

**MENTAL DISORDERS AMONG THE ELDERLY PEOPLE
ATTENDING PRIMARY HEALTH CARE CENTERS, BAGHDAD/
IRAQ, 2017**

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ABSTRACT

Background: The world's population is ageing rapidly. Between 2015 and 2050, the proportion of the world's older adults is estimated to double from 12% to 22%. Older people face multiple physical, psychological and social challenges and about 15% of elderly people suffer from mental disorders, the most common are dementia, depression, anxiety disorder, drug abuse problems, and suicide. **Aims of study:** To highlight on geriatric mental health problems and help policy makers in the planning of mental health programs, proper

allocation of financial and human resources to control of these increasingly prevalent of mental health problem in our country. **Methodology:** Cross-sectional study conducted and involved 331 elderly people who attended to 10 randomly selected (PHCs) of 10 health districts in both Baghdad health directorates (Al Karkh and Al Rusafa). Kessler Psychological Distress Scale was used, with a known validity and reliability, included information for the socio-demographical data, elderly mental health associated factors and screening for (CMDs) in elderly. Data was collected through self-assessment questionnaire. **Results:** The prevalence of the mental disorders (MDs) in study sample was 23%, represented as (depression 13.3%, anxiety 18.6%, dementia 8.8%, substance abuse 1.5%, suicide thoughts 4.8%, and suicide attempts 1.8%). By Chi square test, the age, education level, current marital status, current occupation, smoking history, living depends on others, visual and auditory impairment, social isolation and loneliness, economic state deterioration, neglect and mishandling, cardiovascular diseases, respiratory diseases, DM disease and chronic joint pain was statistically significant associated factors with elderly mental disorders. By logistic regression analysis, currently unmarried (single, widowed, and divorced), not enough income, neglect and mishandling, smoking history, respiratory

diseases, and chronic joint pain are determinants of elderly mental disorders. **Conclusions:** Mental disorders are common among elderly people and enhanced elderly mental health care services should be provided.

BACKGROUND

The aging population is currently one of the main issues facing international health care systems. There has been an increasing international awareness of health issues relating to aging populations.^[1]

Traditional perceptions of old age have been challenged during the past few years and it is an important that elderly people are not taken as a burden on society, but rather as an asset.^[1,2]

The old people age was more prone to infections and injuries and they have increased risk of disease, disability and death.

Lack of family support and restricted personal autonomy are important contributing factors.^[3]

Chronic non communicable diseases (NCDs) are characteristic of old age and the prime causes of deterioration of physical health.^[4,5] Over the next 10 to 15 years, people in every world region will suffer more death and disability from such NCDs as heart disease, cancer, and diabetes.^[6]

In 2008, the NCDs accounted for an estimated 86 % of the burden of disease in high-income countries, 65% in middle-income countries, and 37% in low-income countries.^[6] Chronic conditions account for about 60% of all diseases worldwide; furthermore, scientists project that this figure will increase to 80% by 2020.^[5]

It is anticipated that by the year 2020 one in three deaths in developing countries will be through causes related to old age, and that the majority of these deaths will be from non-communicable diseases such as cardiovascular disorders, cancers and diabetes.^[5,6]

According to the survey conducted in Iraq 2013, the result revealed that in Iraq elderly suffer from high rate of hypertension in male 47% and in female 25% while diabetic mellitus in male 23% and in female 20%.^[7]

In addition to NCDs the overall prevalence of mental and behavioral disorders tends to increase with age due to the normal ageing of the brain, deteriorating physical health and

cerebral pathology and approximately 15% of adults aged 60 and over suffer from a mental disorder.^[8]

Among these mental and behavioral disorders is depression, which is not a normal part of growing old but rather a treatable medical illness,^[9] it is associated with disability, increased mortality and poorer outcomes from physical illness.^[9]

Depression is the single most significant risk factor for suicide in the elderly population. Elderly persons are more likely to seek treatment for other physical ailments than they are to seek treatment for depression.^[10]

The World Health Organization estimated that the overall prevalence rate of depression among the elderly generally varies between 10 and 20%, depending on the cultural situations.^[10,11]

According to the Iraqi Mental Health Survey (IMHS) 2007; the age-group 60 year and more show high values for depressive episode with life time prevalence reached 13.15% for males and 13.55% for females.^[12]

