

# Prevalence of Mental cognitive impairment disorder among the general public of Karachi and its associated factor

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## Abstract

Mental cognition impairment disorder is more prevalent among older people. It causes memory disturbance and hinders the daily life work of people. Research data is needed to know the prevalence of mental cognitive impairment disorder among general population. Data was collected within 10 days 25 to 5 September from general population of Karachi through online questionnaire. Information was collected regarding gender, age, gender, profession, using cellphone, having cellphone, snoring, smoking, diabetes, and hypertension. This study is aimed to identify the prevalence of mental cognitive impairment disorder among general population of Karachi and identify associated vulnerable groups and factors. around 25.8% of respondents reported normal cognition, 70.8% reported moderate cognition and 3.5% reported severe cognition. Majority of respondents belong to 20-30 age groups, female, undergraduate education level, students, were having cellphone, were using cellphone. In this research around 25.8% of respondents reported normal cognition, 70.8% reported moderate cognition and 3.5% reported severe cognition. < 20 age group, females, undergraduate education level, having cellphone, non-vegetarian, using cellphone, smoking, snoring was associated with mental cognitive impairment disorder ( $P < 0.05$ ). <30 age group, males, postgraduate education level, hypertension and diabetes are associated with good mental cognition ( $P < 0.05$ ). This study provides information related to vulnerable group need attention regarding mental cognitive impairment disorder and factors associated with it.

**Keywords:** Mental cognition, Impairment, Associated factors.

## INTRODUCTION

As the population gets older mental cognition impairment disorder become burden for the society. Although age is a major risk factor associated with mental cognitive impairment disorder. Other factors also play role in mental cognitive impairment disorders. Previous research shows obesity, hypertension, dyslipidemia, and diabetes are associated with mental cognitive impairment disorder and hinder the normal brain functioning. People with these comorbidities often have memory problems and are unable to perform highly intellectual work [1-4].

Vascular disorders like Obesity, hypertension and diabetes affect the organs and damage kidney and retina hence vascular disorders are highly associated with end organ damage. These vascular disorders damage the brain also [5-8]. Previous research shows older people are more prevalent with mental cognitive impairment disorder but its association with other factors is still unknown [9]. Furthermore, Exercise is greatly associated with good mental cognition. It improves the normal cognitive

functioning of human being [10].

This study is aimed to find the prevalence of mental cognitive impairment disorder among the general population and factors associated with it. Mental cognitive impairment disorder hinders the memory and the normal functioning of human being hence its essential to identify the vulnerable groups associated with mental cognitive impairment disorder.

## METHOD

### Research design

The cross-sectional survey was conducted on the general population.

### Sample

The strategy used in the research was simple convenient

strategy. Sample size comprised of 322 respondents. General public belonging to different education level and profession was supposed to participate. Google forms were used to make questionnaire. Questionnaire was spread through social media and WhatsApp.

**Procedure**

For determining the mental cognitive impairment disorder, cross sectional survey was conducted. Consent was taken from all the respondents. Official language for filling the questionnaire was Urdu and English. Data competition took 5 days: from 2020/10/05 to 2020/10/10.

**Ethical consideration**

Participation of respondents was voluntary, and they can withdraw anytime from this research. Consent was taken from all respondents and confidentiality was maintained.

**Survey Development**

Mental cognition was assessed using CFSS questionnaire. Table 1 shows questions of CFSS questionnaire. Table 2 shows questions asked in survey. Linear regression showed

**Table 1: Shows CFSS Questionnaire**

Questions asked in CFSS Questionnaire
Lack of concentration
Absent-mindedness
Difficulty in performing two tasks simultaneously <sup>1</sup>
Difficulty in performing the mental calculation
Tip of the tongue phenomenon (cannot recall familiar word but can recall similar words and meaning)
Absent-mindedness during intellectual cognitive activity
Difficulty in recognizing extra routine activities
Difficulty in recalling recent information
Difficulty in recalling autobiographical events
Forgetfulness
Lack of concentration while reading
Lack of motor coordination
The slowness of execution of movement
Difficulty in finding appropriate words
Use of periphrases or generic words (general or vague words) instead of specific words
Difficulty in spatial orientation (ability to recognize position and direction in space)
Difficulty in temporal orientation (recent memory)

