 1967 The Macmillan Press Ltd.
7. Stein DJ. Philosophy of Psychopharmacology: Smart Pills, Happy Pills, and Pep Pills. 2008; Cambridge: Cambridge University Press.
8. Fulford KW. Bringing together values-based and evidence-based medicine: UK Department of Health

Initiatives in the 'Personalization' of Care. J Eval Clin Pract. 2011;17(2):341-3.
9. Three Keys to a Shared Approach to Mental Health Assessment 2008 National Institute for Mental Health in England. https://www.adass.org.uk/adassmedia/stories/Mental_Health/Bull_Docs08/3keys.pdf
10. Lloyd HM, Pearson M, Sheaff R, Asthana S, Wheat H, Sugavanam D, Horrell J, Byng R. Collaborative action for person-centred coordinated care (P3C): an approach to support the development of a comprehensive system-wide solution to fragmented care. Health Res Policy Syst. 2017;22;15(1):98.
11. Horrell J, Lloyd H, Sugavanam T, Close J, Byng R. Creating and facilitating change for Person-Centred Coordinated Care (P3C): The development of the Organisational Change Tool (P3C-OCT). Health Expect. 2018;21(2):448-456.
12. Lloyd H, Wheat H, Horrell J, Sugavanam T, Fosh B, Close J. Patient-Reported Measures for Person-Centered Coordinated Care: A Comparative Domain Map and Web-Based Compendium for Supporting Policy Development and Implementation. J Med Internet Res. 2018;14;20(2): e54.
13. Sugavanam T, Fosh BJ, Byng R, Horrell J, Lloyd H. Codesigning a Measure of Person-Centred Coordinated Care to Capture the Experience of the Patient: The Development of the P3CEQ. J Patient Exp. 2018;5(3):201-11.
14. Lloyd H, Fosh B, Whalley B, Byng R, Close J. Validation of the person-centred coordinated care experience questionnaire (P3CEQ). Int J Qual Health Care. 2019;31(7):506-512.,
15. Wheat H, Horrell J, Valderas JM, Close J, Fosh B, Lloyd H. Can practitioners use patient reported measures to enhance person centred coordinated care in practice? A qualitative study. Health Qual Life Outcomes. 2018;4;16(1):223.
16. Barnett K, Mercer SW, Norbury M, Watt G, Wyke S, Guthrie B. Epidemiology of multimorbidity and implications for health care, research, and medical education: a cross-sectional study. Lancet. 2012;380(9836):37-43.
17. Millar HL, Abou-Saleh MT. Multimorbidity in Mentally Ill People: The Need for a Person-centered Integrated Approach IJPCM. 2015;5(1):28-33.
18. Salisbury C, Man MS, Bower P, Guthrie B, Chaplin K, Gaunt DM, Brookes S, Fitzpatrick B, Gardner C, Hollinghurst S, Lee V, McLeod J, Mann C, Moffat KR, Mercer SW Management of multimorbidity using a patient-centred care model: a pragmatic cluster-randomized trial of the 3D approach. Lancet. 2018;392(10141):41-50.
19. Smith SM, Wallace E, O'Dowd T, Fortin M. Interventions for improving outcomes in patients with multimorbidity in primary care and community settings. Cochrane Database Syst Rev. 2016;3 CD006560.
20. Carstairs GM, Walton HJ, Smythies JR, Crisp AH .Psychiatric Education: Survey of Undergraduate Psychiatric Teaching in the United Kingdom (1966–1967) Br J Psychiatry. 1968;114(516):1411-6.
21. Abou-Saleh MT. Survey of undergraduate teaching of psychiatry in the UK and Ireland. Medical Teacher 1994;16;179-187.
22. Blackwell B, Goldberg DP. Psychiatric interviews in general practice. Br Med J. 1968;4(5623):99-101.
23. Harrison A, Glasgow N, Townsend T. Communication skills training early in the medical curriculum: The UAE experience, Medical Teacher, 1996;18:1,35-41.
24. Lovett LM, Cox A, Abou-Saleh MT. Teaching psychiatric interview skills to medical students. Med Educ. 1990;24(3):243-50.
25. Green B, Goepfert M, Abou-Saleh MT. Developing therapeutic interview skills in medical students. Psychiatric Bulletin.1991;15:157-158
26. Maguire GP, Goldberg DP, Hobson RF, Margison F, Moss S, O'Dowd T. Evaluating the teaching of a method of psychotherapy. Br J Psychiatry. 1984; 144:575-80.
27. Cobb JP, Lieberman S. The Grammar of Psychotherapy: A descriptive account. Br J Psychiatry. 1987;151:589–594.
28. von Fragstein M, Silverman J, Cushing A, Quilligan S, Salisbury H, Wiskin C. UK Council for Clinical Communication Skills Teaching in Undergraduate Medical Education. UK consensus statement on the content of communication curricula in undergraduate medical education. Med Educ. 2008;42(11):1100-7.
29. Noble LM, Scott-Smith W, O'Neill B, Salisbury H. UK Council of Clinical Communication in Undergraduate Medical Education. Consensus statement on an updated core communication curriculum for UK undergraduate medical education. Patient Educ Couns. 2018;101(9):1712-1719.
30. Miles A, Asbridgeb JE, Caballero F. Towards a person-centered medical education: challenges and imperatives. Education Medica. 2015;16(1):25-33.
31. Moore HL, Farnworth A, Watson R, Giles K, Tomson D, Thomson RG. Inclusion of person-centred care in medical and nursing undergraduate curricula in the UK: Interviews and documentary analysis. Patient Educ Couns. 2020; S0738-3991(20)30528-0.
32. Person-centred care: implications for training in psychiatry The Royal College of Psychiatrists. 2018. https://www.rcpsych.ac.uk/improving-care/campaigning-for-better-mental-health-policy/college-reports/2018-college-reports/cr215
33. RCPsych Person-Centred Training and Curriculum Scoping Group Training in psychiatry: making person-centred care a reality. BJ Psych Bulletin 2019;43(3):136-140.
34. Leplege AF, Gzil M, Cammelli C, Lefeve B, Pachou VI. Person-centredness: Conceptual and historical perspectives. Disability and Rehabilitation. 2007;29: 1555-65.
35. Mezzich J. Snaedal J, van Weel C, Heath I. The international network for person–centered medicine: Background and first steps. World Med J. 2009;55: 104-107.

36. Health Foundation Person-Centred Care Made Simple – What Everyone Should Know about Person-Centred Care. 2014 Health Foundation.
37. Adshead G, Crepaz-Keay D, Deshpande M, Fulford KWMB, Richards V. Montgomery and shared decision making: implications for good psychiatric practice. Br J Psychiatry. 2018;213:630–32.
38. NICE. Shared Decision Making. NICE, 2018 (https://www.nice.org.uk/about/what-we-do/our-programmes/nice-guidance/nice-guidelines/shared-decision-making).Google Scholar
39. University of West London. MSc Person-Centred Health and Social Care. 2019 (https://www.uwl.ac.uk/course/postgraduate/person-centred-health-and-social-care).
40. Salloum IM, Abou-Saleh MT, Krasnov V. (2012) Comorbidity, psychiatric diagnosis and the Person-centered Integrative Diagnostic Model. IJPCM. 2(2): 168-172.
41. Mezzich JE, Braš M, Dorđević V, Appleyard J. (2014) Professional health education and person-centered medicine. IJPCM. 4(1):1-5.

الملخّص

تأسست الخدمة الصحية الوطنية (NHS) في عام 1948 كنظام رعاية صحية ممول من القطاع العام في المملكة المتحدة يوفر تغطية صحية شاملة ومجانية ومتوفرة لجميع من يحتاجها. إن التجربة البريطانية في الطب المتمركز حول الشخص مكرسة في دستورها وتتضمن مبادرات إنشاء المعهد الوطني للتميز في الرعاية الصحية (NICE) الذي يهدف الى اعتماد الممارسات الطبية المستندة إلى القيم والابتكارات في الرعاية الشاملة والمتكاملة التي تركز على الشخص. كانت هناك ابتكارات تتمحور حول الشخص في التعليم الطبي الجامعي والدراسات العليا. ومن اهم التطورات استحداث الكلية الملكية للأطباء النفسيين في المملكة المتحدة لمنهاج التدريب الاختصاصي للطب النفسي الذي يتناسب مع الطب النفسي المرتكز على الشخص. في حين أن هذه التجربة البريطانية فريدة من بعض النواحي، إلا أنها يمكن أن تسهم في التنمية الشاملة للرعاية الصحية التي تركز على الشخص والتعليم الصحي في كافة مراحله ومن منظور عالمي.

Author

Professor Mohammed T Abou-Saleh, Professor of Psychiatry, St George's, University of London - UK

Email: mabousal@gmail.com

The Arab Journal of Psychiatry (2021) Vol. 32 No.1 Page (53 - 63) (doi-10.12816/0058766)

The Prevalence and Pattern of Substance Use among Medical Undergraduates in Baghdad University: A Preliminary Report

Maha Sulaiman Younis, Hamid Yahya Hussain

وبائية ونمط اساءة استعمال المؤثرات العقلية لدى طلبة الطب في جامعة بغداد: استطلاع أولي

مها سليمان يونس، حامد يحيى حسين

Abstract

Background: Substance misuse can involve excessive and continuous consumption of psychoactive substances without medical supervision leading to dependence and adverse health consequences. It is an escalating public health problem that is under researched in Iraq. The current work examines the prevalence, pattern, reasons, and adverse effects of substance use among medical undergraduates attending the College of Medicine in Baghdad. **Methods:** In July 2019, 256 students completed an online survey anonymously through the college's website. The survey included socio-demographic data, type of substances used, consumption patterns, reason for use, and adverse effects. The study was a research project associated with the community medicine and continuous medical education departments. **Results:** From the 12 substances listed, half of the participants met the diagnostic criteria for substance misuse, mainly for caffeine (30.5%) and tobacco (12.5%) followed by Over the Counter (OTC) medicines (12.1%), benzodiazepines (5.8%), steroids (4.6%), and alcohol (4.2%). Tramadol was the most used illicit drug (1.9%). Peer influence and the decision not to quit were the expected patterns of use with common triggers being life stress (13.7%) and anxiety (12.5%). **Conclusion:** The prevalence of substance use among medical students in Baghdad is high, particularly given Iraq's religious and social precautions and their medical knowledge compared with previous local studies. The stress of studying, anxiety, and unstable living conditions within the city were common predisposing factors. The laxity of legislation concerning drug availability is contributing to widespread substance use in Iraq. Health authorities should actively implement intervention and treatment programs.

Keywords: substance use, medical undergraduates, Baghdad

Conflicts of interests: None

Introduction

The World Health Organization (WHO) formally defined substance use disorder as the excessive and continuous use of any mind-altering (psychoactive) substance or use that is harmful or hazardous. Such use may lead to dependence syndrome involving behavioral, cognitive, and physiological phenomena that develop after repeated substance use and that typically include a strong desire to take the drug, difficulties in controlling its use, persisting in its use despite harmful consequences, a higher priority is given to drug use than to other activities and obligations, increased tolerance, and sometimes a physical withdrawal state.[1] These substances can be legal medicines prescribed for medical or mental disorders and used randomly without medical supervision. These also can be illicit (hard) drugs consumed for recreational reasons and obtained from the black market. In 2013, the American Psychiatric Association updated the Diagnostic and Statistical Manual, Fifth Edition (DSM-5) to define substance misuse within categories: substance-use disorders, substance-related, substance-induced disorders according to the severity and type of the substance being used.[2] Levels of severity are measured on a continuum from mild to severe based on the same overarching diagnostic criteria, including physical and psychological symptoms resulting from using one or more of registered substances with the presence of craving and social dysfunction.[3] Despite the differences in pharmacological action for each item, the reward system is similar. Psychoactive substances range from the traditional daily drink of caffeine to harmful illicit drugs. Opiates, LSD, amphetamine, cocaine can be fatal by intoxication.[4] Many factors predispose people to misuse substances, including age, gender, personality type, genetic factors, availability, cultural acceptance, the effect of peer groups, mental disorder, and presence of chronic stress.[2,5]

Prolonged self-treatment with prescribed or over the counter medicines (OTC) like analgesics, sleeping pills, anxiolytics, cold remedies, and cough syrups will cause a state of a dependence medical, psychological, and behavioral impairment.[5,6] The problem of substance use is more common among the young population (14-55 years). It is increasing worldwide. According to the WHO,[6,7] in 2015 there were around 1.3 billion tobacco users; 165.35 million 60-kilogram bags of coffee were consumed worldwide; approximately 3.3 million net deaths attributable to alcohol consumption; and 246 million people using illicit drugs.[7] There is considerable literature about different aspects of substance use in western countries. Still, substance use and the potential for misuse have not been adequately studied in Arab countries, especially Iraq, due to obstacles associated with difficulties in methodology, lack of robust data, and social stigma. Studies exist on many different population cohorts, however, there remains a knowledge gap in relation to university students. Research highlights how medical students experience high levels of stress and psychological distress in many countries because of long hours of study and the intense focus on technical skills development – pressures which can contribute to substance use.[9,10] In Iraq, substance use and substance use disorders are an escalating problem,[6,11,] which could be attributed to the ongoing violence and instability, economic uncertainty, poorly monitored borders, and a porous pharmacy system.[12] The Iraq Mental Health Survey (I.M.H.S.), a nationally representative survey conducted in 2006/7 on 4,332 adults, indicated that (0.9%) of Iraqi youth were diagnosed with substance-related disorders.[13]

According to the available data on smoking (tobacco) from the Iraq Ministry of Health and Iraq Family Health Survey, tobacco use is reported by 21.9% and 14.9% of the general population, respectively.[13,14] Other Iraqi studies on high school and university students reported tobacco use rates ranging from 3.2% to 21%.[15,16] A large-scale survey conducted on 1435 university students in Baghdad found that 9.7% consumed alcohol daily, and heavy alcohol consumption was reported by 12.2%.[17] Many studies in western countries found comorbidity between mental health difficulties and substance use, i.e., generalized anxiety disorder, panic disorder, posttraumatic stress disorder (PTSD).[18,19,20]

The study

Purpose

The purpose of the current study was to assess the prevalence of substance use and substance type reported by medical students enrolled in the College of Medicine at Baghdad University. Given their awareness of the hazards associated with such use, the study also offered an opportunity to explore the patterns and reasons behind this health problem from the students' perspectives.

Participants and consent

There were no exclusion criteria for the sample. From a pool of 2955 students enrolled at the college, 256 responded to a brief survey that was distributed electronically in July 2019 during their summer holiday. Students recruited to the study represented a homogenous sample of healthy, intellectually able young people with medical knowledge about substance use and its consequences.

Confidentiality was assured by returning the completed surveys anonymously via electronic link. The survey included a statement of written consent to be signed by the participants.

Method

The study protocol was approved by the Ethical and Research Committee in the college. The departments of community medicine and continuous medical education involved students in research projects under the supervision of allocated academic staff who were advised to create a survey format that focused on students' problems. A brief descriptive survey was designed by the Department of Community Medicine quoting from the Global Assessment Program on Drug Abuse Toolkit Module 3. It was distributed in English. Students from the first to fifth year of study received formal invitation letters to participate voluntarily together with multiple choice survey formats, including selected socio-demographic data, type of substance, pattern of use and duration, reasons for substance use, and perceptions of the adverse effects.

Data analysis

Data were statistically analyzed using the Statistical Package for Social Sciences program version 21 (SPSS v 21.0). The alpha level of significance was 0.05, analysis into frequency, percentage, and cross-tabulation with a confidence interval of 95%.

Results

The current study involved 256 students of which 105 (41%) were men and 151 (59%) were women. The average age was 20.5+ years. In total, 111 (55.47%) participants reported not using any of the listed substances other than tea and coffee in small amounts. The remaining 144 (44.53%) students responded positively to the same question in a way that met the definition of misuse. Of this group, 28.8% were women and 22.2% were men (Table 1).

Beverages containing caffeine in different concentrations (brewed or instant tea and coffee, others) were the most consumed substance (30.5%). Tobacco in different concentrations (normal or e-cigarette, shisha) were used by 12% of the students and 12% reported taking OTC medications, such as sleeping pills, anti-histaminic analgesics. Benzodiazepines: Diazepam, Alprazolam, Chlordiazepoxide, and steroids were consumed by 5.8% while 4.2% drank alcoholic beverages in different concentrations e.g., beer and liquors. The most common illicit substances being used were Tramadol (1.9%), amphetamine derivatives: (1.4%), marijuana (1.1%) and heroin (0.4%). Women used caffeine, OTC medicines, benzodiazepine, and steroids more than men (Table 2). Figure 1. depicts the pattern of substance use where 64.8% shared their substance intake with their peer groups compared with 35.8% who chose a solitary setting. More than half (59%) did not try to quit while 25% attempted to do so. The remaining 16% stopped entirely. Figure 2. shows the reasons for using substances where the number of students who responded with 'yes' to the question about the influence of being at university on their substance use was slightly higher (36.1%) than those who said 'no'. (34%). "Miscellaneous" reasons for use involved study-related stress, depression symptoms, need for mental concentration, and community instability were endorsed by 30.2% of students. Other reasons that were endorsed, such as anxiety, insomnia, and psychosomatic pain were comparative. Adverse symptoms were mood changes (9.4%), sleep disorders (6.3%), loss of concentration (3.9%), tremor, and appetite change (1.6%). These symptoms were combined with complaints of headaches and fatigue, as shown in Figure 3.