The Iraqi situation is unique considering the duration of unstable and stressful conditions (many years of war, thirteen years of economic sanctions, and invasion and regime change in 2003 followed by years of extreme insecurity) which have involved several generations of the population. The entire country is, as a result, in an extremely complex psychosocial situation.^[12]

Both the prevalence and the consequences of depression retain an enormous impact on the health of ageing populations.^[13] And the health care burden of depression is comparable to that of cardiovascular disease and it is estimated to be among the top three of total global diseases disability, and expected to become the leading cause of disability by year 2020 closely following ischemic heart disease.^[9,13]

Memory loss is also a prominent feature of aging and is associated with substantial declines in quality of life and increased risk of dementia.^[14]

Prevalence of dementia rises sharply with age. An estimated 25-30% of people aged 85 or older have dementia.^[6,14]

Demographic and family changes lead to decline the families care and support for older people. So the society will need better information and tools to ensure the well-being of the world's growing number of older citizen.^[6]

The developed or industrialized countries have already developed long -term care for people with chronic illnesses. They are economically and technically in safe position to impart the health facilities to the citizens irrespective to the age. They have developed health insurance fund to assist for long-term care or training health professionals. Care for chronically ill and geriatric patients has become the key issue for the policy development of the developed countries.^[2,15]

On other hand in developing countries, the elderly apply to health care more and stay for longer periods in hospitals, rendering the elderly passive, dependent consumers.^[15,1]

In addition in many developing countries, much of the emphasis of health care delivery system was on mother and child programs.

The specific health needs of senior citizens are virtually ignored by many health services systems.^[6]

Moreover, health workers who are the first point of contact for elderly people are inadequately trained and equipped to care for them.

Few secondary and tertiary care institutions have separate services for elderly people. General outpatient departments and departments of general medicine provide care but there are long waiting times, the care is often inadequate, and minimal attention is paid to personal care and counseling. Separate inpatient facilities are rarely designated for elderly patients and gerontology is not a popular specialty.^[16,17]

The aim of study

1. To measure the prevalence of the mental disorders among the elderly people attending primary health care centers, Baghdad/ Iraq.
2. To identify potential associated factors with geriatric mental disorders.

2.1. Literature review

Mental health is an integral and essential component of health. It is fundamental to the wellbeing of individuals, their families, the community, and society as a whole.

Overall, the majority of older people enjoy good mental health. However, a significant proportion experience one or more mental health problems.

Elderly are vulnerable group for mental disorders and face special physical and mental health challenges which need to be recognized.

2.2. Prevalence of the elderly mental disorders

Most elderly people enjoy good mental health, but about 15% of them suffer from a mental disorder^[18], and mental health is important to them as to the rest of the age groups.

The most common mental health disorders in elderly are:^[18]

- ✓ Dementia between 5-8% of them,
- ✓ Depression between 7% of them.
- ✓ Anxiety disorder affects 4% of the elderly population.
- ✓ Drug abuse problems affect nearly 1% of them.
- ✓ Suicide (1/4 of all deaths from suicide are among the elderly).

2.3. Mental disorders associated factors

Multiple social, psychological, and biological factors determine the level of mental health of a person at any point of time. As well as the typical life stressors common to all people, many older adults lose their ability to live independently because of limited mobility, chronic pain, frailty or other mental or physical problems, and require some form of long-term care. In addition, older people are more likely to experience events such as bereavement, a drop in socioeconomic status with retirement, or a disability. All of these factors can result in isolation, loss of independence, loneliness and psychological distress in older people.^[6,19]

Social isolation and loneliness can also have an impact on the mental health of older people. Loneliness is 'a subjective, unwelcome feeling of lack or loss of companionship or emotional attachment with other people', whereas social isolation is 'an objective state of having minimal contact and interaction with others and a generally low level of involvement in community life.'^[20]

Based on the review of international studies, it is estimated that approximately (10 %) of senior suffer from chronic loneliness and social isolation.^[27] The actual rate might be higher because loneliness and social isolation are likely to be under-reported due to the associated stigma with these issues.^[27] Similar to depression and anxiety, there are physical, psychological, and social risk factors associated with loneliness and isolation in late life.^[21,22] These include poor physical health, poor functional status, and mental health problems, and low self-efficacy beliefs, negative life events, poor social relationships, unsafe neighbourhoods, inaccessible housing and inadequate resources for socialising.^[21] Based on these risk factors, some groups of older people are at higher risk of loneliness and social isolation. These include carers, older people with a disability or mental health problems, those living alone or those living in rural areas, those with low socioeconomic status, older Indigenous people, and older immigrants.^[22]