**Table 2: Shows questions asked in survey**

Questions asked in survey
Do you have a cellphone?
Do you use a cell phone?
How many times do you use a cellphone?
Gender
Profession
Education
Do u have diabetes
Do you have hypertension?
Do you smoke
Do you drink
Diet
Do you snore
Do you have a breathing problem or asthma?
Do you exercise

**RESULTS**

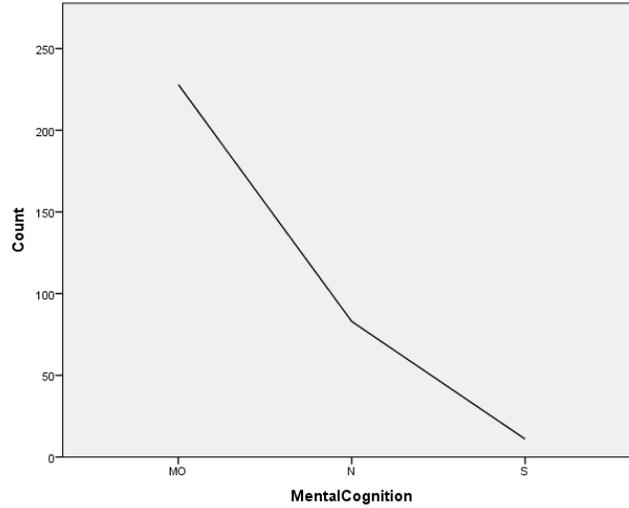
Table 03 shows in interpretation of CFSS questionnaire. Table 04 shows around 25.8% of respondents reported normal cognition, 70.8% reported moderate cognition and 3.5% reported severe cognition. Graph 01 shows line graph of mental cognitive scores. Table 4 and 5 shows association between different variables with mental cognitive functioning. Linear regression showed <20 age group (P<0.05, 95% confidence interval (CI)= 34.847 to 41.634) was associated with Cognition impairment disorder wherever >30 age group ( P<0.05, 95% CI=29.719 to 36.718) was associated with good mental cognition. Females (P<0.05, 95% CI=35.557 to 28.716) were associate with mental cognitive impairment disorder while males (P<0.05, 95% CI=32.406 to 36.667) were associated with good mental cognition. Undergraduate education level (P<0.05M 95% CI=35.682 to 38.958) was associated with impaired mental cognitive disorder while postgraduate (P<0.05, 95% CI=31.765 to 38.234) was associated with good mental cognition. Non vegetarian (P<0.05, 95% CI=36.063 to 39.008) was associated with impaired mental cognition while vegetarian (P<0.05, 95% CI=29.115 to 35.412) was associated with good mental cognition. Having cellphone (P<0.05, 95% CI=35.126 to 37.896), using cellphone (P<0.05, 95% CI=35.027 to 37.775), smoking (P<0.05, 95% CI=30.404 to 41.976), snoring (P<0.05, 95% CI=30.706 to 37.404) was associated with mental cognition impairment disorder. Having diabetes (P<0.05, 95% CI=28.970 to 37.858) and hypertension (P<0.05, 95% CI=32.891 to 42.656) was associated with good mental cognition.