Table 1. Frequency distribution of collective substance use by medical students

Gender	N	Use %	N	No Use %	Total	%
Female	47	18.4%	87	34%	134	52.3%
Male	64	25%	58	22.7	122	47.7%
	111	43.4%	145	56.6%	256	100%

Table 2. Frequency distribution of types of substances used, according to gender

Substance	N	Female	N	Male	N	Total
Caffeine	47	18.4%	31	12.1%	78	30.5%
Tobacco	7	2.7%	24	9.4%	32	12.5%
OTC medicines	20	7.8%	8	3.1%	28	12.1%
Benzodiazepine	12	4.7%	6	2.3%	18	7%
Alcohol	1	0.4%	10	4%	11	4.3%
Amphetamines	2	0.8%	5	2%	7	2.7%
Steroids	5	1.9%	2	0.8%	7	2.7%
Tramadol	1	0.4%	4	1.6%	5	1.9%
Marijuana	0	0%	2	0.8%	2	0.8%
Heroin	0	0%	1	0.4%	1	0.4%

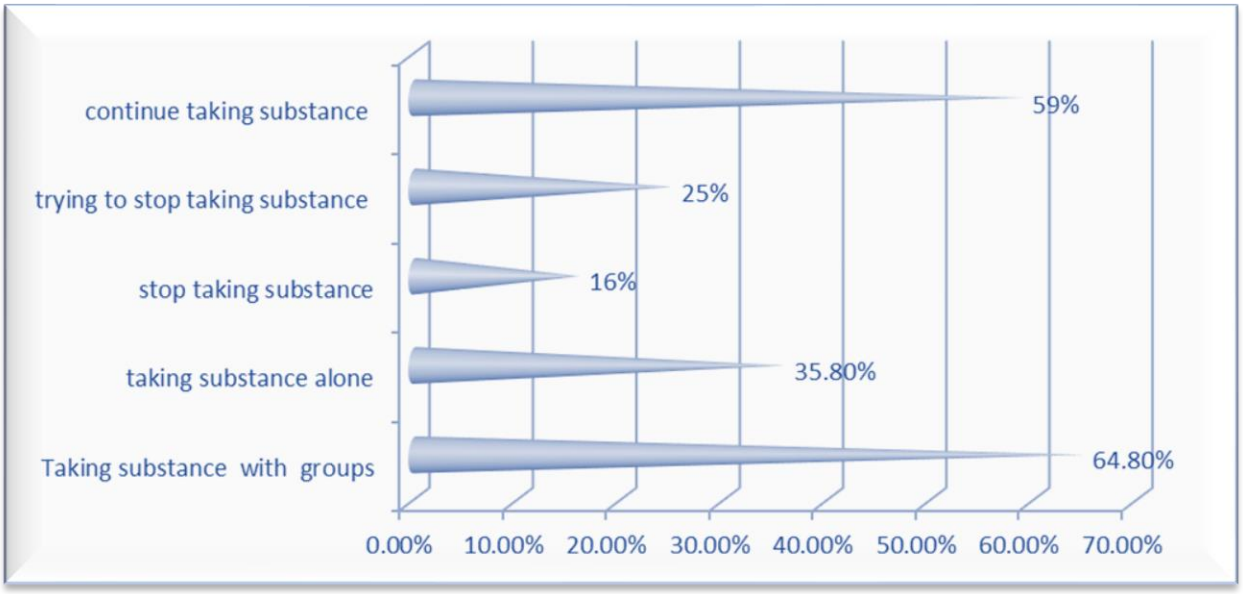

Figure 1. Pattern of substance use among students

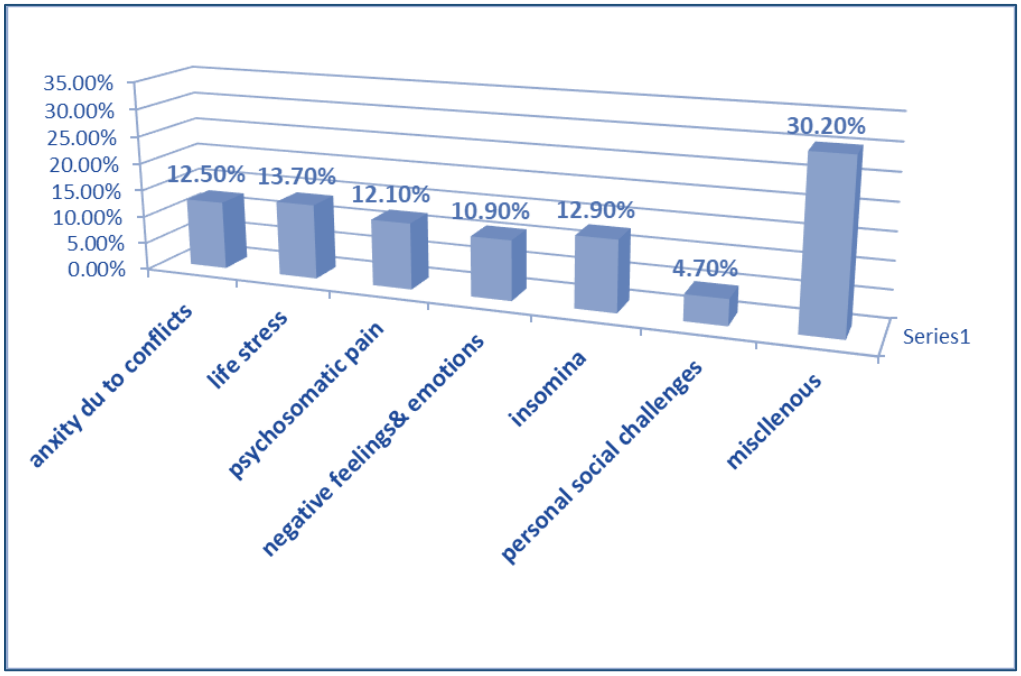

Figure 2. Reason for substance use given by students

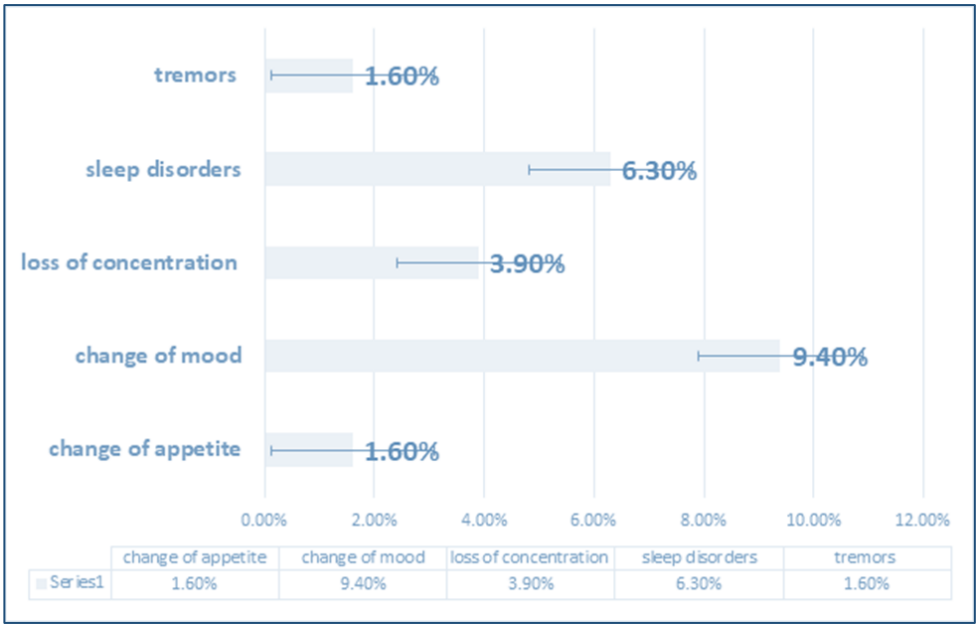

Figure 3. Reported symptoms due to substance use

Discussion

There is a paucity of studies on substance use in Arab countries, including Iraq; particularly those that apply a robust definition for substance misuse because the issue can be a sensitive one due to religious and social precautions. Further, there is variation in labeling certain substances as "legal" or "illegal, especially in western countries and Muslim countries according to state legislations and cultural norms.[2,21]

The available local literature involves small-scale studies, which are now largely outdated.[12,13,15,22] There has yet to be research conducted with medical students attending Baghdad Medical College. In the current study, 12 substances were listed, and half of the participants met the diagnostic criteria for substance misuse, mainly for caffeine and tobacco. Their average age (20.5years) is the commonest age group for substance misuse worldwide.[1,5,7,8]

The many years required for medical training are a common source of high stress and psychological distress for medical students and the challenges associated with medical careers may leave them predisposed to substance misuse.[9,23] Moreover, the insecure and unstable conditions that characterize life in Baghdad after decades of armed conflict and community violence play a substantial role in exacerbating stress levels.[24,25] Accordingly, such conditions can lead students to seek relief from anxiety or take opportunities to get "high" out of boredom and despair.[24,26]

In the current study, the most consumed substance was caffeine with 30.5% of students reportingg excessive daily consumption. Caffeine beverages show the pharmacological properties of classical psychostimulants, in particular, arousal, motor activation, and reinforcing effects but in a milder form. Caffeine indirectly activates ascending neurotransmitter systems e.g., cholinergic, histaminergic, adrenergic, serotonergic. Usually, daily consumption of 130-250 mg of caffeine does not cause physical dependence. When 400mg (> 4 cups of coffee) is consumed daily, headaches, tiredness, drowsiness, and decreased concentration will manifest as withdrawal symptoms.[28] The physical dependence on caffeine "caffeinism" occurs at > 1000mg per day (8-10 cups of coffee), considering its concentration.

This sizeable ratio of caffeine misuse is consistent with a study on medical students in Jordan and is an expected finding given that it is the most consumed psychoactive drug in the world.[29] Some studies showed that as little as two to three cups of coffee per day could trigger a withdrawal effect marked by tiredness or sleepiness. However, it is not yet clear to what extent it is clinically a significant disorder.[1,5,8]

The second commonly used substance was tobacco in the form of smoking ordinary E-cigarettes and shisha. like coffee, smoking is socially acceptable behavior in almost every public place, and there are no smoke-free regulations. Indeed, tobacco is of course legal, easily obtained, and can be consumed in public. Nicotine in any tobacco product is readily absorbed in the blood and immediately stimulates the adrenal glands to release the hormone Epinephrine (adrenaline). Epinephrine stimulates the central nervous system and increases blood pressure, breathing, heart rate, activates the brain's reward circuits, and increases the chemical messenger dopamine levels, reinforcing rewarding behaviors.[7,30] Studies suggest that other chemicals in tobacco smoke, such as acetaldehyde, may enhance nicotine's effects on the brain. The percentage of smoking reported by students in the current study is identical to a study of medical students in Saudi Arabia although lower than what has been previously reported in Baghdad.[31,25] Other studies suggest lower rates in Kufa, Iraq (9.3%) and in Egypt where 4.3% of students reported alcohol use,[32] which is notably higher than the figure of 0.7% reported by the Iraq Mental Health Survey (I.M.H.S.) and another study[13,33]

These rates are lower than what has been reported in western countries,[6,8,11,12,17] and is to be expected in Islamic communities; nevertheless, alcohol is not banned in Iraq. It is sold and served publicly, and to some extent, culturally accepted in some regions. This liberal attitude facilitates alcohol misuse, especially among young people.

Using OTC medicines, analgesics, steroids, and benzodiazepine derivatives may be a consequence of student experiences of stress and psychological distress together with the lack of strict legislation on selling such drugs through pharmacies.[34] In the current study, Tramadol was the most used illicit drug. The consumption rates of amphetamine, marijuana, heroin was lower than comparable studies in western countries and a study in Jordan where substance use among university students was 2.5% (cannabis), 3.3% (sedatives), 0.9% (opiates), 2.8% (Benzhexol), 2.6% (stimulants), 12% (alcohol), and 29% (tobacco). There was no reported use of cocaine.[35]

Students identified some risk factors: seeking acceptance, encouragement from peers involved in substance use, and poor communication with the family. The most common cause of substance use in this study was to reduce temporary stress, the need to control anxiety and depressive symptoms, or just for recreation.[17,21,26,27] Regarding pattern of use, more than half of the students reported that they consume substance with their peers in a group, which highlights how social influences can lead to substance use. It appears that some youth, including students, will continue or quit consumption without significant problems or when they experience symptoms of anxiety and depression.[18,27] Still, others may use more dangerous drugs, causing substantial harm to themselves and other people.

To improve the quality of health services, the Iraq Ministry of Health launched a program to monitor drug use trends incorporated by policymakers in the state authorities. This step is essential for public health planning and developing strategies to identify and treat patients with substance use disorders. The Community Epidemiology Work Group (C.E.W.G.) is a network of researchers that meets semiannually to discuss the current epidemiology of substance use disorder. Its primary mission is to provide ongoing community-level surveillance of substance use through the gathering of quantitative and qualitative data.[33,36] Alcohol and substance use by medical students is not uncommon in western countries with reported hazardous effects on physical and mental health, and its drawback effects on their medical career.[17,23] It appears also to have taken root in Baghdad.

Conclusions

The prevalence of substance use among medical students in Baghdad is high, considering their education, religious, and cultural values. The most consumed substances are caffeine, tobacco, and alcohol. Reports of illicit drug use were higher than in previous Iraqi studies. Continued consumption with peer groups was the prevalent pattern. Stress, anxiety, and community-wide instability following years of armed conflict and political unrest were the widely given reasons for consumption. The prevalence and pattern of substance use are concerning signs that substance misuse is a growing public health problem and should be considered by the health authority. Findings need to be confirmed by large-scale research on the same sample. An urgent strategy for treatment and prevention should be implemented.[3]

Limitations

There are some limitations to consider, namely the survey questions were brief and did not probe for enough detail for such an important issue. Data sampling was limited to the allocated time of one month. Psychopathology was not explored nor were socio-demographic factors compared alongside substance use patterns. The smaller sample size

may not be generalizable when considering the significance of this public health problem among Iraq's young population.

Acknowledgment

We are grateful to Mariam Naseer Abid Razzaq, Huda Assad Abid Hamed, Nibrass Nouri Abdulla, the fourth-year medical student who helped us in data collection.

References

1. World Health Organization (WHO). The global burden of substance abuse (2014), Available from http://www.who.int/substance_abuse/facts/global_burden/en (accessed on 12/September 2020).
2. Hasin DS, O'Brien Ch P, Auriacombe M, Borges G, Bucholz K, Budney A, Compton WM, Crowley TH, Ling W, Petry NM, Schuckit M. DSM-5 Criteria for Substance Use Disorders: Recommendations and Rationale. Am J Psychiatr. 2013;170(8):834-851.
3. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders (DSM-5), www.psychiatry.org › psychiatrists › practice › D.S.M. (2013), accessed in September 2020.
4. McLellan AT. Substance Misuse and Substance use Disorders: Why do they Matter in Healthcare? J Trans Am Clin Climate Assoc. 2017;128:112-130.
5. Trends in Substance Use Disorders Among Adults Aged 18 or more (2017) ...www.samhsa.gov › report_2790 › ShortReport-279.
6. World Health Organization (WHO), Regional Office for the Eastern Mediterranean. Iraq health profile, Non-communicable disease (2015): 14-16, WHO-EM/HST/233/E, apps.who.in.
7. U.N.O.D.C., World Drug Report (United Nations Publication), United Nations Office on Drugs and Crime, United Nations, New York. 2014, www.unodc.org.-.
8. Sweileh WM, Zyoud SH, Al-Jabi SW et al. Substance use disorders in Arab countries: research activity and bibliometric analysis. Subst Abuse Treat Prev Policy. 2014;9;33. https://doi.org/10.1186/1747-597X-9-33.
9. Melaku L, Mossie A, Negash A. Stress among medical students and its association with substance use and academic performance. J Biomed Educ. 2015 Article ID;149509/9: http://dx.doi.org/10.1155/2015/149509.
10. Ayala EE, Roseman D, Winseman JS, Mason HRC. Prevalence, perceptions, and consequences of substance use in medical students. Med Educ. 2017;22, N,1. https://doi.org/10.1080/10872981.2017.1392824
11. Eastern Mediterranean Regional Office of the World Health Organization (E.M.R.O.), Health system profile Iraq. Available from http//www.who.int/human-resources observatory countries/country -profile.html, (2006).
12. Aqrawi R, Humphreys K. Responding to Rising Substance Misuse in Iraq. Substance Use & Misuse. 2009;44,N12,:1744-1748. DOI: 10.3109/10826080902963415.
13. Al Hasnawi, S et al. The prevalence and correlates of DSM-IV disorders in the Iraq Mental Health Survey (I.M.H.S.). J World Psychiatry. 2009;8, N 2:97-109.
14. Iraq Family Health Survey Study Group. Iraq Family Health Survey (I.F.H.S.) 2006/7. World Health Organization. 2008;www.who.int › media Centre › news › releases.
15. Ministry of Health. Chronic non-communicable diseases risk factor survey in Iraq. Baghdad: Ministry of Health, (2006). Available at: http://www.who.int/chp/steps/IraqSTEPSReport (2006).
16. Siziya S, Muula AS, Rudatsikira E. Correlates of current cigarette smoking among in-school adolescents in the Kurdistan region of Iraq. Confl Health 1, 13 (2007). https://doi.org/10.1186/1752-1505-1-13.
17. Al-Ameri RKG, Al-Badri HA, Lafta RK. Prevalence of Alcohol Consumption among University Students in Baghdad: A Cross-section survey from Iraq. Epidemiol Biostat Public Health. 2016;13;4.
18. Ross S, Peselow E. Co-occurring psychotic and addictive disorders: neurobiology and diagnosis. Clin Neuropharmacology (2012);35(5):235-243.
19. Chuan-Yu, CH Lin, Keh-Ming. Health consequences of illegal drug use. Curr Opin Psychiatry. 2009;22;3:287-292, Doi: 10.1097/YCO.0b013e32832a234.

20. Jordan CJ, Andersen SL. Sensitive periods of substance abuse: Early risk for the transition to dependence. Dev Cogn Neurosci. 2017;25:29-44.
21. Bakar C, Gũndogar D, Karaman H.I.O., Maral I. Prevalence, and related risk factors of Tobacco, alcohol, and illicit substance use among university students. Eur J Psychiatry. 2013;27; 2; http://dx.doi.org/10.4321/S0213-61632013000200003.
22. Al-Gburi K, Al-Murshedi R, Abd Alridha AM, Bailee H. A cross-sectional study of epidemiological factors associated with drug use among secondary school students. J Subst Use. 2020;25:5.
23. Frank E, Elon L, Naimi T, Brewer R. Alcohol consumption and alcohol counseling behavior among U.S. medical students: a cohort study. BMJ. 2008;337:a2155.
24. Bu Qamar K, Thabet AAM, Vostanis P. Substance Use Among University Students in the Gaza Strip. Arab J Psychiatr. 2007;18(1):10-20.
25. Ali L.G.A., Abdul Sattar H, Al-Nimer SM. Interrelationship Among Smoking Habit, Drug User, and Exposure to Stressful Situations in College Students in Baghdad, Iraq. Int J Biomed Eng Technol, (2019), Vol. 5: (2).
26. Mannapur B, Dorle AS, Hiremath LD, Ghattargi CH, Ramadurg U, Kulkarni KR. A study of psychological stress in undergraduate medical students at S.N. Medical College, Bagalkot, Karnataka. J Clin Diagn Res (2010), Vol 4: 2869–74.
27. Conway KP, Compton W, Stinson FS, Grant BF. Lifetime comorbidity of DSM-IV mood and anxiety disorders and specific drug use disorders: results from the National Epidemiologic Survey on Alcohol and Related Conditions. J Clin Psychiatry (2006), Vol 67(2):247-257.
28. Ferré S. Caffeine and Substance Use Disorders. J Caffeine Res, (2013), Vol 3, (2): 57–58, https://doi.org/10.1089/jcr.2013.001.
29. Bani Mustafa RA, Abuelbeh IA, Al Badaineh MA, Safi M, Nawaiseh, MB. M. Caffeine consumption among the medical students at the University of Jordan. Arab J Psychiatry, (2018), Vol 29, (2).
30. National Institute on Drug Abuse (N.I.D.A.); National Institutes of Health; U.S. Department of Health and Human Services. Cigarettes and Other Tobacco Products Drug Facts, N.I.D.A. Publications, (2020), www.drugabuse.gov › nida-publications.
31. Abdalla A, Hassan H, Mustafa A, Al-Kaaba A, Saeed A. Prevalence and associated factors of cigarette smoking among medical students at King Fahad Medical City in Riyadh of Saudi Arabia. J Fam Community Med. (2011), Vol 18, (1): 8–12.
32. Abu-Elenin MM, Omar Atalla AA, El-Salamy R. Cigarette smoking among medical students, and some associated risk factors. Tanta Med J, (2018), Vol 45, (4).
33. Al-Hemiery N, Dabbagh R, Hashim TM, Al-Hasnawi S, Abutiheen A, Abdulghani E, Al-Diwan JK, Kak N, Al Mossawi H, Maxwell JC, Brecht ML, Antonini V, t Hasson A, Rawson RA.Self-reported substance use in Iraq: findings from the Iraqi National Household Survey of Alcohol and Drug Use, 2014., J Addiction (2017), Vol.112, I. 8: 1470-1479.doi:https://doi.org/10.1111/add.13800.
34. Masri R, Kadhum M, SM Farrell, Khamees A, Al-Taiar H. Wellbeing, and mental health amongst medical students in Jordan: a descriptive study. Int Rev Psychiatry, (2019), Vol 31, (7-8).
35. Suleman RA, Shareef M, Kharabsheh S, Ab Danoon M. Substance use among university and college students in Jordan. Arab J Psychiatry, 2003, Vol,14, N 2,94-105.
36. Al-Hemiery N, Al-Diwan J, Hasson AL, Rawson R. Drug and Alcohol Use in Iraq: Findings of the Inaugural Iraqi Community Epidemiological Workgroup, Substance Use & Misuse (2014), 49:13, 1759-1763.