There is clear evidence that loneliness and social isolation in late life are associated with many negative outcomes. These include physical health problems such as higher blood pressure and, mental health problems such as sleep disturbance, depression, suicidal thoughts, and worse cognitive functioning.^[21,23]

2.5. Improvement of elderly mental health

Many different approaches have been used to treat anxiety and depression in late life. These include medical treatments (such as antidepressant medication, electroconvulsive therapy), psychological interventions (such as cognitive behaviour therapy and interpersonal therapy), and self-help (such as life style approaches).^[24,25]

Generally speaking, psychosocial interventions are used as the first line treatment for mild and moderate symptoms of depression and anxiety, while a combination of medical and psychosocial interventions is used for more severe symptoms.^[23]

There have been a number of reviews on health promotion interventions that target social isolation and loneliness among older people. There is evidence that educational and social activity group interventions that target specific groups can alleviate social isolation and loneliness among older people.^[26]

In addition, collaborative community ventures, mentoring and befriending schemes can help older people to access and rebuild social networks that may assist them to sustain wellbeing.^[27,28]

Also, there is emerging evidence that the use of technologies, such as computer-mediated social support and socially assistive robots, can be effective interventions for reducing loneliness among older people.^[29]

Importantly, a study conducted by UK^[30] indicated that there appears to be ‘a growing gap between the understanding of what constitutes a ‘loneliness intervention’ demonstrated in the academic literature, and that of those involved in delivering interventions’. Consequently, a study suggests that we need to focus more on approaches that support the development of new structures within communities, and include not only specific interventions and services, but also services that address the key challenges faced in working with lonely individuals.^[30] Some examples of these holistic approaches are neighbourhood approaches and asset based community development approaches.^[42]

METHODOLOGY

3.1. Study design: Cross sectional study.

3.2. Study Setting: The study was carried out in 10 PHCs selected randomly from both Baghdad side (Al Karkh and Al Rusafa).

3.3. Study population: The people aged 60 years and above who attending PHCs during the period of study and agreed to participate in the study.

3.4. Study period: The period of study was cover from 1st November 2016 to 30th April 2017, and data collection was carried out during two months from 1st December 2016 to 30th January 2017.

3.5. Study sampling: In this study, a multistage random sampling technique was used. Both Baghdad health directorates (Al Karkh and Al Rusafa) were involved in the study. The 5 health districts were selected randomly from each health directorate and then 1 PHC selected randomly from each health district. The list of the health districts and the PHCS was obtained from both Al Karkh and Al Rusafa health directorates and a systematic random sampling

technique was used to select the participants in this study from both sex elderly people that attended to those ten PHCs.

Inclusion criteria: All people aged 60 years and above that attending PHCs and agreed to participate in the study.

Exclusion criteria: All people aged 60 years and above whom temporary residents in Iraq, displaced individuals and those living in institutionalized settings.

3.7. Tools of study

Data was collected through self-assessment questionnaire with assist of researcher to avoid misinterpretation and ensure clarity on all issues.

The data collected to gather the following:

- The socio-demographical data as: Age, gender, residence, current marital status, education state, current job, income level, smoking and alcohol history.
- The geriatric mental health associated factors as: living dependents on others, decline in vision and hearing senses, neglect and mishandling, Social isolation and loneliness, deterioration of economic situation, and comorbid physical illnesses.
- The Evaluation of the mental disorder in the elderly was performed by using of 10 questions based on Kessler psychological Distress Scale (K10).^[31]
- Screening for depression was accomplished by using a short version of the geriatric depression scale (GDS); which include 15 questions. And score >10 points is almost always indicate of depression.^[32]
- Screening for anxiety in the elderly was accomplished by using a short version of the brief measure for assessing generalized anxiety disorder (GAD). Which include 7 questions; for each question divided to four degree from zero score to 3 score? And score >10 points is almost always indicate of anxiety.^[33]
- Screening for Dementia in the elderly was accomplished by using a modified short version of the brief measure for assessing dementia. Which include 10 questions; one point for each errors answers. And score >3 points is almost always indicate of dementia.^[34]
- The Evaluation of the substance abuse status in the elderly was performed by using modified set of seven questions based on (Assist screening test version 3.0). Score >3 point is indicative of addiction.^[35]

- Screening for suicide status (suicide thoughts and suicide attempts) in the elderly which include question; positive response answered by (yes) and negative response answered by (no).