**Table 3:** Shows interpretation of CFSS questionnaire

Scale	Interpretation
0-28	Normal Cognition
29-57	Moderate cognition
58-86	Severe Cognition

**Table 4:** Shows results of CFSS questionnaire

Interpretation	Percentages
Normal cognition	25.8%
Moderate Cognition	70.8%
Severe Cognition	3.4%



**Figure 1:** Shows line graph of mental cognitive scores.

**Table 5:** Shows association of different variables with mental cognition scores

Variables		N%	R2	AR2	95% Confidence Interval
Age	<20	16.8%			34.847 to 41.634
	20-30	63.4%	0.016	0.013	35.231 to 38.455
	>30	19.9%			29.719 to 36.718
Gender	Female	74.8%	0.02	0.009	35.557 to 28.716
	Male	25.35			32.406 to 36.667
Education Level	Inter	11.2%			30.678 to 39.877
	Matric	5.0%	0.034	0.001	25.265 to 38.359
	Postgraduate	19.9%			31.765 to 38.234
	Undergraduate	64.0%			35.682 to 38.958
Profession	Business	2.5%			25.78 to 47.469
	Corporate sector	5.9%	0.025	12.2115	25.809 to 35.980
	Education sector	5.0%			23.584 to 36.665
	Health Sector	9.6%			27.638 to 38.554
	Housewives	11.5%			31.082 to 39.565
	Students	65.5%			36.374 to 39.568
Do you have cellphone?	Yes	96.6%	0.004	0.001	35.126 to 37.896
	No	3.4%			24.980 to 39.109
Do you use cellphone?	Yes	97.5%	0.001	-0.003	35.027 to 37.775
	No	2.5%			23.835 to 45.414
Do you have diabetes?	Yes	5.3%	0.001	-0.002	28.970 to 37.858
	No	94.7%			28.970 to 40.206

**Table 6:** Shows association of different variables with mental cognitive scores

Variables		N%	R2	AR2	95% Confidence Interval
Do you have hypertension?	Yes	9.6%	0.001	-0.002	32.891 to 42.656
	No	90.4%			34.789 to 37.622
Do you smoke?	Yes	6.5%	0.000	-0.003	30.404 to 41.976
	No	93.5%			34.966 to 37.771
What is your diet?	Vegetarian	22.4%	0.032	0.29	29.115 to 35.412
	Non vegetarian	77.6%			36.063 to 39.008
Do you snore?	Yes	16.8%	0.007	0.004	30.706 to 37.404
	No	83.2%			35.334 to 38.307
Do you drink?	Yes	0.3%	0.007	0.004	-
	No	99.7%			35.058 to 37.770
Do you exercise?	Yes	43.3%	0.016	0.13	32.453 to 36.668
	No	56.8%			35.960 to 39.482

## DISCUSSION

In this research around 25.8% of respondents reported normal cognition, 70.8% reported moderate cognition and 3.5% reported severe cognition. Majority of respondents belong to 20-30 age groups, female, undergraduate education level, students, were having cellphone, were using cellphone.

In this research females, undergraduate education level, students were more prevalent towards mental cognitive impairment disorder hence these vulnerable groups need urgent attention. Previous researchers show mental cognition is related to age. Older people are more prevalent in developing mental cognition impairment disorder [11], but this research shows age group <20 or young people are more prevalent in developing mental cognitive impairment disorder. Previous researchers exercise is a protective factor related to mental cognition impairment disorder [12] while this research shows exercise is a risk factor related to cognitive impairment disorder.

Previous researchers showed hypertension was associated with poor mental cognition [13, 14] wherever this research shows hypertension is associated with good mental cognition. Previous researchers show smoking is not associated with mental cognition [15] wherever this research shows smoking is associated with mental cognition impairment disorder hence smoking should be avoided.

Our study has limitation. Due to privacy purpose, we did not collected information related to personal hence we cannot tell respondents about their mental cognitive impairment disorder.

## CONCLUSION

In this research around 25.8% of respondents reported normal cognition, 70.8% reported moderate cognition and 3.5% reported severe cognition. < 20 age group, females, undergraduate education level, having cellphone, non-vegetarian, using cellphone, smoking, snoring was associated with mental cognitive impairment disorder (P<0.05). <30 age group, males, postgraduate education level, hypertension and diabetes are associated with good mental cognition(P<0.05). This study provides information related to vulnerable group need

attention regarding mental cognitive impairment disorder and factors associated with it.

### Conflict of Interest

We declare that we have no conflict of interest.

### Financial Support

None declared.

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