الملخص

مقدمة: أساءة أستعمال المؤثرات العقلية تعني الافراط في تعاطي تلك المواد في غياب الدواعي الطبية للاستعمال مما يؤدي الى احداث حالة من الادمان الفسلجي وأضطرابات نفسية وسلوكية . وعلى الرغم من تصاعد هذه المشكلة الصحية في العراق ، لم تنل الاهتمام الوافي في البحث العلمي . تهدف هذه الورقة الى التحري عن وبائية ونمط التعاطي لدى عينة متعلمة ذات وعي صحي عالي بمخاطر هذه المواد وعلاقتها بالعوامل الداخلة بالدراسة. **الطريقة :** تم أجراء دراسة مقطعية على عينة عشوائية من طلبة كلية الطب في بغداد. خلال شهر تموز2019، انتظم 256 طالب وطالبة في الدراسة بشكل طوعي مع أخفاء الهوية الشخصية في ملء أستمارة وزعت الكترونياً على كل الطلبة المسجلين في منصة التعليم الالكتروني للكلية، تضمن الاستبيان المعلومات الديموغرافية للطلبة ، متعددة الخيارات حول نوع المادة المتعاطاة ، الدوافع للتعاطي، وجود أي أضطرابات صحية أو نفسية ، والتأثيرات السلبية الناتجة عن التعاطي. **النتائج :** أظهرت الدراسة وجود 43.4% من مجموع المشاركين يصلون الى توصيف أساءة أستعمال المواد ذات التأثير العقلي ومن أكثر المواد شيوعاً هي (الكافيين) متمثلة بمشروب القهوة بانواعة 30% تليها مادة (النيكوتين) : تدخين السكائر العادية والالكترونية ، أقر 21.1% بالاستعمال العشوائي للاقراص المنومة بانواعها. شكلت الاناث نسبة تعاطى أعلى من

زملاءهم الذكور . أرجح 13.7% من الطلبة اسباب تعاطيهم الى وجود ضغط نفسي ، بينما ارجح 12.5% منهم السبب الى الشعور بالقلق المتعلق بالدراسة والظروف المحيطة. **الاستنتاجات :** تعد هذة النسبة الغير متوقعة عالية الوباءية في العراق قياسا الى الدراسات السابقة ولكون طلبة كلية الطب يمتلكون المعرفة العلمية بالمواد المتعاطاة وبتأثيراتها السلبية ومضاعفاتها علاوة عن الروادع الدينية والاجتماعية خصوصاً لدى الاناث. تشير النتائج الى ارتباط ظاهرة أساءة أستعمال المؤثرات العقلية الى الضغوط النفسية لدراسة الطب والنجاح المهني مستقبلاً. توصي هذه الدراسة بايلاء الأهتمام والتركيز على تفاقم هذة الظاهرة في المجتمع العراقي من قبل السلطات الصحية العليا وتطبيق البرامج الصحية العلاجية والوقائية بشكل فعال .

Corresponding author

Maha Sulaiman Younis

College of Medicine, University of Baghdad - Iraq

Bab-Al Moadam, Medical City Hospital Post Office

POB: 61082, Baghdad 12114, Iraq

Email: maha.younis@gmail.com

Authors

Maha Sulaiman Younis, MD, C.A.B.P, F.I.C.M.P

Professor of Psychiatry, Department of Psychiatry, College of Medicine, University of Baghdad - Iraq

Hamid Yahya Hussain, MD, PhD

Consultant Community Medicine, Health Affairs Department, Primary Health Services Sector, Dubai Health Authority - Dubai, U.A.E.

Appendix

Survey format for substance misuse in College of Medicine-Baghdad University, Department of Community Medicine, Department of Continuous Medical Education,2019-2020

Dear students

You are invited to answer the following questions voluntarily; your name and identity will be hidden

1) Gender:

- Male
- Female

2) Age

3) Grade that you recently completed:

First, Second, Third, Fourth, Fifth

4) Which of the following substances you are currently using or used it before the 6months

1. Caffeine: strong tea, brewed coffee, instant coffee; how many cups/day?
2. Tobacco; ordinary cigarette, E-cigarette, Hookah; how many packets of regular cigarettes? Day? How E-cigarettes /day, how frequently smoking Hookah/week? Many
3. Alcohol: Beer, Liquors; how many tans of Beer/day, how much units of Liquors/day
4. O.T.C. medicines: sleeping pills, analgesics, Anti-histamines; how many tablets/day?
5. Benzodiazepine group: Valium: Xanax, Librium, lorazepam, how many tablets/day?
6. Steroids; Dexamethasone tablets; how many tablets /day
7. Tramadol: Tramal tablets or injections
8. Amphetamines; Crystal, Captagon; how many tablets/day
9. Heroin; any form, quantity, and frequency of use
10. Marijuana: Hashish, Teriaq, amount &frequency
11. Benzoxole tablets; how many tablets/day.
12. Cocaine; any for or quantity

5) You use these substances:

A. To reduce anxiety
B. To reduce stress
C. To reduce pain
D. To mitigate negative emotions; depression, anger, boredom
E. To help to sleep
F. Personal &social problems
G. Studying- related r problems

6) Do you have/had any psychiatric problem:

- Yes
- No

7) If you have current or past (last six months) psychiatric disorder

- Yes
- No

8) Do you have a chronic medical disorder or current medical problem?

- Yes
- No

9) Does psychiatric or medical disorders affect your study?

- Yes
- No

10) Do you relate misusing substances to studying medicine; to start or to continue?

- Yes
- No

11) How do you usually consume your substance?

- Alone
- with peers, relatives, friends

12) Did you stop using that substance?

- Yes
- No
- Try to stop

13) Is there any of your family member misusing or had substance-related disorders:

- Yes
- No
- Don't know

14) When did you start your substance misuse?

- Before admission to the college
- After admission to the college

15) If you try to quit using your substance, what is the physical or mental symptom that you experienced?

- Tremor
- Sleep disturbance
- Not able to concentrate when doing something
- Change of mood
- Change of appetite
- Other associated symptoms; headache& fatigability

The Arab Journal of Psychiatry (2021) Vol. 32 No.1 Page (64 - 78) (doi-10.12816/0058767)

Prescribing Clozapine in the MENA Region: The Perspective and Practice of Psychiatrists

Samer El Hayek, Paul Noufi, Antoine Beayno, Marwa Nofal, Hussien ElKholy, Walid Hassan, Amine Larnaout, Mahmoud M. Monzem, Doaa N. Radwan, Mohammadreza Shalbafan, Joseph El Khoury

وصف كلوزابين في منطقة الشرق الأوسط وشمال إفريقيا: وجهات نظر وممارسات الأطباء النفسيين

سامر الحايك، بول نوفي، انطوان بينو، مروى نوفل، حسين الخولي، وليد حسن، أمين الأرناؤوط، محمود منظم، دعاء رضوان، محمد رضا شلبافان، جوزيف الخوري

Abstract

Clozapine is recommended as first-line treatment for treatment-resistant schizophrenia (TRS). Despite its established position in all international guidelines, prescribing and utilization rates of clozapine have consistently been low among psychiatrists. The primary aim of the current study was to survey psychiatrists in the Middle East and North Africa (MENA) region on clozapine prescription patterns and practices, attitudes towards the medication, and perceived barriers and facilitators for prescribing. Data were collected from 17 of the 21 countries belonging to the MENA region via an online questionnaire. The majority of participants stated that the most common indication for clozapine was TRS. While most reported high levels of expertise with clozapine and rated it as an effective treatment, only 53.1% used it as their first-line treatment. The main stated barriers were concerns over patients' poor compliance, the burden of regular blood testing, and the associated side effects. Years of practice and the setting of practice did not influence prescribing attitude and behavior. This study confirms that psychiatrists in the MENA do not diverge from the norm of clozapine under prescription. Structural reforms are required to establish services that have the capacity and experience to address clozapine prescribing.

Keywords: Clozapine, schizophrenia, Middle East, Africa, Northern, attitude, prescription

Declaration of interest: None

Introduction

Schizophrenia is one of the most debilitating psychiatric disorders affecting 20 million people worldwide. It is associated with a heavy burden on individuals and healthcare systems.[1] Treatment-resistant schizophrenia (TRS) is defined as persistent symptoms of schizophrenia causing functional impairment, following two treatment trials on different antipsychotic medication. This sizeable group of patients is estimated to constitute 20% to 30% of all schizophrenia diagnoses.[2]

Clozapine remains the first-line treatment and the only FDA-approved drug for TRS despite decades of advances in psychopharmacology. Evidence supporting the superiority of clozapine over all other antipsychotics in the management of TRS has been accumulating.[3-5] Clozapine has also been shown to decrease hospitalization rates and mortality rate of patients with schizophrenia.[6, 7]

Despite the established position of clozapine in all international guidelines, prescribing and utilization rates of this drug have consistently been low among psychiatrists. Studies report low rates in countries with very diverse socio-economic profiles and health systems, including New Zealand, England, Denmark, India, the Middle East, and the United States.[8-12] This translates often into a substantial delay of four to ten years before clozapine initiation, which exposes patients to an unnecessary period of active psychosis.

This mismatch between the expectations for clozapine and the clinical reality is commonly attributed to three barriers: prescriber-related, patient-related, and system-related.[13-15] Prescriber-related barriers have included lack of personal experience, concerns about clozapine side effects, or less frequently lack of knowledge about the medication. Patient refusal of the prescription and monitoring of the medication is described as another obstacle. However, while studies exploring the attitudes of prescribers cite this reason as one of the most common barriers, patients taking clozapine do not consistently report greater dissatisfaction with the medication compared to other antipsychotics.[16,17] This barrier can thus be more related to prejudice on the part of the prescriber rather than the patients. Finally, the third barrier encompasses limited administrative and logistical support

deemed necessary for the safe prescription and monitoring of clozapine.

The Middle East and North Africa (MENA) region is an area that is not officially defined but is recognized by international organizations to most commonly encompass 21 countries. In this area, few studies have explored the phenomenon of the underuse of clozapine. However, recent studies published in Oman, Saudi Arabia, and Bahrain on the patterns of prescription of antipsychotics reveal widespread under-prescribing of clozapine.[18-20] A recent qualitative study exploring prescribing and monitoring practices of clozapine in the Gulf countries concluded that although mental health professionals in the region were aware of the effectiveness and the efficacy of clozapine for TRS, there is a tendency to avoid its use until all other treatment options are exhausted.[21]

The primary aim of the current study was to survey psychiatrists in the MENA region on clozapine prescribing, their attitudes towards it, and perceived limitations. It also considered possible association between these factors and the characteristics of the prescribing psychiatrist.

Methods

This cross-sectional study was conducted between September and December 2019 following Institutional Review Board Approval (ID: SBS-2018-0555).

Study design and selection criteria

In the absence of accessible official databases, qualified psychiatrists practicing in the 21 MENA countries were identified using a snowball sampling strategy relying on three primary methods with a view to reach the widest representative sample. When possible, national psychiatric associations were contacted with a request to disseminate the survey invitation. A second method was through 'champions' (the authors) in a number of countries using their networks of colleagues. A third method was through a thorough online search identifying psychiatrists in academic centers, public state hospitals and private practice. Email invitations and reminders to fill the anonymous online questionnaire hosted on LimeSurvey were sent to a total of 1031 psychiatrists. 340 of these participated but only 245 complete responses were included in the final data analysis. Apart from Mauritania, Syria, and the Sahrawi republic, all targeted countries were represented in our sample, keeping in mind the wide workforce discrepancies between countries.

Questionnaire design and validity

In the absence of a validated questionnaire addressing the primary research questions, a self-administered questionnaire was compiled by the authors based on a literature review of similar regional studies.[11] The questionnaire was independently reviewed by three experts on content validity. It included 37 multiple choice and scaled questions, available in English and French, to reflect at least one of the languages of higher medical education in most MENA countries. It was divided into four sections: demographic and professional characteristics of participants; prescription patterns and practices; attitudes towards the medication; and perceived barriers and facilitators for prescribing.

Statistical analysis

The primary outcomes were analyzed and tabulated per their nature: frequency and percentages for categorical variables; means, standard deviations, and ranges for continuous variables.

For the analytical analysis, we first transformed our variables (Supplementary Table 1) to primarily reflect the adherence of psychiatrists to international clozapine prescription guidelines. We also mean-centered the years of practice variable to aid in interpretability.

We ran a generalized linear model with a binomial distribution in participants fully trained in one of the MENA countries (n=214) to investigate the effect of the number of years of practice post-training and the work setting on the dependent variables: prescribing clozapine as first-line for TRS, initiating clozapine after two failed trials, referring patients to another prescriber for initiation of clozapine, and reporting that the percentage of a prescriber's patients who should be on clozapine and are not on it is less than 25%. In the model, we accounted for the fixed effect of a possible interaction between the number of years of practice and the work setting. We included the country of practice as a random effect to account for the clustering of data by country. Because the comparison of psychiatrists fully trained in MENA countries and psychiatrists trained outside was underpowered due to the small sample size of the latter group, we performed this analysis as a tertiary outcome by using a logistic regression.

Results

Descriptive analysis

Sample characteristics of participants

The demographic and professional characteristics of the participants are detailed in Table 1. 53.1% of participants were men with a mean age of 39.57 (SD=8.936). The mean number of years in clinical practice was 9.89 years (SD=8.652). Most psychiatrists (87.3%) were fully trained in a MENA country and worked in a hospital setting (79.6%).

Table 1. Sample characteristics of the study population. SD: standard deviation; MENA: Middle East and North Africa

	Mean	**SD**	**Range**
Age	39.57	8.936	52
Years in clinical practice	9.89	8.652	41
		n	**%**
Gender	Male	130	53.1
	Female	115	46.9
Psychiatry area of expertise	Addiction	37	15.1
	Child and adolescent	31	12.6
	Consultation-liaison	15	6.1
	Geriatric	7	2.8
	Mood disorders	6	2.4
	Psychotic disorders	5	2.0
	Community	3	1.2
	Forensic	3	1.2
	Sexology	3	1.2
	Eating disorders	1	0.4
	Women's mental health	1	0.4
Country of training	Full training in MENA country	214	87.3
	Full or partial training in non-MENA country	31	12.6
Country of practice	Egypt	58	23.7
	Iran	35	14.3
	Tunisia	34	13.9
	Lebanon	25	10.2
	United Arab Emirates	25	10.2
	Oman	19	7.8
	Saudi Arabia	16	6.5
	Jordan	6	2.4
	Yemen	5	2
	Qatar	4	1.6
	Kuwait	3	1.2
	Libya	3	1.2
	Morocco	3	1.2
	Algeria	2	0.8
	Bahrain	2	0.8
	Iraq	1	0.4
	Occupied Palestinian territory	1	0.4

Work setting	Teaching hospital	90	36.7
	Public hospital	77	31.4
	Private clinic	46	18.8
	Private hospital	28	11.4
	Non-governmental organization	4	1.6

Prescription patterns and practices of clozapine

Most participants (86.5%) stated that the most common indication for their use of clozapine is TRS and 53.1% stated that their first-line treatment for TRS is clozapine; 53.5% consider starting clozapine after failure of two previous trials of antipsychotics. Figure 1a and 1b detail the initial and maintenance clozapine laboratory workup ordered by participants and the frequency of CBC monitoring, respectively.

A total 90.2% of participants stated they always, frequently, or occasionally combine clozapine with other antipsychotics; only 9.8% reported never using a combination while 69.8% reported rarely or never using electroconvulsive therapy (ECT) in patients maintained on clozapine. Supplementary Tables 2 and 3 summarize the participants' dosing patterns of clozapine and the management options of clozapine-related side effects, respectively.

Attitudes, barriers, and facilitators of clozapine prescription

A total 75.9% of participants rated their level of expertise in the prescription and management of clozapine as good or excellent; 20.4% rated it as fair and only; 3.7% rated it as poor while 74% felt that they were comfortable initiating clozapine by themselves; 45.3% of the psychiatrists estimated that more than 25% of their patients in whom clozapine is clinically indicated are not on it. Similarly, 75.5% noted that they often, frequently, or always see patients managed by other clinicians who would benefit from clozapine but are not receiving it.

Most participants rated clozapine as highly (46.9%) or moderately (49%) effective for the treatment of TRS. A total 63.3% reported high efficacy for the treatment of positive symptoms while only 10.6% reported high efficacy for negative symptoms.

A total 52.5% and 35% of participants respectively felt that their patients had a higher level or an equivalent level of satisfaction with clozapine as compared to other antipsychotics. Only 12.5% felt that their patients were less satisfied with clozapine. Table 2 lists the barriers and facilitators of the initiation of clozapine as reported by participants.

Table 2. Barriers and facilitators to the initiation of clozapine

Barriers		**N**	**%**
Patient-related	No commitment to frequent laboratory workup	172	70.2
	Fear of clozapine-related side effects	146	59.6
	History of poor medication compliance	141	57.6
	Lack of social support	113	46.1
	Reluctance from patient's caregiver	96	39.2
	Medical comorbidity	94	38.4
	Refusal to be admitted to hospital for dose titration	66	26.9
	Patient unconvinced of clozapine efficacy	32	13.1
	Concern about cost of treatment	30	12.2
Prescriber-related	Need for laboratory monitoring	176	71.8
	Concerns about blood dyscrasias	161	65.7
	Concerns about clozapine-related metabolic effects	102	41.6
	Concerns about other clozapine-related effects	67	27.3

	Concerns about risk of seizures	54	22
	Concerns about efficacy	9	3.7
Healthcare system-related	Need for hospital admission	67	27.3
	Lack of staff resources	30	12.2
	Administrative factors	28	11.4
	Cost of treatment	26	10.6
Facilitators		**N**	**%**
Facilitating factors	Additional staff resources	127	51.8
	Dedicated day-hospital placements	125	51
	Additional administrative support	99	40.4
	Dedicated hospital beds for dose titration	82	33.5

Statistical analysis

The generalized linear model applied in the case of psychiatrists with exclusive training in MENA countries does not support the work setting or the years of independent clinical practice being determining factors in the practices and attitudes of psychiatrists towards clozapine (Table 3). In addition, exclusively-MENA trained psychiatrists did not differ from their peers in their practices and attitudes towards clozapine (Table 4).

Table 3. Effect of work setting and years of clinical practice on clozapine prescription practices in a generalized linear model in participants fully trained in MENA countries (N=214), depicted as odds ratio (p-value). TRS: treatment-resistant schizophrenia

	Academic setting (1)	**Inpatient setting (2)**	**Years in clinical practice**	**Years in clinical practice * Academic setting (1)**	**Years in clinical practice * Inpatient setting (2)**
First-line treatment for TRS	0.616 (0.265)	0.717 (0.437)	0.982 (0.657)	1.034 (0.208)	1.065 (0.544)
Number of failed trials prior to initiation of clozapine	0.854 (0.720)	1.216 (0.653)	0.984 (0.700)	1.041 (0.419)	1.008 (0.882)
Referral to another prescriber	0.965 (0.943)	0.841 (0.718)	0.962 (0.381)	1.109 (0.083)	1.058 (0.355)
Number of patients with under prescription of clozapine	0.846 (0705)	0.578 (0.207)	1.080 (0.145)	0.098 (0.717)	0.880 (0.049)

Table 4. Logistic regression of clozapine prescription practices in participants with full training in MENA countries vs participants with full or partial training in a non-MENA country, depicted as odds ratio (p-value). TRS: treatment-resistant schizophrenia; MENA: Middle East and North Africa

	Full training in MENA country vs full or partial training in non-MENA country
First-line treatment for TRS	1.191 (0.656)
Number of failed trials prior to initiation of clozapine	1.525 (0.290)
Referral to another prescriber	1.948 (0.169)
Number of patients with under prescription of clozapine	0.930 (0.852)

Discussion

In the current survey of 245 psychiatrists practicing in the MENA region, most participants estimated their level of expertise in the prescription of clozapine to be good or better. The majority recognized TRS as the most common indication for clozapine, demonstrating awareness of international recommendations,[22] and reported confidence in prescribing it, in line with findings from international surveys.[12,15] Most participants in our sample believed clozapine to be more effective than other antipsychotics in treating schizophrenia, in agreement with the international consensus.[12,15, 23] Up to 85% of participants felt that their patients who were prescribed clozapine were satisfied with the treatment.

Despite no obvious gaps in knowledge or experience related to clozapine, only half of our sample were prioritizing clozapine as a first-line treatment for TRS while a significant number reported that over 25% of patients who should be on it had not been initiated. Concerningly, our survey also notes a reluctance to refer patients to other psychiatrists for clozapine initiation and management. This could be explained by several factors, such as the absence of a mental health care system that would encourage cross referrals and the lack of a collaborative culture.