If answered (yes) from suicide attempts asking also suicide attempts methods (burn, hang, gunshots, drug or chemical poisoning, use sharp object, use electricity, fall from a high).

3.9. Data analysis and management

The data were coded and each questionnaire assigned a serial identifier number after the data was entered by the researcher into the computer using Statistical Package for Social Sciences (SPSS) version 21. The following analysis plan was used:

- The data was presented as frequency tables and graphs.
- A Chi square test applied to test significance of association between categorical variables.
- Logistic regression analysis applied to identify the significant independent associated factors.
- The level of significance was set at P value of ≤ 0.05

4. RESULTS

A total of 374 respondents that attending to 10 PHCs in both Baghdad health directorates (Al Karkh and Al Rusafa) were approached by the researcher and 331 agreed to participate and they filled out the questionnaire correctly, giving a respond rate of 88.5%.

4.1. Basic characteristics of study sample.

Table 1: Distribution of study sample by basic characteristics.

Variables	Category	no.	%
Age group	60-69 years	211	63.7
	≥ 70 years	120	36.3
Sex	Male	191	57.7
	Female	140	42.3
Current residence	Central of Baghdad	277	83.7
	Peripheral of Baghdad	54	16.3
Education level	None or primary school	150	45.3
	Intermediate or secondary school	115	34.7
	College or post-graduate	66	19.9
Current Marital status	Married	229	69.2
	Unmarried*	102	30.8
Currently work	Yes	92	27.8
	No	239	72.2
Income level	Enough	162	48.9
	Not enough	169	51.1

Smoking history	None	198	59.8
	Ex-smoker	82	24.8
	Current smoker	51	15.4
Alcohol history	None	269	81.3
	Ex-drinker	47	14.2
	Current drinker	15	4.5

*(single, widowed, and divorced)

4.2. Mental health and associated factors among study sample

To summarize the potential associated factors of study participants, out of all total number, those who living depends on others were 108 (32.6) and those who living depends on himself was 223 (67.4%). (Table 2).

Table 2: Distribution of socioeconomic factors and co- morbid diseases among the study sample.

Variables	Category	no.	%
Living depends on others	Yes	108	32.6
	No	223	67.4
Visual impairment	Yes	193	58.3
	No	138	41.7
Auditory impairment	Yes	148	44.7
	No	183	55.3
Social isolation and loneliness	Yes	68	20.5
	No	263	79.5
Economic state deterioration	Yes	114	34.4
	No	217	65.6
Neglect and mishandling	Yes	56	16.9
	No	275	83.1
Cardiovascular diseases	Yes	159	48.0
	No	172	52.0
Respiratory diseases	Yes	80	24.2
	No	251	75.8
DM disease	Yes	138	41.7
	No	193	58.3
Chronic joint pain	Yes	212	64.0
	No	119	36.0
Cancers	Yes	8	2.4
	No	323	97.8

4.3. Distribution of mental disorders in study sample

The distribution of mental disorders among study sample was 23% (18.8-26.8) 95% C.I. and the distribution of the common mental disorders among study sample that included anxiety, depression, dementia, suicide thoughts, suicide attempts, and substance use disorder were

represented as anxiety 18.6% (14.6-23.0) 95% C.I., depression 13.3% (10.0-17.2) 95% C.I., dementia 8.8% (5.8-11.8) 95% C.I., suicide thoughts 4.8% (2.7-7.3) 95% C.I., and suicide attempts 1.8% (0.6-3.3) 95% C.I., and substance abuse 1.5% (0.3-3.0) 95% C.I. (Figure 1).