Instead, almost all psychiatrists acknowledged regularly combining antipsychotics.[24] While the reasons may differ, these finding are concordant with trends in several studies on clozapine underutilization carried out in other parts of the world.[25]

In the investigation of barriers to the adequate initiation of clozapine, three main obstacles seem to delay the prescription: concerns about poor medication compliance, the need for frequent blood tests and clozapine-related side effects. These concerns were noted by participants as both prescriber-related and patient-related barriers. Although this finding replicates previous regional studies,[11,13] surveys of patients' opinions of clozapine reveal a generally positive attitudes despite its associated inconveniences.[17,26] Patients on clozapine report satisfaction with the medication.[16,17] Among the side effects of clozapine, agranulocytosis is cited as the most concerning despite its low incidence rate.[27] On the other hand, participants in the current study identified the availability of additional staff resources and dedicated day-hospital placements as main factors that facilitate the initiation of clozapine, highlighting previously suggested approaches including the implementation of integrated clozapine clinics and advancing technologies for point-of-care hematologic monitoring.[28]

Our analysis does not identify a generational divide in clozapine prescription practices. It also does not support a difference between inpatient, outpatient, and academic settings despite an assumption that access to resources varies across sites. This finding adds to the argument that under-prescribing of clozapine is a complex multilayered phenomenon.[23] Finally, the analysis does not support the hypothesis that the patterns of prescription differ between psychiatrists who are trained in MENA countries and those trained outside the region. In fact, only a minority had received training abroad emphasizing the importance of local curriculums and influencers on practice.

The main limitations of this study include a relatively low response rate and the concentration of the majority of respondents in 7 of the 21 MENA countries. These limitations may restrict the generalizability of the findings to the entirety of the MENA region. The questionnaire was not validated and mainly based on a thorough literature review and expert opinion. Finally, the comparison between exclusively and non-exclusively MENA-trained psychiatrists was underpowered to detect a statistically significant difference between the two groups.

Despite these limitations, the current study is, to our knowledge, the first large scale study to explore clinical practice surrounding clozapine across a region comprising a large underserved population sharing culture, religion, and social contexts, but also common challenges to adequate mental health provision. The underuse of an established treatment with unique properties with an affordable cost has serious implications for several thousand patients and their families. This is particularly important when psychosocial approaches to psychosis are limited, the needed skilled workforce unlikely to be available in the near future, and specialist rehabilitation facilities all but nonexistent. Regional-based research constitutes a critical step to detecting and addressing barriers to the implementation of generalizable guidelines,[29] such as those related to clozapine in schizophrenia. By understanding the factors that influence the key decision makers - the prescribers in this case - targeted measures can be devised to effect change in attitude and behavior. This study confirms that psychiatrists in the MENA do not diverge from this norm. Underprescribing is consistent despite the availability of the medication in most surveyed countries, the clinicians' understanding of its mechanism and effectiveness, and a generally positive attitude towards its role. For knowledge and attitude to translate into increased confidence to prescribe requires clozapine to be championed across the

region, whether through the creation of regional or national guidelines on the treatment of psychosis, the dissemination of local research, and training modules that recognize the clinical reality specific to each country. Education of the patient and their families is also an important facilitating step. In parallel, structural reforms are required to establish specialist community services that have the capacity and the experience in addressing the complex needs of patients with treatment resistant psychosis. Such services have emerged in countries such as the United Arab Emirates and Lebanon,[30] but remain limited in scope. In addition, while not explored in our survey, the enactment of modern mental health legislation in these countries could play a role in encouraging and supporting clinical teams in providing as many treatment options as possible, including clozapine, for those suffering from the burden of treatment resistance psychotic disorders.

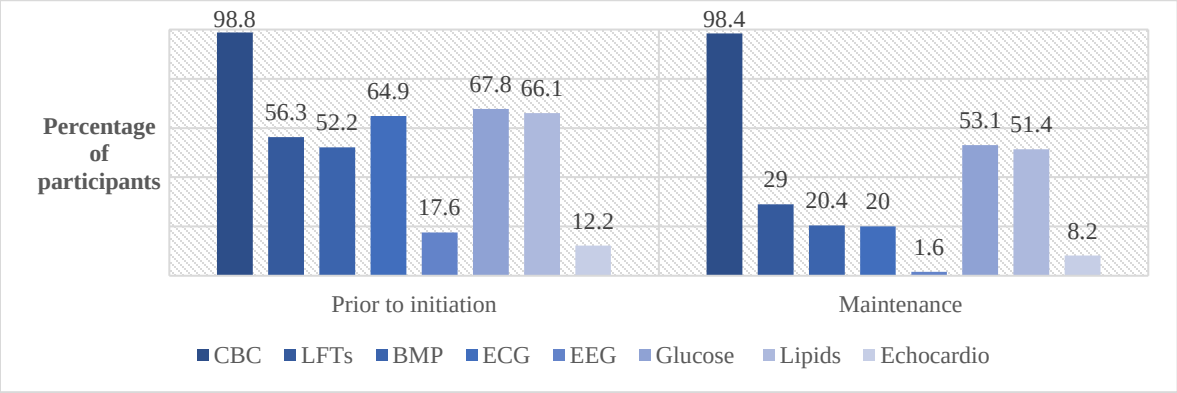

Figure 1a. Workup ordered prior to initiation and during maintenance treatment with clozapine

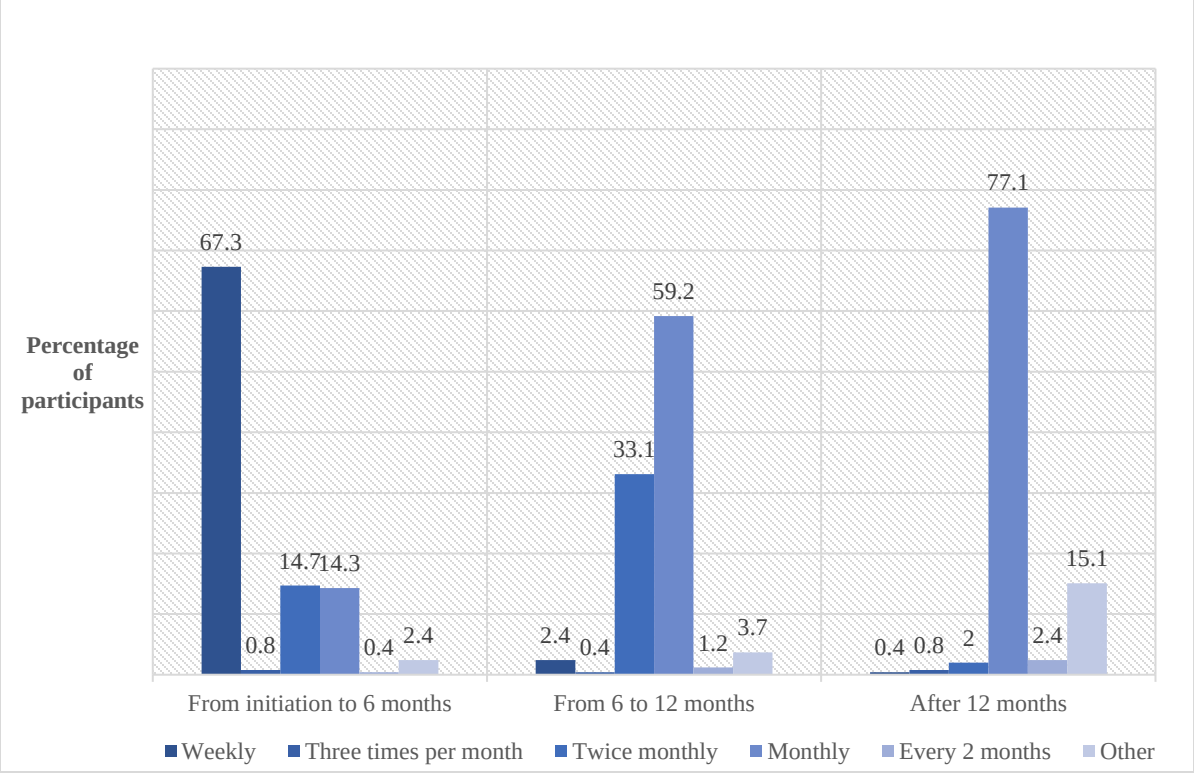

Figure 1b. Frequency of CBC monitoring during clozapine treatment

Supplementary material

Supplementary Table 1. Transformation of dependent and independent variables

Dependent variables					
First-line treatment for TRS			Number of failed trials		
Clozapine	→	Prescribing clozapine as per the guidelines	2	→	Two trials as per the guidelines
ECT ***Combination of antipsychotics*** ***Combination of antipsychotics with clozapine***	→	Not prescribing clozapine (not following the guidelines)	1 3 4 >4	→	More or less than two trials (not following the guidelines)
*Referral to another prescriber**			Number of patients with underprescription of clozapine**		
Always ***Frequently*** ***Often***	→	Refer	<25%	→	<25%
Rarely ***Never***	→	Not refer	25%-50% 50%-75% >75%	→	>25%
Independent variables					
Main work setting					
NGO ***Private clinic***		→	Outpatient setting		
Private hospital ***Public hospital***		→	Inpatient setting		
Teaching/University hospital		→	Academic setting		

***** Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"

******Answers to the question: "What percentage of your patients in which clozapine is clinically indicated are not on it?"

Supplementary Table 2. Dosing practices of clozapine

**** Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"***	*** Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"**	*** Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"**	*** Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"**
***Answers to the question: "What percentage of your patients in which clozapine is clinically indicated are not on it?"* ** Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"* ** Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"* ** Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"*	**Answers to the question: "What percentage of your patients in which clozapine is clinically indicated are not on it?"	**Answers to the question: "What percentage of your patients in which clozapine is clinically indicated are not on it?"	**Answers to the question: "What percentage of your patients in which clozapine is clinically indicated are not on it?"
	* Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"	* Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"	* Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"
	**Answers to the question: "What percentage of your patients in which clozapine is clinically indicated are not on it?"	**Answers to the question: "What percentage of your patients in which clozapine is clinically indicated are not on it?"	**Answers to the question: "What percentage of your patients in which clozapine is clinically indicated are not on it?"
	* Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"	* Answers to the question: "How often do you	* Answers to the question: "How often do you

		choose to refer patients to another prescriber for initiation of clozapine?"	choose to refer patients to another prescriber for initiation of clozapine?"
	**Answers to the question: "What percentage of your patients in which clozapine is clinically indicated are not on it?"	**Answers to the question: "What percentage of your patients in which clozapine is clinically indicated are not on it?"	**Answers to the question: "What percentage of your patients in which clozapine is clinically indicated are not on it?"
	* Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"	* Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"	* Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"
	**Answers to the question: "What percentage of your patients in which clozapine is clinically indicated are not on it?"	**Answers to the question: "What percentage of your patients in which clozapine is clinically indicated are not on it?"	**Answers to the question: "What percentage of your patients in which clozapine is clinically indicated are not on it?"
	* Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"	* Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"	* Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"
***Answers to the question: "What percentage of your patients in which*	**Answers to the question: "What percentage of your patients in which	**Answers to the	**Answers to the

clozapine is clinically indicated are not on it?" ** Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"*	clozapine is clinically indicated are not on it?"	question: "What percentage of your patients in which clozapine is clinically indicated are not on it?"	question: "What percentage of your patients in which clozapine is clinically indicated are not on it?"
	* Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"	* Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"	* Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"
	**Answers to the question: "What percentage of your patients in which clozapine is clinically indicated are not on it?"	**Answers to the question: "What percentage of your patients in which clozapine is clinically indicated are not on it?"	**Answers to the question: "What percentage of your patients in which clozapine is clinically indicated are not on it?"
** Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"* ** Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"*	* Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"	* Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"	* Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"
	**Answers to the question: "What percentage of your patients in which clozapine is clinically indicated are not on it?"	**Answers to the question: "What percentage of your patients in which clozapine is clinically	**Answers to the question: "What percentage of your patients in which clozapine is clinically

		indicated are not on it?"	indicated are not on it?"
	* Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"	* Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"	* Answers to the question: "How often do you choose to refer patients to another prescriber for initiation of clozapine?"
	**Answers to the question: "What percentage of your patients in which clozapine is clinically indicated are not on it?"	**Answers to the question: "What percentage of your patients in which clozapine is clinically indicated are not on it?"	**Answers to the question: "What percentage of your patients in which clozapine is clinically indicated are not on it?"

QD=once daily; BID=twice daily

Supplementary Table 3. Management of side effects of clozapine

		n	%
Sialorrhea	Stop clozapine	5	2
	Reduce dose	71	29
	Do nothing	56	22.9
	Wait for tolerance	100	40.8
	Add amitriptyline	54	22
	Add clonidine	33	13.5
	Add glycopyrrolate	14	5.7
	Add trihexyphenidyl	45	18.4
Constipation	Stop clozapine	2	0.8
	Reduce dose	42	17.1
	Do nothing	14	5.7
	Wait for tolerance	36	14.7
	Dietary modifications	214	87.3
	Add laxatives	160	65.3
Sedation	Stop clozapine	5	2
	Reduce dose	84	34.3
	Change timing	148	60.4
	Move to bedtime	196	80
	Do nothing	13	5.3
	Wait for tolerance	76	31

	Add stimulant	3	1.2
	Add SSRI	5	2
Neutropenia	Stop clozapine	215	87.8
	Reduce dose	37	15.1
	Do nothing	6	2.4
	Prescribe Lithium	41	16.7
	Prescribe G-CSF	13	5.3
	Consult specialist	9	3.7

SSRI=selective serotonin reuptake inhibitors; G-CSF=Granulocyte-colony stimulating factor.

References

1. WHO. Schizophrenia: World Health Organization; 2019 [Available from: https://www.who.int/news-room/fact-sheets/detail/schizophrenia.
2. Lally J, Gaughran F, Timms P, Curran SR. Treatment-resistant schizophrenia: current insights on the pharmacogenomics of antipsychotics. Pharmgenomics Pers Med. 2016;9:117-29.
3. Kane J, Honigfeld G, Singer J, Meltzer H. Clozapine for the treatment-resistant schizophrenic. A double-blind comparison with chlorpromazine. Arch Gen Psychiatry. 1988;45(9):789-96.
4. Kumra S, Kranzler H, Gerbino-Rosen G, Kester HM, De Thomas C, Kafantaris V, et al. Clozapine and "high-dose" olanzapine in refractory early-onset schizophrenia: a 12-week randomized and double-blind comparison. Biol Psychiatry. 2008;63(5):524-9.
5. Huhn M, Nikolakopoulou A, Schneider-Thoma J, Krause M, Samara M, Peter N, et al. Comparative efficacy and tolerability of 32 oral antipsychotics for the acute treatment of adults with multi-episode schizophrenia: a systematic review and network meta-analysis. The Lancet. 2019;394(10202):939-51.
6. Taipale H, Mehtälä J, Tanskanen A, Tiihonen J. Comparative Effectiveness of Antipsychotic Drugs for Rehospitalization in Schizophrenia-A Nationwide Study With 20-Year Follow-up. Schizophr Bull. 2018;44(6):1381-7.
7. Wimberley T, MacCabe JH, Laursen TM, Sørensen HJ, Astrup A, Horsdal HT, et al. Mortality and Self-Harm in Association with Clozapine in Treatment-Resistant Schizophrenia. Am J Psychiatry. 2017;174(10):990-8.
8. Xiang YT, Wang CY, Si TM, Lee EH, He YL, Ungvari GS, et al. Clozapine use in schizophrenia: findings of the Research on Asia Psychotropic Prescription (REAP) studies from 2001 to 2009. Aust N Z J Psychiatry. 2011;45(11):968-75.
9. Nielsen J, Røge R, Schjerning O, Sørensen HJ, Taylor D. Geographical and temporal variations in clozapine prescription for schizophrenia. Eur Neuropsychopharmacol. 2012;22(11):818-24.
10. Stroup TS, Gerhard T, Crystal S, Huang C, Olfson M. Geographic and clinical variation in clozapine use in the United States. Psychiatr Serv. 2014;65(2):186-92.
11. Daod E, Krivoy A, Shoval G, Zubedat S, Lally J, Vadas L, et al. Psychiatrists' attitude towards the use of clozapine in the treatment of refractory schizophrenia: A nationwide survey. Psychiatry Res. 2019;275:155-61.
12. Grover S, Balachander S, Chakarabarti S, Avasthi A. Prescription practices and attitude of psychiatrists towards clozapine: A survey of psychiatrists from India. Asian J Psychiatr. 2015;18:57-65.
13. Farooq S, Choudry A, Cohen D, Naeem F, Ayub M. Barriers to using clozapine in treatment-resistant schizophrenia: systematic review. BJPsych Bull. 2019;43(1):8-16.
14. Verdoux H, Quiles C, Bachmann CJ, Siskind D. Prescriber and institutional barriers and facilitators of clozapine use: A systematic review. Schizophr Res. 2018;201:10-9.
15. Gee S, Vergunst F, Howes O, Taylor D. Practitioner attitudes to clozapine initiation. Acta Psychiatrica Scandinavica. 2014;130(1):16-24.
16. Gee SH, Shergill SS, Taylor DM. Patient attitudes to clozapine initiation. Int Clin Psychopharmacol. 2017;32(6):337-42.
17. Taylor D, Shapland L, Laverick G, Bond J, Munro J. Clozapine – a survey of patient perceptions. Psychiatr Bull. 2000;24(12):450-2.
18. Al-Khaja K, Sequeira R, Al-Haddad M, Al-Offi A. Psychotropic drug prescribing trends in

bahrain: implications for sexual functions. Int J Clin Med. 2012;3(4):276-82.
19. Za'abi M, Al-Hinai A, Al-Busaidi S. Utilization pattern of antipsychotics at a tertiary care hospital in Oman. A J Psychiatry (South Africa). 2014;17(6).
20. Alosaimi FD, Alhabbad A, Abalhassan MF, Fallata EO, Alzain NM, Alassiry MZ, et al. Patterns of psychotropic medication use in inpatient and outpatient psychiatric settings in Saudi Arabia. Neuropsychiatr Dis Treat. 2016;12:897-907.
21. Ismail D, Tounsi K, Zolezzi M, Eltorki Y. A qualitative exploration of clozapine prescribing and monitoring practices in the Arabian Gulf countries. Asian J Psychiatr. 2019;39:93-7.
22. Taylor M, Perera U. NICE CG178 Psychosis and Schizophrenia in Adults: Treatment and Management – an evidence-based guideline? Brit J Psychiatr. 2015;206(5):357-9.
23. Nielsen J, Dahm M, Lublin H, Taylor D. Psychiatrists' attitude towards and knowledge of clozapine treatment. J Psychopharmacol. 2009;24(7):965-71.
24. Tiihonen J, Taipale H, Mehtälä J, Vattulainen P, Correll CU, Tanskanen A. Association of Antipsychotic Polypharmacy vs Monotherapy With Psychiatric Rehospitalization Among Adults With Schizophrenia. JAMA Psychiatry. 2019;76(5):499-507.
25. Bachmann CJ, Aagaard L, Bernardo M, Brandt L, Cartabia M, Clavenna A, et al. International trends in clozapine use: a study in 17 countries. Acta Psychiatr Scand. 2017;136(1):37-51.
26. Angermeyer MC, Löffler W, Müller P, Schulze B, Priebe S. Patients' and relatives' assessment of clozapine treatment. Psychol Med. 2001;31(3):509-17.
27. Schulte P. Risk of clozapine-associated agranulocytosis and mandatory white blood cell monitoring. Ann Pharmacother. 2006;40(4):683-8.
28. Kelly DL, Freudenreich O, Sayer MA, Love RC. Addressing Barriers to Clozapine Underutilization: A National Effort. Psychiatr Serv. 2018;69(2):224-7.
29. Maalouf FT, Alamiri B, Atweh S, Becker AE, Cheour M, Darwish H, et al. Mental health research in the Arab region: challenges and call for action. Lancet Psychiatry. 2019;6(11):961-6.
30. El-Khoury J, Ghazzaoui R, Ahmad A. Introducing Specialist Integrated Mental Health Care in Lebanon: The Psychosis Recovery Outreach Program. Psychiatr Serv. 2018;69(7):738-40.

الملخص

يوصى باستخدام كلوزابين كعلاج من الدرجة الأولى لمرض الفصام المقاوم للعلاج. على الرغم من موقعه الراسخ في جميع الإرشادات الدولية، إلا أن معدلات وصف واستخدام كلوزابين لا تزال منخفضة بين الأطباء النفسيين. الهدف الأساسي من هذه الدراسة كان إجراء مسح للأطباء النفسيين في منطقة الشرق الأوسط وشمال إفريقيا لمعرفة أنماطهم في وصف كلوزابين، مواقفهم تجاه الدواء، والعوائق والميسرات لوصفه. تم جمع البيانات من ١٧ دولة من أصل ٢١ دولة تنتمي إلى منطقة الشرق الأوسط وشمال إفريقيا من خلال استبيان عبر الإنترنت. ذكر غالبية المشاركين أن أكثر المؤشرات شيوعًا لاستخدام كلوزابين هي الفصام المقاوم للعلاج. في حين أن معظم المشاركين أبلغوا عن مستويات عالية من الخبرة مع كلوزابين وصنفوه على أنه علاج فعال للفصام المقاوم للعلاج، أعلن فقط ٥٣,١ ٪ عن استخدامه كخط العلاج الأول. العوائق الرئيسية في وصف كلوزابين هي المخاوف بشأن امتثال المرضى للدواء، عبء اختبارات الدم المنتظمة، والآثار الجانبية. سنوات ومكان الممارسة الطبية لم تؤثران في وصف الدواء أو السلوكيات المتعلقة به. تؤكد هذه الدراسة أن الأطباء النفسيين في منطقة الشرق الأوسط وشمال إفريقيا لا يختلفون عن المعيار العالمي في عدم اعتماد وصف كلوزابين. العديد من الإصلاحات الهيكلية مطلوبة من أجل إنشاء خدمات لديها القدرة اللازمة لوصف كلوزابين.

Corresponding Author

Dr Joseph El Khoury MD, Department of Psychiatry, American University of Beirut Medical Center - Beirut, Lebanon

E-mail: je47@aub.edu.lb

Authors

Dr Samer El Hayek, Department of Psychiatry, American University of Beirut Medical Center - Beirut, Lebanon

Dr Paul Noufi, Department of Palliative medicine, Medstar Washington Hospital Center - Washington, D.C.

Dr Antoine Beayno Department of Psychiatry, The Mount Sinai Hospital - New York City, New York

Dr Marwa Nofal Helwan Mental Health Hospital - Cairo, Egypt

Dr Hussien ElKholy Department of Neurology and Psychiatry, Faculty of Medicine, Ain Shams University - Egypt

Dr Walid Hassan Department of Neurology and Psychiatry, Faculty of Medicine, Ain Shams University - Egypt

Dr Amine Larnaout Razi Hospital, Faculty of Medicine of Tunis, Tunis El Manar University -Tunis, Tunisia

Dr Mahmoud M. Monzem Abbassyia Mental Health Hospital - Cairo, Egypt

Dr Doaa N. Radwan Department of Neurology and Psychiatry, Faculty of Medicine, Ain Shams University - Egypt

Dr Mohammadreza Shalbafan Mental Health Research Center, Iran University of Medical Sciences - Tehran, Iran

Dr Joseph El Khoury Department of Psychiatry, American University of Beirut Medical Center - Beirut, Lebanon

The Arab Journal of Psychiatry (2021) Vol. 32 No.1 Page (79 - 85) (doi-10.12816/0058768)

Obsessive-Compulsive Symptom Prevalence among University Students and Associated Demographic Variables

Moh'd A. Shoqeirat

انتشار أعراض اضطراب الوسواس القهري بين طلاب الجامعة وعلاقته ببعض المتغيرات الديموغرافية

محمد الشقيرات

Abstract

Background: Most Obsessive-Compulsive Disorder (OCD) symptoms appear in adolescence and early adulthood although there is significant variation in age of onset. There is a need to raise awareness as to how these symptoms might manifest in university students because they can lead to different psychological problems, including depression, anxiety, interpersonal relationship difficulties, suicide, and substance use. **Aims:** The present study investigated the prevalence of OCD symptoms among university students and their relationship with demographic variables, including gender, age, achievement, and course of study. **Method:** A total of 584 students (278 men, 306 women) completed the Yale-Broun Obsessive-Compulsive Scale (Y-BOCS) and a demographic questionnaire. **Results:** There was a high prevalence of OCD symptoms among university students (58.53%) with a higher prevalence among women and among scientific college students. Results also suggest a negative correlation between age, achievement, and OCD symptoms. **Conclusion:** It appears that university students are more vulnerable to OCD-related symptoms, which may also be comorbid with other disorders and magnify their problems. Suitable interventions and psychoeducation should be implemented during the study years.

Keywords: OCD symptoms, prevalence, university students

Declaration of interest: None

Introduction

Obsessive-Compulsive Disorder (OCD) is considered a separate disorder in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5).[1] It was previously classified as an anxiety disorder in DSM-IV. Symptoms of OCD fall into two categories: obsessions and compulsions.[1] Obsessions can be defined as intrusive, unwanted, recurrent, improper, contained thoughts, impulses, and mental images causing considerable distress and suffering to people. These can be described as excessive and senseless by the external world. On the contrary, compulsions can be defined as feeling compelled to perform a particular act or repeated acts that are either behavioural or mental. OCD rituals usually consume a lot of time and can cause embarrassment and shame, especially in social, occupational, and other situations. Adults with OCD symptoms are affected by impairments related to pursuing steady employment, marital difficulties, or general functioning.[2]

People who are struggling with OCD may have the following signs: think about harming themselves or someone else; continuously fear being contaminated by germs or contaminating others, fear they might lose control, having unwanted sexual thoughts, having a religious obsession, and having an obsession related to perfectionism.[2,3]

The lifetime prevalence of OCD is 2.3%, and this notion may be an underrepresentation because often, patients with moderate to severe symptoms do not seek help.[3] The mean age of OCD onset is 19.5 years, with early onset among boys i.e., before ten years of age. Life risk of developing OCD is higher in girls, who may develop the disorder in adolescence.[3] OCD is a choric neuropsychiatric disorder that can lead to disability and low quality of life, which is likely to persist if not treated properly.[4] The pathogenesis of OCD is complex and interplays between neurobiology, genetics, and environmental variables. The serotonin system may be the main factor, along with the involvement of glutamate, dopamine, and other neurotransmitters.

The most comorbid disorders associated with OCD include anxiety disorder (panic disorder, social anxiety disorder, generalized anxiety disorder, specific phobia) in 76% of cases and depressive or bipolar disorder in 63% of

cases.[4] The onset of OCD is usually later than for most comorbid anxiety disorders (except separation anxiety disorder) and posttraumatic stress disorder (PTSD); however, it often proceeds to depressive disorders. A comorbid obsessive-compulsive personality disorder is common in individuals with OCD (e.g., 23% to 32%). Up to 30% of individuals with OCD also have a lifetime tic disorder, and tic disorder is most common in boys with the onset of OCD in childhood. These individuals tend to differ from those without a history of tic disorders in the themes of their OCD symptoms, comorbidity, course, and pattern of familial transmission.

People with OCD have a higher risk of suicide, as 63% of people with OCD experienced suicidal thoughts, and 26% attempted suicide. The risk of suicidal behaviour increases with the comorbidity of depression, PTSD, substance use, and impulse control disorders.[5]

OCD related disorders include:[1]

- Body dysmorphic disorder, which is characterized by a preoccupation with one or more perceived defects or flaws in physical appearance. These individuals are also distinguished by repetitive behaviours (mirror checking, excessive grooming, skin picking, or reassurance seeking) or mental acts (comparing one's appearance with that of other people) in response to the appearance concerns.
- Hoarding disorder symptoms, which result in the accumulation of a large number of possessions that occupy the living places to the extent that their intended use is impossible. The excessive acquisition form of hoarding disorder consists of excessive collecting, buying, or stealing unneeded items.
- Trichotillomania (hair-pulling disorder), which is characterized by recurrent pulling out of one's hair resulting in hair loss and repeated attempts to decrease or stop hair pulling.
- Excoriation (skin-picking) disorder, which is characterized by recurrent picking of one's skin resulting in skin lesions and repeated attempts to decrease or stop skin picking.

Most OCD occurs in adolescence and early adulthood; although, there is significant variation in the onset of OCD. These behaviours are extensively noticed among university students as university life is full of challenges, responsibilities, stress, deadlines, competitions, social pressure, and new environmental requirements. The above challenges, among others, can lead to different psychological disorders that include depression, anxiety, interpersonal relationship difficulties, suicide, and substance use.[6] Few previous studies have addressed the subject of OCD symptoms among university students, particularly in Jordan.[7,8] To date, few studies have focused on the prevalence of OCD symptoms among university students. Therefore, the present study investigates the prevalence of OCD symptoms among university students and its relationship with demographic factors, including age, gender, achievement, and course of study. The research questions addressed in the present study are as follows:

- Q1. What is the percentage of OCD symptom prevalence among university students?
- Q2. Are there gender differences in the prevalence of OCD symptoms?
- Q3. Are there differences in the prevalence of OCD symptoms between different colleges (humanities vs science)?
- Q4. Is there a correlation between OCD symptom scores on the Y-BOCS, age, and achievement?

Method

Participants

The current study was conducted in 2019, using an available sample. A total of 584 students from (278 men, 306 women) attending participated in the study. All attended Mu'tah University in Karak in the Hashemite Kingdom of Jordan. The mean age was 19.99±1.8. All were chosen from introductory courses in scientific and humanities colleges (280 and 304 students, respectively). Humanities colleges include social sciences and education whereas scientific colleges include medicine and science. The survey instrument included socio-demographic information, consent to participate in the study, and the primary outcome measure. Participation in the study was voluntary (information about the study was provided to each course and students wishing not to participate left the class).

Ethics and consent

Ethical review of the current study was conducted in line with the principles of the committee on publication ethics (COPE). Participants provided written informed consent to participate in the study.

The Yale-Brown Obsessive-Compulsive Scale (Y-BOCS): The Y-BOCS is an undisputed gold standard.[9] It is the semi-structural scale most often used in both clinical and research settings. The Y-BOCS has been used extensively to study OCD symptoms for research purposes (e,g., Ji et al., 2020). Although there is an Arabic version of the scale, the original scale was translated into Arabic language and back-translated into English before being referred to three clinical psychologists for the experts' construct validity. This translation was done to ensure more up to date validity and reliability.

The scale consisted of 10 items related to obsessions and compulsions rated from 0 (no symptoms) to 4 (extreme symptoms). A translation of total score into an approximate index of overall severity is as follows:

- (0-7) subclinical
- (8-15) mild
- (16-23) moderate
- (24-31) severe
- (32-40) extreme

Internal consistent validity (on a pilot sample of 30) for the ten items range between 0.641 and 0.379 whereas, the test re-test reliability was 0.784. Cronbach's α coefficient for reliability is 0.793.

Study Procedure and Analysis

Data were collected by distributing the study instrument during the study duration, and then the collected data was entered into an SPSS statistical program. The continuous variables were presented in means and standard deviations, whereas categorical variables were presented in percentages.

Results and Discussion

Q1. The results are presented as percentages of OCD symptom prevalence among university students. Table 1 shows that approximately 1.7% of the students have subclinical OCD symptoms or can be regarded as not having OCD symptoms, and approximately 98.3% have OCD symptoms (ranging between mild to extreme OCD symptoms). Approximately 39.8% of the students scored below mild while 22.9% of the students showed mild symptoms and 37.5% reported severe to extreme OCD symptoms.

Table 1. Student responses and percentages

Severity	No.	Percentage
Subclinical	10	1.7
Mild	221	37.8
Moderate	134	22.9
Severe	206	35.3
Extreme	13	2.2
Total	584	100.0

Using an agreed cut-off score of 16 out of total score of 40, the whole sample's prevalence was calculated to be 58.53%, with a higher prevalence among women. The increased prevalence of OCD symptoms among the sample study could be explained as its onset is triggered during adolescence and tends to increase with age.[10] University is considered a commutative environment where students are engrossed in proving themselves in the form of achievements, building relationships, and starting with their professional careers. These factors may be comorbid with stress, change, being away from the comfort zone, which triggers the symptoms of OCD. It is believed that women are positively affected by these symptoms compared to men in adulthood whereas, boys are commonly affected during childhood.

Al Fazari et al.[11] found that the prevalence of OCD symptoms among university students was 48.35%, with a higher prevalence among women. They also reported a relationship between college, academic achievement, and OCD symptoms. Another study in Turkey aimed to investigate the prevalence of OCD in Turkish university students. The study concluded that there is a higher prevalence of OCD among university students compared to other prevalence studies of OCD in Turkish society.[12] A recent study by Mathes et al.[13] reviewed the gender differences in OCD and concluded that a higher prevalence of OCD among girls and women might be

related to female-specific variables like puberty or pregnancy. Their symptoms may be related to contamination and/or aggressive obsessions, and they tend to report more anxiety and depression-related symptoms. One of the clinical trials also reported an increased prevalence of OCD symptoms among the female population.[14]

Q2. The overall results of the analysis showed a significant difference between men and women as scores for women were higher than the scores for men (Table 2).

For instance, 20% of women reported scores above mild whereas 17.6% of men reported scores above mild. It has also been found that anxiety disorders were two to three times higher in young women than in young men. Gender differences may be explained by puberty or pregnancy (for girls and women) and the themes of OCD itself. Another explanation of why women have a higher prevalence than men could be linked with more childhood trauma (emotional and physical abuse). This understanding was also presented by Mathews et al.[15] who found an association between emotional abuse, physical abuse, and high levels of OCD symptoms. The association of OCD symptoms with trauma was also confirmed by Yoldascan et al.,[12] Mathis et al.,[16] Al Fazari et al.[11] and Mathes et al.[13]

Women who are pregnant or in the postpartum period are 1.5 to 2 times more likely to experience OCD symptoms than the general female population.[17] Reproductive cycle events are periods of increased risk for onset and exacerbation of OCD symptoms in women. OCD was reported by 37.6% of women at premenstrual, 33.0% during pregnancy, 46.6% postpartum, and 32.7% at menopause. Exacerbation in the first pregnancy was significantly associated with exacerbation in the second pregnancy.[18]

Table 2. X2 test (Chi-Square test) for the differences in prevalence between men and women

Severity	**Men**	**Women**	**Total**	**X2**	**Df**	**Sig.**
Subclinical	10	0	10	11.873	4	0.018*
Mild	105	116	221			
Moderate	60	74	134			
Severe	98	108	206			
Extreme	5	8	13			
Total	278	306	584			

*significant at (0.05)

Q3. The analysis showed significant differences between the two colleges where scientific colleges have higher scores than humanities colleges (Table 3). For instance, 19.7% of scientific colleges scored above mild; whereas, 17.8% of humanities colleges scored above mild OCD symptoms (Table 3). The result showed higher scores of OCD symptoms among scientific college students compared with humanities college students. This can be explained in that scientific college students tend to experience more stress related to their field of study, such as competitiveness and high academic standards that may trigger OCD symptoms. Students in the scientific college may have more knowledge related to self-hygiene, which may trigger OCD symptoms. The results did not support some previous studies that found no significant differences between scientific and humanities college students.[11,19]

Table 3. showed the results of X2 (Chi-Square test) for the differences between colleges

Severity	Scientific	Humanities	Total	X2	Df	Sig.
Subclinical	4	6	10	20.546	4	0.000*
Mild	82	139	221			
Moderate	79	55	134			
Severe	106	100	206			
Extreme	9	4	13			
Total	280	304	584			

*significant at (0.05)

Q4. The results also depicted a weak significant negative correlation between OCD symptoms scores and achievement and between age and OCD scores (Table 4). Students experiencing OCD symptoms showed a decline in achievement because they have difficulties completing academic tasks due to preoccupation with their OCD rituals. These results are supported by Findley and Galliher[20] and Piacentini et al.[21] In addition to the fact that the dysfunctional consequences related to OCD are the impairment of achievement, avoidance of any triggering situation, there is another characteristic of that dysfunction, which sometimes makes the student reluctant to attend university. These results are in line with research by Hamid,[22] and Penn and Leonard,[23] who found that OCD affects memory, attention, concentration, and executive functions that are instrumental for achieving success.

It has been found that adolescents with OCD symptoms may withdraw socially and even waste energy and time to engage in compulsive or obsessive behaviour, which can impact adversely on their achievement.[24] Penn and Leonard[23] also stated that students diagnosed with OCD perform worse in their studies when compared with healthy students. Besides, OCD symptoms could reflect character traits that limit students' performance, such as competitiveness, ongoing tension/worry, self-criticism, dissatisfaction over performance, controlling, procrastination, and increased expectations. The above traits were found to interfere with the academic performance of university students.[23] Shahrouri[24] found the poor academic performance of high school students in Dubai were associated with OCD-related behavior, including symptoms such as lack of confidence in executing a task, repeating activities, and failing to complete activities. Moreover, Torres et al.[19] concluded that OCD is more frequent in medical students, particularly first-year students.

Table 4. Pearson correlation coefficient between OCD score, age, and achievement

		Achievement	Age
OCD	correlation coefficient	-0.282**	-0.219**
	Sig.	0.000	0.000

**significant at (0.05)

The current study concludes that there is an increased prevalence of OCD symptoms among university students (58.53%), with a slight increase among women compared with men and students from the scientific college compared with those attending the humanities college. Additionally, the study found a negative correlation between age and OCD symptoms, which could be explained by the fact that young people are more susceptible to stress associated with academic demands and the new adjustments made to fulfil university life requirements. Young people may lack sufficient knowledge and experience, which leaves them more vulnerable to stress-related OCD symptoms.

Results also suggest a weak negative correlation between age and achievement. Future studies need to replicate these results by including larger sample size and recruiting students from different academic disciplines.

Acknowledgement

The author would like to thank all associated personnel who contributed to the current stud.