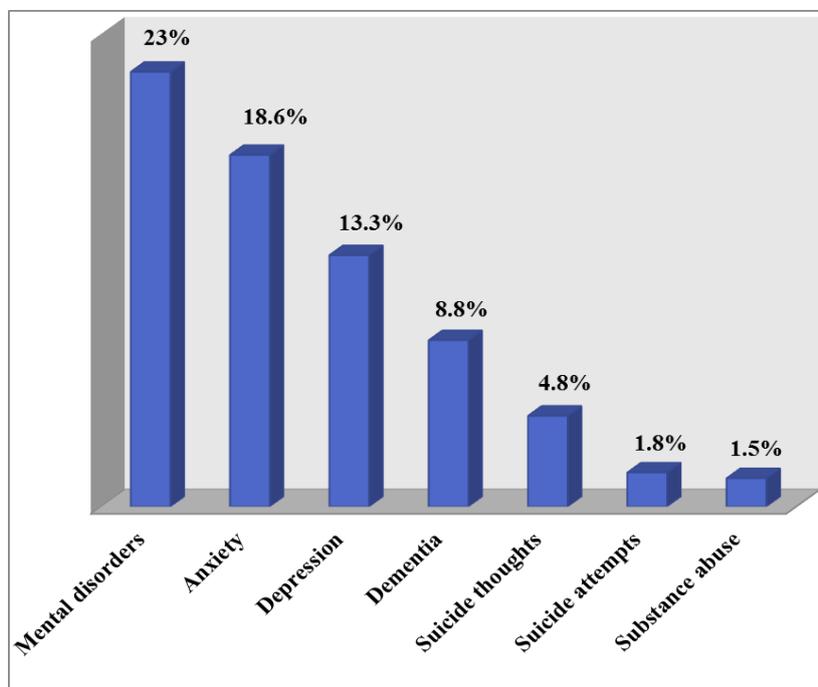


Figure 1: Distribution of mental disorders among study sample.

The chemical or drugs were accounting the most common methods (50%) of all suicide attempts, the next most common method were sharp tools at 33.3% and burn at 16.7%. (Table3).

Table 3: Distribution of the suicide among study sample.

Variables	Category	no.	%
Suicide thoughts	Yes	16	4.8
Suicide attempts	Yes	6	1.8
Tools that used in suicide attempts	Chemical or Drugs	3	50.0
	Sharp tools	2	33.3
	Burn	1	16.7

So the male had more suicide ideation than female while female more likely to suicide attempts than male. (Table 4).

Table 4: Age and Sex distribution of the suicide.

		Suicide thoughts				Suicide attempts			
		no.	%	χ^2	P-value	no.	%	χ^2	P-value
Age	60-69 years	11	5.2	0.182	0.793	5	2.4	1.014	0.423
	≥ 70 years	5	4.2			1	0.8		
Sex	male	10	5.23	0.015	0.904	3	1.57	0.149	1.00
	female	6	4.28			3	2.14		

4.5. Distribution of mental disorders by basic characteristics: table (5)

Table 5: Distribution of mental disorders by basic characteristics.

		Mental disorders			Total	χ^2	P-value
		YES	NO				
Variable	Category	no.	no.				
		%	%				
Age group	60-69 years	39	172	211	6.596	0.010	
		18.5	81.5	63.7			
	≥ 70 years	37	83	120			
		30.8	69.2	36.3			
Sex	Male	38	153	191	2.399	0.121	
		19.9	80.1	57.7			
	Female	38	102	140			
		27.1	72.9	42.3			
Current residence	Central of Baghdad	62	215	277	0.321	0.571	
		22.4	77.6	83.7			
	Peripheral of Baghdad	14	40	54			
		25.9	74.1	16.3			
Education level	None or primary school	55	95	150	29.502	0.001	
		36.7	63.3	45.3			
	Intermediate or secondary school	15	100	115			
	College or post-graduate	6	60	66			
		9.1	90.9	19.9			
Current marital status	Married	35	194	229	24.759	0.001	
		15.3	84.7	69.2			
	Unmarried*	41	61	102			
		40.2	59.8	30.8			
Currently work	Yes	12	80	92	7.084	0.008	
		13.0	87.0	27.8			
	No	64	175	239			
		26.8	73.2	72.2			
Income level	Enough	14	148	162	36.776	0.001	
		8.6	91.4	48.9			
	Not enough	62	107	169			
		36.7	63.3	51.1			
Smoking history	None	22	176	198	48.679	0.001	
		11.1	88.9	59.8			
	Ex-smoker	26	56	82			

		31.7	68.3	24.8		
	Current smoker	28 54.9	23 45.1	51 15.4		
Alcohol history	None	65 24.2	204 75.8	269 81.3	2.066	0.356
	Ex-drinker	7 14.9	40 85.1	47 14.2		
	Current drinker	4 26.7	11 73.3	15 4.5		

*(single, widowed, and divorced)

4.6. Distribution of factors associated with mental disorders: table (6)

Table 6: Distribution of factors associated with mental disorders.