References

1. American Psychiatric Association. Diagnostic and statistical manual of mental disorders (5th ed.). Arlington, VA.: Author, 2013.
2. Cameron CL. Obsessive-compulsive disorder in children and adolescents. J Psychiatr Ment Health Nurs. 2007;14:696-704.
3. Ruscio AM, Stein DJ, Chiu WT, Kessler RC. The epidemiology of obsessive-compulsive disorder in the National Comorbidity Survey Replication. Mol Psychiatry. 2010;15:53-63.
4. Visser HA, van Megen H, van Oppen P, Eikelenboom M, Hoogendorn AW, Kaarsemaker M, van Balkom AJ. Inference-based approach versus cognitive behavioral therapy in the treatment of obsessive-compulsive disorder with poor insight: A 24-session randomized controlled trial. Psychother Psychosom. 2015;84:284-93.
5. Huz I, Nyer M, Dickson C, Farabaugh A, Alpert J, Fava M, Baer L. Obsessive-compulsive symptoms as a risk factor for suicidality in US college students. J Adolesc Health. 2016;58:481-4.
6. Koç M, Polat Ü. The mental health of university students. J Hum Sci. 2006;3.
7. McLaren S, Crowe SF. The contribution of perceived control of stressful life events and thought suppression to the symptoms of obsessive–compulsive disorder in both non-clinical and clinical samples. J Anxiety Disord. 2003;17:389-403.
8. Abdel-Khalek AM, Lester D. Obsession-compulsion in college students in the United States and Kuwait. Psychol Rep. 1999;85:799-800.
9. Ji G, Wei W, Yue KC, Li H, Shi LJ, Ma JD, He CY, Zhou SS, Zhao Z, Lou T, Cheng J, Yang SC, Hu XZ. Effects of the COVID-19 Pandemic on Obsessive-Compulsive Symptoms Among University Students: Prospective Cohort Survey Study. J Med Internet Res. 2020 Sep 30;22(9):e21915. doi: 10.2196/21915. PMID: 32931444; PMCID: PMC7528732
10. Durdle H, Gorey KM, Stewart SH. A meta-analysis examining the relations among pathological gambling, obsessive-compulsive disorder, and obsessive-compulsive traits. Psychol Rep 2008;103:485-98. https://doi.org/10.2466/pr0.103.6.485-498.
11. Al Fazari MK, Safasfeh MI, Ibrahim MM. Obsessive Compulsive Disorder and its Relationship with Some Variables. JEPS 2017;11:297-314.
12. Yoldascan E, Ozenli Y, Kutlu O, Topal K, Bozkurt AI. Prevalence of obsessive-compulsive disorder in Turkish university students and assessment of associated factors. BMC Psychiatry. 2009;9:40.
13. Mathes BM, Morabito DM, Schmidt NB. Epidemiological and clinical gender differences in OCD. Curr Psychiatry Rep. 2019;21:36.
14. Hanstede M, Gidron Y, Nyklícek I. The effects of a mindfulness intervention on obsessive-compulsive symptoms in a non-clinical student population. J Nerv Ment Dis. 2008;196:776-9.
15. Mathews CA, Kaur N, Stein MB. Childhood trauma and obsessive-compulsive symptoms. Depress Anxiety 2008;25:742-51.
16. Mathis MA, Alvarenga PD, Funaro G, Torresan RC, Moraes I, Torres AR, Zilberman ML, Hounie AG. Gender differences in obsessive-compulsive disorder: a literature review. Braz J Psychiatry. 2011;33:390-9.
17. Russell EJ, Fawcett JM, Mazmanian D. Risk of obsessive-compulsive disorder in pregnant and postpartum women: a meta-analysis. J Clin Psychiatry. 2013;74(4):377-385.
18. Guglielmi V, Vulink NC, Denys D, Wang Y, Samuels JF, Nestadt G. Obsessive–compulsive disorder and female reproductive cycle events: Results from the OCD and reproduction collaborative study. Depress Anxiety. 2014;31:979-87.
19. Torres AR, Cruz BL, Vicentini HC, Lima MC, Ramos-Cerqueira AT. Obsessive-compulsive symptoms in medical students: prevalence,

severity, and correlates. Acad Psychiatry. 2016;40:46-54.
20. Findley MB, Galliher RV. Associations Between Obsessive-Compulsive Symptoms and Academic Self-Concept. Psi Chi J Undergrad Res. 2007;12.
21. Piacentini J, Bergman RL, Keller M, McCracken J. Functional impairment in children and adolescents with obsessive-compulsive disorder. J Child Adolesc Psychopharmacol. 2003;13:61-9.
22. Hamid AA. The Relationship between Compulsions, Worry, and Academic Performance among United Arab Emirates University Students. Horizons in Humanities and Social Sciences An International Refereed Journal. 2017;2(2):69-80.
23. Penn JV, Leonard HL. Diagnosis and treatment in children and adolescents. Current Treatments of Obsessive-Compulsive Disorder. 2001;109-32.
24. Shahrouri EA. Prevalence of Obsessive-Compulsive Disorder in High School Students and Its Interference with the Students' Academic Performance; International Conference on Education, Humanities and Management (ICEHM-17) March 2017;14-15.

الملخص

الخلفية: تظهر معظم أعراض اضطراب الوسواس القهري (OCD) في مرحلة المراهقة والبلوغ المبكر. على الرغم من وجود تباين كبير في سن ظهور الوسواس القهري، هناك حاجة لملاحظة الاختلاف في سلوكات طلاب الجامعات، مما قد يؤدي إلى اضطرابات نفسية مختلفة تشمل الاكتئاب والقلق وصعوبات في العلاقات الشخصية والانتحار وتعاطي المخدرات. **الأهداف:** تهدف الدراسة الحالية البحث في انتشار أعراض الوسواس القهري بين طلاب الجامعة وعلاقتها بالمتغيرات الديموغرافية؛ الجنس والعمر والتحصيل والكلية. **الطريقة:** تكونت العينة من 584 طالباً (278 ذكور و306 إناث)، وتم استخدام مقياس ييل برون للوسواس القهري. **النتائج:** أظهرت النتائج ارتفاع معدل انتشار أعراض الوسواس القهري بين طلاب الجامعة (58.53٪) مع انتشار أعلى بين الإناث ونسبة انتشار أعلى بين طلاب الكليات العلمية. كما أظهرت النتائج وجود علاقة سلبية بين العمر والتحصيل وأعراض الوسواس القهري. **الاستنتاج:** يبدو أن طلاب الجامعة أكثر عرضة للإصابة باضطراب الوسواس القهري، والذي قد يرافقه اضطرابات نفسية أخرى أيضًا، ويضخم المشاكل لديهم، ولذلك يجب تنفيذ التدخلات المناسبة والتثقيف النفسي خلال سنوات الدراسة.

الكلمات المفتاحية: أعراض الوسواس القهري، الانتشار، طلاب الجامعة

Author

Dr Moh'd A. Shoqeirat

Associate Prof. Clinical Neuropsychology

Department of Psychology, Faculty of Arts, University of Jordan - Amman, Jordan

Email: m.shoqeirat@ju.edu.jo shoqeirat@hotmail.com

The Arab Journal of Psychiatry (2021) Vol. 32 No.1 Page (86 - 91) (doi-10.12816/0058769)

Prevalence of Mental Disorders in Tuti Island, Khartoum

Abdelaziz A. Omer, Abulla Muhgoub Zaki, Tarig Guma Mardi, Mohamed Ali Elmahi, Amir A. Mufaddel, Mohamed Abdelhamid Osman, Lubna H. Elhag

انتشار الاضطرابات النفسية في جزيرة توتي: دراسة في مجتمع ريفي في عاصمة السودان

عبد العزيز احمد عمر، عبد الله محجوب زكي، طارق جمعة مرضي، محمد علي الماحي، امير احمد الخليفة مفضل، محمد عبد الحميد عثمان، لبني احمد الحاج

Abstract

Background: The current study uses a cross-sectional stratified sample survey to assess the prevalence of mental disorders in Tuti Island - a rural community outside Khartoum. **Method:** N=886 participants (656 men, 230 women) were assessed via the Mini International Neuropsychiatric Interview (M.I.N.I.) by 75 medical students from Omdurman Islamic University. **Results:** Prevalence rates for mood disorders were highest with an estimated 5.3% for current depressive episodes. Rates for other conditions varied from 0.7% for psychotic disorder to 2.6% for posttraumatic stress disorder. Other diagnoses included alcohol dependence (0.5%), antisocial personality disorder (0.6%), current suicidality (2.5%), anorexia nervosa (0.1%), and bulimia nervosa (0.7%). **Conclusion:** Given the high prevalence of mental disorders among participants, particularly depression. A national representative study is needed to estimate different types of mental health conditions within the country.

Keywords: depression, mood disorders, psychosis, anxiety disorders, Obsessive-Compulsive Disorder

Declaration of interest: None

Introduction

Psychiatric services in Sudan were established in the 1950s pioneered by Professor Al-Tigani Al-Mahi. It remains the case that little is known regarding prevalence of psychiatric disorders in Sudan and no national prevalence studies have been conducted. This is needed for better understanding of current mental health difficulties and how to plan for appropriate services and interventions.[1]

Conceptualizing and measuring mental disorders were one of the main difficulties of scientific research in psychiatry. Development of psychiatric epidemiology has been evident since 1970s when the operational diagnostic criteria for mental disorders was introduced and subsequently incorporated into the Diagnostic and Statistical Manual of Mental Disorders (DSM) nomenclature. Since then, researchers in the field of mental health have been able to provide estimates of discrete mental disorders by using multi-diagnostic assessments across various clinical conditions, including mood, anxiety, substance use disorders or for common mental disorder more broadly.[2] Several tools have been developed for more accurate detection and assessment of mental disorders. One of these is the Mini International Neuropsychiatric Interview (M.I.N.I.), which is a brief but highly structured interview of the main categories of mental disorders of the DSM-IV and the International Classification of Diseases (ICD-10). The M.I.N.I. was developed in France and United States. The interview has several versions, and it has been translated into 33 different languages.[3]

The M.I.N.I. interview requires approximately 15 minutes to be completed. It provides accurate structured psychiatric assessment to be used in multicenter clinical trials as well as for epidemiology studies. It can also be used as an outcome tracking measure in clinical settings.[4]

Sudan's capital region is composed of three urban centers, Khartoum, Khartoum North, and Omdurman with a population of 2.9 million of which two million are thought to be refugees. Tuti Island lies in the middle of this urban conurbation where the White Nile and Blue Nile merge to form the main Nile River.

Its population is mainly comprised of Sudanese Nubians who struggled with extremely high floods through their history particularly in 1878, 1924, 1946 and1988.[5]

Aim and methods

The current study is a cross-sectional stratified sample survey which aimed to estimate the prevalence of mental disorders in Tuti Island in Sudan.

Participants

Participants were above the age of 18 years and were randomly selected from the population of Tuti Island. There were no gender restrictions. All participants were current residents of Tuti Island who consented to the study.

Ethics and consent

All procedures were in accordance with the ethical standards of the Sudan Medical Specialization Board (SMSB) and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all participants included in the study.

Study design

Using a stratified design, the frame of all selected households was obtained from popular administration units (PAU) based on the 2008 Sudan Population and Housing Census, which is the fifth Population and Housing Census conducted in Sudan.

For the current study, all households chosen were to be representative of the general population's psychological, social, and other characteristics with the lowest cost and effort. This information was based on a social survey from 2015 (Zaki & Yousif, 2015), which established that there are five PAUs all of which are nearly equal in size. Accordingly, the sample size is distributed equally (and so proportionally) as between the PAUs, taking 50 households from each PAU. The 50 households in each PAU were selected randomly using systematic sample (five strata/five PAU).

Instruments

The Mini International Neuropsychiatric Interview M.I.N.I. was used. It is a structured validated interview for both DSM-IV and ICD-10 diagnostic criteria. The instrument was developed jointly by psychiatrists from USA and France. Administration time for the interview is approximately 15 minutes.

Widely used in multicenter clinical trials as well as in epidemiological studies, the M.I.N.I. covers 17 common diagnosable mental disorders according to DSM III-R. The questionnaire validity was tested against the Structured Clinical Interview for DSM-III-R (SCID), and the Compositive International Diagnostic Interview (CIDI) for ICD-10. Both tests were used extensively by World Health Organization (WHO) and other research centers. Studies have shown high validity and reliability scores. The M.I.N.I. was developed and structured to be used by non-specialized interviewers. It focuses on current existing mental disorders.

Training

For the current study, 75 medical students – men and women - from Omdurman Islamic University were trained through the Tuti Primary Health Center (TPHC). Most had completed their psychiatric clerkship and had gained theoretical and practical skills for a variety of common mental disorders. An Arabic translation of the M.I.N.I. is available for the DSM-IV; however, no translation is available for DSM-5. Since the study was conducted before the availability of a DSM-5 Arabic translation, a version translated from the DSM-IV was used. Theoretical training consisted of lectures and small group discussion. Clinical training student-patient contact.

Results

The M.I.N.I was administered to 886 participants: 656 (74%) men and 230 (26%) women. The results of current and lifetime prevalence of different mental disorders are shown in Table 1. For major depression, our results showed presence of current depressive episode (past two weeks) in 5.3% of participants and recurrent depressive episodes in 1.7%. Prevalence of current episode of mania was 1.8% and past manic episode was reported by 1.6%. Hypomanic episodes had a current prevalence of 0.6% and past manic episodes occurred in 1% of participants.

Regarding psychotic disorders, prevalence of current psychotic disorder was identical to the lifetime prevalence of psychotic disorder (0.7% of participants). Mood disorder with psychotic features had a prevalence of 0.5% for current episode and lifetime prevalence was 0.3%.

Results of different types of anxiety disorders have shown prevalence of 1.6% for current panic disorder (past month), 2.4% for current diagnosis of agoraphobia, 1.7% for current (past month) diagnosis of social phobia

and 1.5% for current (past six months) diagnosis of generalized anxiety disorder. Prevalence of current (past month) diagnosis of Obsessive-Compulsive Disorder OCD) was 2.8% and current (past month) diagnosis of Posttraumatic Stress Disorder (PTSD) was present in 2.6%.

The M.I.N.I. investigates alcohol and substance use and dependency. Diagnosis of current (past 12 month) dependence on alcohol was identified in 0.5% and current (past 12 month) diagnosis of alcohol use was present with the same prevalence (0.5%). None of the participants met the criteria for substance use disorder or diagnosis.

Table 1. Prevalence of psychiatric disorders in Tuti Island via the M.I.N.I.

Mental Disorder	Frequency	%
Major depressive episode, current (past two weeks)	47	5.3
Major depressive episode, recurrent	15	1.7
Manic episode, current	16	1.8
Manic episode, past	14	1.6
Hypomanic episode, current	5	0.6
Hypomanic episode, past	9	1.0
Panic disorder, current (past month)	14	1.6
Agoraphobia, current	21	2.4
Social phobia, current (past month)	15	1.7
OCD, current (past month)	25	2.8
PTSD, current (past month)	23	2.6
Generalized anxiety disorder, current (past six months)	13	1.5
Alcohol dependence (past 12 months)	4	0.5
Alcohol use (past 12 months)	4	0.5
Substance dependence (non-alcohol), past 12 months	0	0
Substance use (non-alcohol), past 12 months	0	0
Psychotic disorder, current	6	0.7
Psychotic disorder, lifetime	6	0.7
Mood disorder with psychotic features, current	4	0.5
Mood disorder with psychotic features, lifetime	3	0.3
Suicidality, current (past month)	22	2.5
Suicidality risk: **-Low** **-Moderate** **-High**	 15 06 01	 68.2 27.3 04.5
Anorexia nervosa, current (past three months)	1	0.1
Bulimia nervosa, current (past three months)	6	0.7
Antisocial personality disorder, lifetime	5	0.6

Lifetime antisocial personality disorder was identified in 0.6% percent of participants. Twenty-two (2.5%) reported current (past month) suicidality. Current suicidal risk as rated by the M.I.N.I. (for the 22 participants who expressed suicidality), identified 4.5% at high risk, sixparticipants (27.3%) at moderate risk and 15 (68.2%) who were at low risk.

Eating disorders were also investigated via the M.I.N.I. and have shown prevalence of 0.1% for current diagnosis of anorexia nervosa in the past three months and 0.7% for current diagnosis of bulimia nervosa in the past three months.

Discussion

The most prevalent mental disorder in the current study was major depression. Most participants suffered from current episode of depression during the two weeks preceding the M.I.N.I. interview. The second most common diagnoses were OCD, agoraphobia, and PTSD with little variation in prevalence rates between the three conditions. Comparing the findings with similar studies in Sudan is, of course, difficult since a national prevalence study has yet to be conducted in the country. However, mental disorders and needs of specific groups have been published in several articles. Examples of such studies include school children, perinatal care, internally displaced persons, out-patients, and community catchment areas.[6]

Examples include an epidemiological survey conducted among Sudanese girls between 12 to 19 years of age. The prevalence rate of major depressive disorder was investigated using the Beck Depression Inventory (BDI), which was administered to 1,107 girls from three elementary and three secondary schools in Khartoum. The estimated prevalence of major depressive disorder was 4.2%.[7] The rate of depression in this group is slightly lower than our sample of the general population.

Comparing our findings with studies on prevalence of mental disorders among specific groups in Sudan indicate higher rates of such disorders among refugees and internally displaced people. These were estimated at 53% for all mental disorders, 24.3% for major depressive disorder, 23.6 % for generalized anxiety disorder, 14. 2% for social phobia, and 12.3% for PTSD. Psychotic disorders were reported in 1.5% of the country's refugee and internally displaced population. The rate of each mentioned disorder is higher than its corresponding disorder among our participants.[8,9,10,11]

It is also evident that both perinatal and postnatal studies reported higher rates of mental disorders in Sudan. One study on perinatal psychiatric disorders, which were conducted in primary care settings in Khartoum, suggested a prevalence rate of 23% for all mental disorders.[12] A previous study, which was validated using the Edinburgh Postnatal Depression Scale (EPDS) with Sudanese women in Khartoum, estimated a 9.2% prevalence of postnatal depression at a cut-off point of ≥12.[13]

Another study on prevalence among specific population groups in the country was one that investigated depression in elderly Sudanese. The cross-sectional survey, conducted in Khartoum, estimated the prevalence of depression at 47.5% and was more commonly reported among elderly retired and those with social problems and medical comorbidities (specifically urine incontinence).[14]

Comparing the current findings with international prevalence studies suggests that the prevalence of mood disorders (including major depression and manic episodes) in our study is like its prevalence globally. The global prevalence of common mental disorders between 1980-2013 was investigated in a recent systematic review and meta-analysis which estimated a pooled period prevalence of mood disorder at 5.4% (4.9-6.0%) across 148 studies and a pooled lifetime prevalence of 9.6% (8.5-10.7%) across 83 studies. Global period prevalence of substance use disorders was 3.8% (3.4-4.3%) and their lifetime prevalence estimated at 3.4%.[2] The latter findings indicate that our results on prevalence of substance use disorders are lower than global prevalence studies.

There were no accounts of using substances other than alcohol among the current study population. Despite this, it is recognized that alcohol and cannabis are the two main substances linked to misuse, particularly by young Sudanese adults. There has also been a surge in the use of other substances among young people, particularly university students. However, there are no reliable data reflecting the extent of the problem.[15]

Solvent misuse is an evolving problem, particularly among poor children, adolescents, and young adults. This problem is associated with fatal outcomes at times and merits further study.[16] Use of local types of alcohol is also common in Sudan. This includes Araqi, which is a date-liquor distilled illegally in Sudan. It is commonly used by men aged between 20 to 49 years who were admitted to psychiatric hospital.[17]

Studies of substance use among psychiatric patients in Sudan indicate that 27.6% had a history of cannabis use and that all were men. This finding might suggest that cannabis use may be more prevalent among people with mental health difficulties in Sudan.[18]

Finally, a review of anxiety disorder epidemiology has shown that the pooled period prevalence of anxiety disorders was 6.7% (6.0-7.6%). Its lifetime prevalence was 12.9% (11.3-14.7%).[19] The latter findings are slightly lower than prevalence estimates of anxiety disorders.

Conclusion

Results of the current study suggest that mental disorders were highly prevalent among a group of participants from Tuti Island in Sudan, particularly depression. A national representative study is needed to estimate different types of mental health conditions within the country. Essential measures can be taken to provide planned psychiatric services based on accurate estimates of existing problems, according to current findings.

Data availability statement

The data that support the findings of the current study are available from the authors upon reasonable request.

References

1. Omer AA, Mufaddel AA. Attitudes of patients with psychiatric illness toward traditional healing. Int J Soc Psychiatry. 2018;64(2):107-111. doi: 10.1177/0020764017748987. Epub 2017 Dec 19. PMID: 29258371.
2. SteelZ, Marnane C, Iranpour C, Chey T, Jackson J W, Patel V, Silove D. The global prevalence of common mental disorders: a systematic review and meta-analysis 1980-2013. Int J Epidemiol. 2014;43(2):476-493. doi:10.1093/ije/dyu038
3. Jones R, Rickards H, Cavanna AE.The prevalence of psychiatric disorders in epilepsy: a critical review of the evidence. Funct Neurol. 2010; 25(4):191-194.
4. Sheehan DV, Lecrubier Y, Sheehan KH, Amorim P, Janavs J, Weiller E, Hergueta T, Baker R, Dunbar GC. The Mini-International Neuropsychiatric Interview (M.I.N.I.): The development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. J Clin Psychiatry:1998; 59 Suppl 20:22-57.
5. Davies HRJ. A rural “eye” in the Capital: Tuti Island, Khartoum, Sudan. GeoJ. 1994; 33: 387-392. https://doi.org/10.1007/BF00806421
6. Osman A, Bakhiet A, Elmusharaf S, Omer A, Abdelrahman A. Sudan’s mental health service: challenges and future horizons. BJPsych Int. 2020; 17(1):17-9.
7. Shaaban KM, Baashar TA. A community study of depression in adolescent girls: prevalence and its relation to age. Med PrincPract. 2003; 12(4):256-259. doi:10.1159/000072294
8. Salah TT, Abdelrahman A, Lien L, Eide AH, Martinez EH. The mental health of internally displaced persons: an epidemiological study of adults in two settlements in Central Sudan. Int J Soc Psychiatry. 2013; 59: 782-8.
9. Kim G, Torbay R, Lawry L. Basic health, women’s health, and mental health among internally displaced persons in Nyala Province, South Darfur, Sudan. Int J Soc Psychiatry. 2007; 97:353-61.
10. Hamid M, Musa SA. Mental health problems among internally displaced persons in Darfur. Int J Psychol. 2010;5:278-85.
11. Internal Displacement Monitoring Centre. Internal Displacement: Global Overview of Trends and Developments in 2010. Internal Displacement Monitoring Centre. 2011.
12. Osman AH, Hagar TY, Osman AA, Sulaiman H. Prevalence of depression and anxiety disorders in peri-natal Sudanese women and associated risks factors. Open J Psychiatry. 2015;5:342-9.
13. Khalifa DS, Glavin K, Bjertness E, Lein L.Postnatal depression among Sudanese women: prevalence and validation of the Edinburgh Postnatal Depression Scale at 3 months postpartum. Int J Womens Health. 2015;7:677. doi:10.2147/IJWH.S81401
14. Assil SM, Zeidan ZA. Prevalence of depression and associated factors among elderly Sudanese: a household survey in Khartoum State. East Mediterr Health J. 2013;19(5):435-440.
15. El Mahi M. Substance use problem in Sudan: elephant in the room. BJPsych Int 2018;15(4):89-91. doi:10.1192/bji.2017.33
16. 16. AbdulRahim FA, Al Shiekh A. Substance abuse and homelessness: mass methanol poisoning in Khartoum. Sud Med J.2012;48(1):1-6.
17. Omer AA, Mufaddel A. Characteristics and Motivation to Treatment in Male Patients Admitted with Dependence on a Local Type of Alcohol in Sudan. J Int Res Med Pharm Sci. 2016;7:14-18.
18. Azizi S, Omer A, Mufaddel, A. Cannabis Use among People with Mental Illness: Clinical and Socio-Demographic Characteristics. Open J Psychiatr.2018;8:244-252.doi: 10.4236/ojpsych.2018.83021.
19. Steel Z, Marnane C, Iranpour C, Chey T, Jackson JW, Patel V, Silove D. The global prevalence of common mental disorders: a systematic review and meta-analysis 1980-2013. Int J Epidemiol. 2014;43(2):476-93.

الملخص

هدفت الدراسة الحالية إلى تقدير انتشار الاضطرابات النفسية في جزيرة توتي، والتي يمثل سكانها مجتمعا ريفيا في عاصمة السودان، وذلك باستخدام المقابلة الدولية المصغرة للطب النفسي العصبي(M.I.N.I.) . من قبل 75 طالب طب من جامعة أم درمان الإسلامية.

بلغ العدد الإجمالي للمشاركين 886 منهم 656 ذكور (74٪) و230 (26٪) إناث. تم تقدير اضطرابات المزاج كمايلي: نسبة 5.3٪ لنوبات الاكتئاب الحالية (الأسبوعين الماضيين)، و1.7٪ لنوبات الاكتئاب المتكررة في، و1.8٪ للحلقة الحالية من الهوس، و1.6٪ لنوبات الهوس السابقة. بلغ معدل انتشار الاضطراب الذهاني على مدى الحياة 0.7٪.

التشخيص الحالي لأنواع اضطرابات القلق المختلفة شمل اضطراب الهلع (1.6٪)، رهاب الساحة (2.4٪)، الرهاب الاجتماعي (1.7٪) وتشخيص اضطراب القلق العام (1.5٪)، الوسواس القهري (2.8٪) وما بعد- اضطراب الإجهاد الرضي (2.6%).

تشمل التشخيصات الأخرى الاعتماد على الكحول (0.5٪)، واضطراب الشخصية المعادية للمجتمع (0.6٪)، والانتحار الحالي (2.5٪)، وفقدان الشهية العصبي (0.1٪)، والنهام العصبي (0.7%).

الاستنتاج: كشفت النتائج عن ارتفاع معدل انتشار الاضطرابات النفسية بين المشاركين، وخاصة الاكتئاب. نحتاج الى عينة أكبر مستقبلا لدراسة نسب انتشار الأنواع العديدة من الاضطرابات النفسية في البلد.

Corresponding author

Dr Amir A. Mufaddel, Tawam Hospital - Alain, United Arab Emirates

Email address: khalifaamir@yahoo.co.uk

Authors

Dr Abdelaziz A. Omer, University of Khartoum, Faculty of Medicine, Department of Psychiatry - Khartoum, Sudan

Dr Abulla Muhgoub Zaki, Omdurman Islamic University - Omdurman, Sudan

Dr Tarig Guma Mardi, Omdurman Islamic University - Omdurman, Sudan

Dr Mohamed Ali Elmahi, Hayat Centre for Rehabilitation - Khartoum, Sudan

Dr Amir A. Mufaddel,Tawam Hospital - Alain, United Arab Emirates

Dr Mohamed Abdelhamid Osman, University of Khartoum, Faculty of Medicine, Department of Psychiatry - Khartoum, Sudan

Dr Lubna H. Elhag, Omdurman Islamic University - Omdurman, Sudan

Comment on a report

"Build Back Fairer" by Achieving Health Equity in the Eastern Mediterranean Region: An Agenda for Transformation and Call for Action

"Social injustice is killing on a grand scale" (Marmot, 2021)

Mohammed T Abou-Saleh

تقرير لجنة المحددات الاجتماعية للصحة في إقليم شرق المتوسط منظمة الصحة العالمية

إعادة البناء على نحو أكثر عدلًا: تحقيق الإنصاف الصحي في إقليم شرق المتوسط

أجندة للتحول ودعوة للعمل

الظلم الاجتماعي يقتل على نطاق واسع مايكل مارموت

محمد طموح أبو صالح

Abstract

In 2019, the Eastern Mediterranean region (EMRO) of the World Health Organisation (WHO) convened a commission, led by Sir Michael Marmot, into the social determinants of health in the region. It addressed the need for achieving health equity and for policies that enable people to live with dignity. The subsequent report "Build Back Fairer: Achieving Health Equity in the Eastern Mediterranean Region" was published on March 31, 2021.[1]

Key words: COVID-19, Eastern Mediterranean, health, health equity, mental health, social determinants

Declaration of interest: None

Overview of the Build Back Fairer report

The Build Back Fairer report is timely in identifying the stark health and social inequities in the 22 countries in the Eastern Mediterranean Region (EMRO),[1] including the impact of COVID-19 in exposing and amplifying these inequities. It builds on the work of EMRO for improving the health of the people in these countries over decades and on Marmot's research on the social determinants of health leading the World Health Organisation (WHO) Global Commission "Closing the gap in a generation - Health equity through action on the social determinants of health".[2]

Marmot reported on the impact of social determinants on health: the influence of the social and health inequities and the conditions in which people are born, grow, live, and age on their health and longevity. These epidemiological findings are translated into highly effective health and social policies, including multisectoral complex interventions that mitigate the effects of these inequalities on the health and lives of people who are deprived and disadvantaged.

Further, "The Build Back Fairer" title was chosen as a deliberate echo of a 2020 report on COVID-19 and socioeconomic and health inequalities in England.[3] Emerging from the COVID-19 pandemic, with its widespread impact on society, is an opportunity to ask how, based on the best evidence, societies and health systems can be rebuilt in a way that benefits all people. Doing so will be a major step to building greater health equity.[4]

In summary, the findings of the WHO Global Commission are that EMRO countries show large diversities in longevity, per capita income with some of the richest and poorest countries, high prevalence of noncommunicable diseases and mental health conditions. However, what marks the Eastern Mediterranean region in comparison with other WHO regions, is the high number of conflict-related deaths. These have exceeded 150,000 per year since 2014; conflicts that cause high rates of disability, communicable and noncommunicable diseases and poor mental health. The conflicts exacerbate existing inequities and adversely affect all aspects of the social determinants of health, including the availability of early years support, education, health services, employment, incomes, social protection systems, shelter, water, sanitation, electricity, and basic human rights, and often leads to high levels of migration and the collapse of governance systems.

The Commission has furnished evidence for stark health inequities within and between countries that are widening. High income inequities that reflect the low priority given to social justice and health equity, climate change damaging health, high rates of maternal deaths (70% are due to avoidable causes), gender inequities, high unemployment (9% and 22% of youth, the highest rates of any region in 2019). Poor working conditions, low levels of social protection, especially pensions for older people, particularly women and migrants, making it a challenge to protect health in later life. Rapid urbanization, low health spending (5% of GDP well below global average of 9.9%) and weak governance systems. Importantly, the Commission tackled the cultural attitudes that affect health equity: positively noting that regular attendance in religious groups is linked with health benefits, such as lower blood pressure and better mental health as well as lower alcohol use and smoking; and it contributes to community cohesion. However, the Gender Inequality Index shows that the Eastern Mediterranean region has one of the highest levels of gender inequality of any region. The report states "Stereotypical cultural and social beliefs about the roles of women and men in society hinder development and limit people's lives and health. Women who are better educated are more likely to be knowledgeable about health care and nutrition, to marry later, to be engaged in the formal labor market and to have higher incomes. Their children are usually healthier". Moreover, attitudes towards refugees and migrants in the region are complex, but they are generally not afforded the same services and resources as citizens and there are signs the situation may deteriorate further because of the COVID-19 pandemic.

The Commission, in making comprehensive recommendations for action, adopted the approach of Do Something, Do More, Do Better, which recognizes the diversity of countries in the region and the health inequities within countries.

Ahmed Al-Mandhari, the EMRO Regional Director who took the initiative for this Commission, considered the COVID-19 pandemic a unique opportunity to 'build back fairer' and reduce health inequities in the Eastern Mediterranean region.[5]

The Commission has brought together a mass of evidence from the region and provided a comprehensive set of recommendations and agenda for action for stakeholders. International and regional organizations, national and local governments, civil society including faith-based organizations, the health sector, the corporate sector, and humanitarian agencies all have a role to play in building back fairer.

The Commission's executive brief states

National action will be at the heart of efforts to achieve health equity. The social determinants of approach require coordinated work across government policies and departments. Leadership must come from the center, but the ministry of health in each country needs to champion a whole-of-government approach to make health equity a marker of national progress in all government policies.

It is also important to work as a region – these issues are regional in scope as well as national. The WHO is well placed to provide regional leadership for action on the social determinants of health and health equity, working with other sectors, UN agencies, nongovernmental organizations, civil society, businesses, humanitarian organizations and donors.

Implications for mental health in the Eastern Mediterranean Region

The Commission's first objective was to analyze and present existing data on health inequities and social determinants of health, including conflict, in the Eastern Mediterranean region context. This objective is all-inclusive of health, including mental health. Marmot provided a WHO report on social determinants of mental health, reviewing the research evidence and considered the implications for action and policy to promote and protect good mental health.[6]

The report concluded that mental health and many common mental disorders are shaped by social, economic, and physical environments. Risk factors for many common mental disorders are strongly related to social inequalities, with increased risk associated with increased inequality. Further, to reduce these inequalities and reduce the incidence of mental disorders, it is crucial to act to improve the conditions of everyday life, with a life-course perspective beginning before birth and progressing into early childhood, older childhood, and adolescence; during family building and working ages, and through to older age. Action throughout these life stages would provide opportunities for both improving population mental health, and for reducing risk of those mental disorders that are associated with social inequalities. A social determinants of health approach requires action across multiple sectors and levels. The evidence is convincing that policy making at all levels of governance and across sectors can make a positive difference to mental health outcomes. Empowerment of individuals and communities is at the heart of action on the social determinants.

The provision and recommendations of the EMRO Commission of Building Back Fairer, are pivotal to

achieve the objectives of the EMRO adapted WHO Comprehensive Metal Health Action Plan 2013-2020.[7] The plan has been extended until 2030 to be aligned with the Sustained Development Goals 2015-2030 and adopted a multisectoral approach, through coordinated services from the health and social sectors, with an emphasis on promotion, prevention, treatment, rehabilitation, care, and recovery. The plan mandates all countries to take actions and proposes key indicators and targets that can be used to evaluate levels of implementation, progress, and impact. The action plan has, at its core, the globally accepted principle that there is "no health without mental health".

Further, Building Back Fairer, surpasses the concept of Building Back Better as documented in the WHO report from 10 diverse emergency-affected areas, each of which built better-quality and more sustainable mental health systems despite challenging circumstances.[8] It establishes social justice as a bedrock for integrating mental health services with universal health coverage, improving access and coverage of psychosocial interventions, eliminating coercion in mental health care, integrating mental health interventions into other sectors and incorporating technological innovations in mental health services.

The Commission has delivered the research evidence for social determinants of health, including mental health and produced a roadmap for transformative action and priorities for implementation.

In the era of the COVID-19 pandemic that threatened humanity with extinction, science has prevailed in producing vaccines that will combat it. It is no less credible that the science of social epidemiology will rescue humanity and for social justice to prevail.

It is incumbent on all stakeholders to take responsible action to Do Something, Do More, Do Better.

Psychiatrists as members of professional associations, leaders of mental health in their countries, service providers, teachers, trainers, researchers, and advocates have a major role in facilitating the implementation of these recommendations.

In the words of Marmot et al. [4]

"Our starting and finishing point, and our modus operandi, is health equity. Our approach is at once moral and scientific. Our position is that the reason for acting on these complex political, economic, and environmental issues is because the evidence shows how important they are for health equity. Improving the health of populations and advancing health equity should be central to the political debate. The question of what to do is answered by the evidence presented in the Commission's report. The question of why to do it is captured by the quote from the earlier WHO Commission on Social Determinants of Health: "social injustice is killing on a grand scale".[4]

References

1. Commission on the Social Determinants of Health in the Eastern Mediterranean Region. Build back fairer: achieving health equity in the Eastern Mediterranean region. Cairo: World Health Organization Regional Office for the Eastern Mediterranean, 2021. http://www.emro.who.int/ media/news/report-of-the-commission-on-social-determinants-of-health-in-the-eastern-mediterranean-region.html (accessed March 31, 2021).
2. Commission on the Social Determinants of Health. Closing the gap in a generation. Health equity through action on the social determinants of health. Geneva: World Health Organization, 2008.
3. Marmot M, Allen J, Goldblatt P, Herd E, Morrison J. Build back fairer: the COVID-19 Marmot review. The pandemic, socioeconomic and health inequalities in England. London: Institute of Health Equity, 2020.
4. Marmot M, Al-Mandhari A, Ghaffar A, El-Adawy M, Hajjeh R, Khan W, Allen J. Build back fairer: achieving health equity in the Eastern Mediterranean region of WHO. The Lancet. 2021 Mar 30;S0140-6736(21)00710-8.
5. Al-Mandhari A, Marmot M, Ghaffar A, Hajjeh R, Allen J, Khan W, El-Adawy M. COVID-19 pandemic: a unique opportunity to 'build back fairer' and reduce health inequities in the Eastern Mediterranean Region. East Mediterr Health J. 2021 Mar 23;27(3):217-219.
6. World Health Organization and Calouste Gulbenkian Foundation. Social determinants of mental health. Geneva, World Health Organization, 2014.
7. Mental Health Action Plan 2013-2020. Geneva: World Health Organization; 2013.
8. World Health Organization (WHO). Building back better: sustainable mental health care after emergencies. WHO: Geneva, 2013.

الملخص

أسست لجنة المحددات الاجتماعية للصحة في إقليم شرق المتوسط في عام 2019 من قِبَل المدير الإقليمي للمنظمة لشرق المتوسط، باعتبارها لجنة خبراء مستقلة. وقد أجرت اللجنة مراجعة شاملة لأوجه الإجحافات الصحية في الإقليم، وأصدرت تقريراً بعنوان "إعادة البناء على نحو أكثر عدلاً: تحقيق الإنصاف الصحي في إقليم شرق المتوسط". ويحلل التقرير بالتفصيل حالة الإجحافات الصحية ويعرض قائمة بالتوصيات الممكن تنفيذها. ويركز عمل اللجنة على وضع العدالة الاجتماعية والإنصاف الصحي في صميم جميع الإجراءات الرامية إلى معالجة المحددات الاجتماعية للصحة.

Author

Prof Mohammed T Abou-Saleh, Professor of Psychiatry, St George's, University of London - UK

Email: mabousal@gmail.com

The Arab Journal of Psychiatry (2021) Vol. 32 No.1 Page (96 -99) (doi-10.12816/0058771)

العلاقة السببية بين الحشيش والذهان

نورا العسالي، أديب العسالي

Causal Relationship between Cannabis and Psychosis

Norah Essali, Adib Essali

الملخص

لوحظ منذ وقت طويل وجود ترافق بين تعاطي الحشيش وبين الإصابة باضطراب نفسي ذهاني، ولكن لم يمكن بعد الانتقال من ملاحظة الترافق إلى الحكم على وجود علاقة سببية. تتضمن هذه الورقة محاولة للتوصل إلى هذا الحكم عن طريق تطبيق "معايير برادفورد هيل" لتأكيد العلاقة السببية بين سبب مفترض وبين تأثير ملاحظ. وهذه المعايير التسعة هي: 1) قوة الترافق؛ 2) ثبات الترافق الملاحظ؛ 3) نوعية الترافق؛ 4) التتالي زمنياً؛ 5) التدرج، أو علاقة جرعة-استجابة؛ 6) المعقولية؛ 7) التناغم؛ 8) التجريب؛ 9) تشبيه الترافق الملاحظ لتأثيرات مماثلة.

تنطبق معظم هذه المعايير على علاقة تعاطي الحشيش بحدوث الذهان وإن كانت الآلية البيولوجية لهذه العلاقة مازالت بحاجة لتوضيح، فالبحوث الصحية في هذا المجال مازالت في مراحل مبكرة.

تضارب المصالح: لا يوجد

الكلمات المفتاحية: الذهان، الفصام، اضطراب نفسي، الحشيش، ماريجوانا

المقدمة

لوحظ منذ وقت طويل وجود ترافق بين تعاطي الحشيش وبين الإصابة باضطراب نفسي ذهاني، ولكن مازال الجدل دائراً حول طبيعة هذا الترافق، مما أدى إلى وضع العديد من الفرضيات التي تم تلخيصها كما يلي:[1]

1. تنجم الإصابة بالذهان عن أسباب تؤدي أيضاً الى تعاطي الحشيش.
2. يسبب الحشيش ذهاناً لم يكن ليحدث لو لم يتم تعاطي الحشيش.
3. يثير الحشيش ذهاناً عند أشخاص مؤهبون للإصابة باضطراب ذهاني.
4. يؤدي تعاطي الحشيش إلى تفاقم أو إزمان اضطراب ذهاني موجود سابقاً.
5. يستخدم الناس المصابون باضطراب ذهاني الحشيش أكثر من الناس غير المصابين بذهان.

نشرت مراجعات عديدة للبراهين الداعمة لكل من هذه الفرضيات ولكن لم يتم التوصل بعد لقرار موحد، مما يثير تساؤلاً حول ما إذا كانت المعارف المتوفرة حالياً كافية لمناقشة هذه الفرضيات بشكل مقنع. فالأدب الطبي العالمي غني بدراسات توثق الترافق بين تعاطي الحشيش وبين الإصابة بالذهان، ولكن تكمن الصعوبة في الانتقال من ملاحظة الترافق إلى الحكم على وجود علاقة سببية، وتزداد هذه الصعوبة تعقيداً بوجود احتمال أن يكون تأثير الحشيش آجلاً أو غير مباشر.