		Mental disorders				
		YES	NO			
Variable	Category	no. %	no. %	Total	χ^2	P-value
Living depends on others	Yes	39 36.1	69 63.9	108 32.6	15.672	0.001
	No	37 16.6	186 83.4	223 67.4		
Visual impairment	Yes	60 31.1	133 68.9	193 58.3	17.287	0.001
	No	16 11.6	122 88.6	138 41.7		
Auditory impairment	Yes	47 31.8	101 68.2	148 44.7	11.709	0.001
	No	29 15.8	154 84.2	183 55.3		
Social isolation and loneliness	Yes	35 51.5	33 48.5	68 20.5	39.325	0.001
	No	41 15.6	222 84.4	263 79.5		
Economic state deterioration	Yes	46 40.4	68 59.6	114 34.4	29.729	0.001
	No	30 13.8	187 86.2	217 65.6		
Neglect and mishandling	Yes	31 55.4	25 44.6	56 16.9	39.993	0.001
	No	45 16.4	230 83.6	275 83.1		
Cardiovascular diseases	Yes	55 34.6	104 65.4	159 48.0	23.399	0.001
	No	21 12.2	151 87.8	172 52.0		
Respiratory diseases	Yes	34 42.5	46 57.5	80 24.2	22.770	0.001
	No	42	209	251		

		16.7	83.3	75.8		
DM disease	Yes	43 31.2	95 68.8	138 41.7	8.994	0.003
	No	33 17.1	160 82.9	193 58.3		
Chronic joint pain	Yes	65 30.7	147 69.3	212 64.0	19.763	0.001
	No	11 9.2	108 90.8	119 36.0		
Cancers	Yes	4 50.0	4 50.0	8 2.4	3.389	0.066
	No	72 22.3	251 77.7	323 97.8		

4.7. Determinant of mental disorders by Logistic Regression analysis

The results of study showed that (16) variables were significantly associated variables by using Chi-Square test and these variables entered the binary logistic regression analysis to identify the significant determinant factors, and that revealed the only (6) significant determinant factors of mental disorders as shown in (Table 7).

- Currently unmarried ($\beta = 0.85$, $P = 0.024$)
- Not enough income ($\beta = 0.94$, $P = 0.050$)
- Neglect and mishandling ($\beta = 0.89$, $P = 0.048$)
- Currently smoker ($\beta = 0.90$, $P = 0.003$)
- Respiratory diseases ($\beta = 1.06$, $P = 0.012$)
- Chronic joint pain ($\beta = 0.83$, $P = 0.044$)

Table 7: Determinants of mental disorders by logistic regression.

Factors	β	SE	95% C.I.		P-value
			Lower	Upper	
Currently unmarried*	0.85	0.45	0.35	1.77	0.024
Not enough income	0.94	0.56	0.02	2.23	0.050
Neglect and mishandling	0.89	0.66	0.25	2.29	0.048
Currently smoker	0.90	0.28	0.48	1.58	0.003
Respiratory diseases	1.06	0.11	0.25	2.25	0.012
Chronic joint pain	0.83	0.14	0.16	2.14	0.044

*(single, widowed, and divorced)

CONCLUSIONS

1. The mental disorders are common among elderly, where the prevalence of mental disorders among elderly population was 23%.

2. The prevalence of common mental disorders was as: anxiety 18.6%, depression 13.3%, dementia 8.8%, suicide thoughts 4.8%, and suicide attempts 1.8%, and substance use disorder 1.5%.
3. About 5% of elderly people had suicide thoughts and 2% of them had suicide attempts.
4. The currently unmarried (single, widowed, and divorced), not enough income, neglect and mishandling, smoking history, respiratory diseases, and chronic joint pain diseases are significant associated factors of mental disorders.

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