معايير برادفورد هيل

واجه الأطباء والعلماء على مر العصور صعوبات مماثلة في إثبات أو نفي علاقة سببية بين ظواهر يلاحظ حدوثها بشكل متزامن، ولعل أشهر مثال على ذلك هو الترافق الذي لوحظ في بدايات القرن الماضي بين تدخين التبغ والإصابة بسرطان الرئة، مما دفع بالسير أوستن برادفورد هيل في خطاب افتتاح قسم الطب المهني في الجمعية الطبية الملكية عام 1965 إلى طرح أسس يمكن اعتمادها للتغلب على هذه الصعوبة[2] . صارت هذه الأسس تعرف باسم "معايير برادفورد هيل" وهي تسعة مبادئ استخدمت بشكل واسع في بحوث الصحة العامة لتأكيد العلاقة السببية بين سبب مفترض وبين تأثير ملاحظ. وهذه المعايير التسعة هي:

1. قوة الترافق، فكلما كان الترافق (أو حجم التأثير) أكبر كلما ازداد احتمال أن تكون العلاقة سببية.
2. ثبات الترافق الملاحظ.
3. نوعية الترافق
4. التتالي زمنياً، فالسبب يأتي قبل النتيجة.
5. التدرج، أو علاقة جرعة-استجابة، فكلما قوي السبب كبرت النتيجة.
6. المعقولية، أي وجود آلية بيولوجية تربط بين السبب والنتيجة.
7. التناغم بين الآلية البيولوجية المفترضة والموجودات الوبائية والمخبرية المتوفرة.
8. تجريب تغيير قوة السبب وملاحظة تأثر حجم النتيجة، مثل ملاحظة تراجع حدوث المرض عقب تطبيق إجراءات وقائية.
9. تشبيه الترافق الملاحظ لتأثيرات مماثلة.

تستخدم هذه الورقة معايير برادفور هيل لاستقصاء ما إذا كان حدوث الاضطراب الذهاني يتأثر بتغير معدلات تعاطي الحشيش، ولتقدير ما إذا كانت السببية تفسر الترافق الملاحظ بين تعاطي الحشيش وحدوث الذهان.

1. قوة الترافق

تمت ملاحظة ترافق بين درجة تعاطي الحشيش وبين الإصابة بالفصام خلال متابعة استمرت 15 سنة لحشد مؤلف من 45570 من المجندين السويديين، حيث كان احتمال الإصابة بالفصام عند من تعاطى الحشيش أكثر من مرتين أعلى بأكثر من ضعف احتمال حدوث الفصام عند من لم يسبق له تعاطي الحشيش [3]. وقد تم تأكيد هذه الملاحظة بنتائج دراسات متابعة قدمت برهاناً قوياً بما يكفي للتحذير من أن الحشيش يزيد خطر حدوث الاضطرابات الذهانية[4] وقدر تقييم ناقد للبراهين المتوفرة مقدار هذه الزيادة بأنها تضاعف خطر الإصابة بالذهان.[5]

تمت دراسة هذا الترافق في مشروع الشبكة الأوروبية لدراسة تأثير البيئة والوراثة على وقوع الذهان في 17 منطقة موزعة بين إنكلترا وفرنسا وهولندا وإيطاليا واسبانيا والبرازيل، حيث تمت بين العامين 2010 و2015 مقارنة 901 مريضاً بنوبة ذهانية أولى مع 1237 شخص شاهد، فكانت أرجحية الإصابة بالذهان عند الذين تعاطوا الحشيش يومياً ثلاثة أضعاف مثيلتها عند الذين لم يسبق لهم تعاطي الحشيش إطلاقاً، وارتفعت النسبة إلى خمسة أضعاف عند الذين تعاطي الحشيش المقوّى.[6]

2. ثبات الترافق بين تعاطي الحشيش وحدوث الذهان

تمت ملاحظة الترافق بين تعاطي الحشيش وحدوث الذهان في دراسات عديدة أجريت في دول مختلفة على عينات متنوعة من الناس، كما ذكر في الفقرة السابقة وكما سيرد في الفقرات التالية.

3. نوعية الترافق بين تعاطي الحشيش وبين حدوث الذهان

هناك بينات على أن الأشخاص الأصغر عمراً هم الأكثر تعرضاً للإصابة بالذهان عقب تعاطي الحشيش، ويزداد احتمال الإصابة بالذهان عند وجود الفصام أو غيره من الاضطرابات الذهانية عند أحد الأبوين أو الأخوة، حيث يبلغ احتمال إصابة الشباب بالذهان [7] بالألف إن كانت العائلة خالية من الاضطرابات الذهانية، ويتضاعف هذا الاحتمال إلى 14 بالألف عند الشباب الذين يتعاطون الحشيش بانتظام. أما عند وجود فصام أو غيره من الاضطرابات الذهانية في العائلة فيكون احتمال إصابة الشباب باضطراب ذهاني حوالي واحد بالعشرة ويتضاعف الاحتمال الى واحد بالخمسة عند من يتعاطى منهم الحشيش بانتظام.[7]

هذا من حيث التأثير النوعي على الأعمار الأصغر لاسيما عند وجود سوابق عائلية للفصام أو لغيره من الاضطرابات الذهانية، أما نوعية تأثير الحشيش مقارنة بغيره من العقاقير الفعالة نفسياً فقد تمت دراستها بتحليل بعدي منهجي هدف إلى استقصاء مدى تأثير الحشيش والكحول وغيرهما من العقاقير الفعالة نفسياً على حدوث الذهان. اشتمل هذا التحليل على 83 دراسة وبينت نتائجه أن الذهان يظهر مبكراً حوالي ثلاث سنوات عند متعاطي الحشيش، وقدمت نوعية هذا التأثير برهاناً على أن الحشيش قد يلعب دوراً مسبباً للذهان عند بعض المرضى.[7]

4. تتالي تعاطي الحشيش ثم حدوث الذهان

تتراكم براهين على أن تعاطي الحشيش في سن المراهقة يزيد خطر إصابة المراهق بالذهان، ولعل أقوى هذه البراهين هو المشتق من دراسة دنيدن التي بدأت قبل حوالي 40 سنة وتابعن بشكل لصيق حياة وصحة 1037 طفل ولدوا في العامين 1972 و1973 ومازال 981 منهم متابعين بهذه الدراسة التي بينت ارتفاع خطر حدوث الذهان عقب تعاطي الحشيش بعمر مبكر، فقد ارتفع خطر الإصابة بالفصام بمعدل 10.3% عند الذين تعاطوا الحشيش بكثافة قبل عمر 18 سنة، وارتفع هذا الخطر بمعدل 4.7% عند الذين تعاطوا الحشيش بكثافة بعد عمر 18 سنة.[8]

تتماشى هذه المعدلات مع نتائج دراسات أخرى استقصت تأثير التعرض للحشيش أثناء المراهقة على خطر الإصابة بالفصام وغيره من الذهانات، فقد تبين أن تعاطي الحشيش بين عمر 15 و18 سنة يترافق بازدياد حدوث أعراض الفصام بعمر 26 سنة[9]. كما بينت دراسة ألمانية استهلالية أن تعاطي الحشيش أثناء المراهقة تزيد حدوث واستمرار ذهان تحت سريري في حشد من 1923 شخص. اشتمل في الدراسة أشخاص لم يسبق لهم معاناة أعراض ذهانية ولم يسبق لهم تعاطي الحشيش وتمت متابعتهم لمدة عشر سنوات فتبين أن تعاطي الحشيش خلال أول 3.5 سنة من الدراسة قد رفع خطر وقوع الأعراض الذهانية خلال السنوات الخمس التالية بمعدل 31% مقارنة بمعدل 20% عند الذين لم يتعاطوا الحشيش.[10]

5. التدرج وعلاقة الجرعة-الاستجابة

هناك دراسات تبين أن زيادة تعاطي الحشيش تزيد معدل وقوع الذهان، ففي دراسة المجندين السويديين التي ذكرت أعلاه، ترافق تدخين الحشيش مرة واحدة على الأقل بمضاعفة احتمال الإصابة بالفصام، بينما ترافق تعاطي الحشيش بشكل مكثف، أي أكثر من خمسين مرة، بمضاعفة خطر الإصابة بالفصام ست مرات مقارنة بالذين لم يتعاطوا الحشيش.[3]

اتاح تطوير الحشيش المقوّى الذي يحتوي على تركيز مرتفع من المادة الفعالة (Δ9-THC) (δ9-tetrahydrocannabinol) فرصة لدراسة تدرج الجرعة عند 280 شخصاً من المصابين بنوبة ذهانية أولى ومقارنتهم بما مجموعه 174 من الأصحاء كشاهد[11]. لم يكن هناك فرق بين الحالات والشاهد من حيث سوابق تعاطي الحشيش أو العمر عند أول تعاطي، ولكن كان احتمال التعاطي يومياً واحتمال التعاطي لأكثر من خمس سنوات أعلى عند المصابين بالذهان. وبينت نتائج الذين تعاطوا الحشيش في المجموعتين أن 78% من المصابين بالذهان قد تعاطوا الحشيش المقوى، بينما تعاطاه في مجموعة الشاهد 37%. هناك دعم لعلاقة جرعة-استجابة للعلاقة بين تعاطي الحشيش والإصابة بالذهان يشتق من ملاحظة أن المصابين بنوبة ذهانية أولى قد تعاطوا الحشيش المقوى لفترة أطول وبتواتر أعلى مما كان عليه الحال في مجموعة الأصحاء الشاهد.

قدم مشروع الشبكة الأوروبية المذكور أعلاه [6] نتائج مماثلة، حيث زاد تعاطي الحشيش يومياً خطر الإصابة بالذهان ثلاثة أضعاف مقارنةً بغير المتعاطين، بينما زاد تعاطي الحشيش المقوى يومياً خطر الإصابة بالذهان خمسة أضعاف مقارنةً بغير المتعاطين.

6. المعقولية

مازال البحث عن آلية بيولوجية تربط بين تعاطي الحشيش وحدوث الذهان في مراحله المبكرة، ولكن حصل بعض التقدم في التعرف على مستقبلات الكانابينويد في الدماغ وفي التفاعلات الكيميائية التي يحرضها Δ9-THC وتساهم في تأثيراته النفسية والجسدية، فقد تشتمل آليات إحداث الحشيش لأعراض ذهانية عابرة على تعديل فعالية النواقل العصبية دوبامين وغابا وغلوتامات[12]. حيث يسبب الحشيش أثناء

التعاطي الحاد ازدياد تصنيع وإفراز الدوبامين، مع تثبيط إعادة قبطه، بشكل يشبه تأثير تعاطي المنبهات، فتشاهد عن المتعاطين زيادة مستقلبات الدوبامين خارج الجملة العصبية. أما التعاطي المزمن فيترافق بانخفاض تصنيع الدوبامين، ويبدي تصنيع الدوبامين في الستریاتوم علاقة عكسية مع تعاطي الحشيش.[13]

ولكن، يجب تذكر أن تعاطي الحشيش لا يسبب ذهاناً عند كل المتعاطين، بل فقط عند ثلثهم بينما يصاب بالذهان 20% من غير المتعاطين[11]. يوحي ذلك بأن تعاطي الحشيش هو "سبب جزئي" يتفاعل مع "أسباب جزئية" أخرى لإحداث الفصام أو الذهان[14]. وبذلك فإن الفصام هو ناتج تفاعل عدد من الأسباب الجزئية مثل الجينات والمخاطر البيئية المبكرة التي تؤثر سلباً في مراحل التطور اللاحقة، ويمكن لتعاطي الحشيش زيادة خطر الإصابة بالفصام ثلاثة أضعاف[15]. تتلقى هذه النظرة دعماً من ملاحظة أن كثير من الجينات المرتبطة باستقلاب الدوبامين قد تسبب ارتفاعاً مهماً في حدوث الذهان المرتبط بالحشيش.[16]

7. التناغم

لا توجد حتى الآن آلية مؤكدة لكيفية تسبيب الحشيش للذهان، ولكن المعلومات المتوفرة لا تتناقض مع افتراض أن الحشيش قد يسبب الذهان، فهناك مستقبلات غزيرة لمشتقات الحشيش في دماغ الانسان ولها وظائف عليا مثل الانتباه والذاكرة والتعلم والتخطيط، إضافةً إلى الألم والنوم والشهية للطعام. لذلك فإن إغراق الدماغ بمشتقات الحشيش قد يخل بالتوازن الطبيعي لهذه المشتقات في الدماغ مما قد يسبب أعراضاً شبيهة بأعراض الفصام.

8. التجريب

هناك تجارب تحدث عفوياً وتبين مثلاً أن تعاطي الحشيش يسرع الإصابة بالذهان بمقدار ثلاث سنوات[7]. وبالعكس فإنه يمكن توقي حدوث اضطرابات ذهانيه عن طريق امتناع الشباب عن تعاطي الحشيش، فقد يؤدي إلغاء تعاطي الحشيش إلى خفض حدوث الفصام بمعدل 8%[5]، وقد تم الحصول على نتائج مماثلة من مشروع الشبكة الأوروبية المذكور أعلاه[6] الذي بين أن التخلص من الحشيش المقوى قد يقي من 12.2% من نوب الذهان الأولى في 11 منطقة اشتملها المشروع، ويرتفع معدل الوقاية في لندن إلى 30.3% وفي أمستردام إلى 50.3%.

9. التشبيه

يمكن تشبيه تأثير الحشيش على الذهان بتأثيره على الوظائف العقلية المعرفية والمزاجية، فزيادة تعاطي الحشيش تترافق بتدهور الأداء المعرفي لاسيما عند الشباب، وقد ثبت ذلك بمراجعة لتسع وستين دراسة مقطعية على 2152 متعاط للحشيش. أظهرت هذه الدراسة تدهوراً بسيطاً في الأداء المعرفي عقب التعاطي المتكرر أو الشديد[17]. وبينت دراسة أخرى أن تعاطي الحشيش بكثرة قد يسبب ذهاناً سريع الزوال يمتاز بمظاهر تحت هوسية رغم أنه يظهر كمرض شبيه بالفصام[18]. فقد تم في هذه الدراسة تقييم الحالة العقلية لعشرين رجلاً كان بولهم محتوياً على تراكيز مرتفعة لمشتقات الحشيش وتمت مقارنتهم مع عشرين شاهد لم يستخدم الحشيش. أظهرت مجموعة المتعاطين أعراضاً تحت هوسية وهياجاً أكثر من مجموعة الشاهد، بينما كانت أقل إظهاراً لتسطح المزاج والاهلاس السمعية واضطراب التفكير.

أخيراً، هناك خلاف حول ما إذا كان تشخيص "ذهان مثار بالحشيش" حالة سريرية مستقلة أم بادرة مبكرة للفصام، فتعاطي الحشيش يزيد احتمال الإصابة بالفصام ويجعله يظهر في عمر مبكر، ومراجعة البراهين المتوفرة لا تقدم دعماً كافياً لتشخيص "ذهان مثار بالحشيش" مستقل[19]. لذلك فقد يعتبر الحشيش عامل خطر بيئي تزيد احتمال الإصابة بالاضطرابات الذهانية.

References

1. Degenhardt L, Hall W. Cannabis and psychosis. Curr Psychiatry Rep. 2002;4:191-196.
2. Hill, Austin Bradford. The Environment and Disease: Association or Causation? Proceedings of the Royal Society of Medicine. 1965;58(5):295-300.
3. Andréasson S, Allebeck P, Engström A, Rydberg U. Cannabis and schizophrenia. A longitudinal study of Swedish conscripts. The Lancet. 1987;26;2(8574):1483-6.
4. Gage SH, Hickman M, Zammit S. Association Between Cannabis and Psychosis: Epidemiologic Evidence. Biol Psychiatry. 2016;79(7):549-556.
5. Arseneault L, Cannon M, Witton J, Murray RM. Causal association between cannabis and psychosis: examination of the evidence examination of the evidence. Br J Psychiatry. 2004;184:110-117.
6. Di Forti M, Quattrone D, Freeman TP, et al. The contribution of cannabis use to variation in the incidence of psychotic disorder across Europe (EU-GEI): a multicentre case-control study www.thelancet.com/psychiatry. 2019;6;427.
7. Large M, Sharma S, Compton MT, Slade T, Nielssen O. Cannabis use and earlier onset of psychosis: a systematic meta-analysis. Arch Gen Psychiatry. 2011;68(6):555-61. DOI:10.1001/archgenpsychiatry.2011.5
8. Arseneault L, Cannon M, Poulton R, Murray R, Caspi A, Moffitt T E et al. Cannabis use in adolescence and risk for adult psychosis: longitudinal prospective study BMJ 2002; 325;1212 doi:10.1136/bmj.325.7374.1212
9. Harkany T, Keimpema E, Barabás K, Mulder J. Endocannabinoid functions controlling neuronal specification during brain development. Mol Cell Endocrinol. 2008;286(1-2 Suppl 1):S84-90.

10. Kuepper R, van Os J, Lieb R, Wittchen H, Höfler M, Henquet C. Continued cannabis use and risk of incidence and persistence of psychotic symptoms: 10-year follow-up cohort study. BMJ. 2011;342:d738.
11. Di Forti M, Morgan C, Dazzan P, Pariante C, Mondelli V, et al. High-potency cannabis and the risk of psychosis. Br J Psychiatry. 2009; 195(6):488-491.
12. D'Souza DC, Sewell RA, Ranganathan M. Cannabis and psychosis/schizophrenia: human studies. Eur Arch Psychiatry Clin Neurosci. 2009;259:413-431.
13. Bloomfield MA, Morgan CJ, Egerton A, et al. Dopaminergic function in cannabis users and its relationship to cannabis-induced psychotic symptoms. Biol Psychiatry. 2014;75:470-478.
14. Malik AR, D'Souza DC. Gone to pot: The association between cannabis and psychosis. Psychiatric Times. 2006;23.
15. van Os J, Bak M, Hanssen M, Bijl RV, de Graaf R, Verdoux H. Cannabis use and psychosis: A longitudinal population-based study. Am J Epidemiol. 2002;156:319-27.
16. Henquet C, Rosa A, Delespaul P, et al. COMT Val158Met moderation of cannabis-induced psychosis: a momentary assessment study of 'switching on' hallucinations in the flow of daily life. Acta Psychiatr Scand. 2009;119:156-160.
17. J. Cobb Scott, Samantha T. Slomiak, Jason D. Jones, et al. Association of Cannabis with Cognitive Functioning in Adolescents and Young Adults. A Systematic Review and Meta-analysis. JAMA Psychiatry. 2018;75(6):585-595.
18. Rottanburg D, Ben-Arie O, Robins A, Teggin A, Elk R. Cannabis-associated psychosis with hypomanic features. The Lancet 1982; 320(8312): 1364-1366.
19. Thornicroft G. Cannabis and Psychosis: Is there Epidemiological Evidence for an Association? Br J Psychiatry. 1990;157:25-33.

Abstract

The association between cannabis use and psychosis has long been recognized, and there has been considerable debate about the reasons for this association. Similar debate occurred decades ago about the association of tobacco smoking and lung cancer. Sir Austin Bradford Hill, back in 1965, proposed that the following aspects of the association should be considered when assessing the likelihood of causation as an interpretation of the observed association: (1) Strength of the association; (2) Consistency of the observed association; (3) Specificity of the association; (4) Temporality; (5) Gradient (dose-response relationship); (6) Plausibility; (7) Coherence; (8) Experiment; and (9) Analogy.

This paper aims to apply these criteria to the observed association between cannabis use and psychosis. There is evidence to support a causal relationship although the biological mechanism linking cannabis use to psychosis is still not clearly understood. Relevant research remains in the early stages.

Corresponding author

Dr Norah Essali, Addiction Psychiatry Fellow**,** University of Washington - Seattle USA

Authors
Dr Norah Essali, Addiction Psychiatry Fellow**,** University of Washington - Seattle USA

Dr Adib Essali, Consultant Psychiatrist, Counties Manukau Health**;** Honorary Senior Lecturer, Auckland University - Auckland, New Zealand

The Journal is available on ALMANHAL database, PSYCHINFO, EPSCO, DAR ALMANDUMAH database, and the Journal website.