

**GENERAL KNOWLEDGE AND ATTITUDE ABOUT PARKINSON'S DISEASE AMONG  
ALMAAREFA COLLEGES STUDENTS**

Dr. Amar Fathi Mohamed Khalifa MD<sup>1</sup>, Abdulhameed Raafat Kanaan<sup>2</sup>, Adham Hassan Halouane<sup>2</sup>, Adnan Said Al Nahhas<sup>2</sup>, Ahmad Shawoqi Sabra<sup>2</sup>, Aref Mohammad Aref Ameen<sup>2\*</sup>, Jihad Bashir Al-Najjar<sup>2</sup>, Mohammed Raafat Hassan Batal<sup>2</sup>, Rami Mohammad Sabah Al-Madani<sup>2</sup>, Shahem Mohammad Abbarh<sup>2</sup>, Wael Zakaria AL-Khateeb<sup>2</sup>

<sup>1</sup>Assistant Professor, College of Medicine, Almaarefa Colleges for Science & Technology, Riyadh, Saudi Arabia- P.O. Box 71666 Riyadh (Diriyah) 11597.

<sup>2</sup>Medical Students in Almaarefa Colleges.

\*Corresponding Author: Aref Mohammad Aref Ameen

Medical Students in Almaarefa Colleges.

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**ABSTRACT**

**Backgrounds:** Parkinson's disease (PD) is the most common cause of Parkinsonism, the second most prevalent neurodegenerative disease of aging, currently affecting over 4 million people worldwide, and expected to affect about 9 million people by the year 2030. Parkinson's disease is characterized by slowness, stiffness and difficulty in initiating, coordinating and maintaining movement throughout the body. Public attitudes to the disease are important as if there is less sympathy or support available for the sufferers and their families, sufferers may be stigmatized. **Objectives:** This study aims to determine the level of awareness among university students regarding Parkinson's disease. **Methodology:** Our study is descriptive cross-sectional institutional-based study. The sample size was 150 participants who are students affiliated to Almaarefa colleges, excluding students who reach clerkship level, graduated students and/or students not affiliated to Almaarefa colleges. Random sampling is the technique used to choose participants. In this study we used self-administered questionnaire. The data were analyzed using SPSS and Microsoft Excel was used to generate figures and charts. Consent was obtained before data collection emphasizing each participant right to withdraw from the study at any point of time. **Results:** The results for our study that showed important objectives such as level of general knowledge, knowledge regarding symptoms and attitudes for students. Generally, almost half the students showed a good level of general knowledge (46%) and moderate knowledge regarding clinical symptoms of PD (48%). Our study also revealed that a minority (15.3%) do feel uncomfortable dealing with Parkinson's disease patients. More than half (58.7%) of participants choose to consider themselves feeling supportive and want to help While (14%) of participants considered themselves having no feelings. **Conclusion:** most of the participants especially those in allied health fields showed moderate to good knowledge about Parkinson's disease and positive attitudes toward Parkinson's disease among Almaarefa colleges students, although there were deficits in some of the answers. Future research should continue to explore knowledge and attitudes about PD in diverse communities and different samples.

**KEYWORDS:** Disease, Parkinson, Knowledge, Attitude, Student.

**INTRODUCTION**

Parkinsonism is a clinical syndrome that consists of four cardinal signs: bradykinesia, rigidity, tremor, and postural instability.<sup>[1]</sup> PD is characterized by slowness, stiffness and difficulty in initiating, coordinating and maintaining movement throughout the body.<sup>[2]</sup> The term parkinsonism is also used for syndromes where the etiology is known, such as parkinsonian signs due to stroke, infection, neuroleptic drugs, and toxic agents. Pathologically, PD is characterized by selective degeneration of dopaminergic neurons in the *substantia nigra pars compacta*, and by the frequent presence of eosinophilic intracytoplasmic inclusions, known as Lewy bodies, in surviving neurons.<sup>[3]</sup> Parkinson's disease (PD),

the most common cause of parkinsonism, is the second most prevalent neurodegenerative disease of aging, currently affecting over 4 million people worldwide, and expected to affect about 9 million people by the year 2030.<sup>[1]</sup> It affects 1 million older Americans. Epidemiological studies estimate that 17 new cases of PD per 100,000 persons are identified each year.<sup>[4]</sup> Next to Alzheimer's disease, it is the most common neurological disorder in Australia, estimates suggesting there are currently over 80,000 cases in this country.<sup>[5]</sup>

Timely identification of PD is important because treatment can improve quality of life, delay disability, and potentially improve survival.<sup>[4]</sup> However, individuals

with PD may not be aware that they are affected.<sup>[1]</sup> Several studies have shown that individuals with PD report a variety of symptoms that are adversely associated with their quality of life. These include psychological distress and depression, cognitive impairment, physical mobility problems, social isolation, emotional reactions, sexual problems and dysfunction, sleeping problems and fatigue.<sup>[5]</sup>

Public attitudes to disease are important, because they shape the context in which the ill person and their families and carers must live. When diseases are negatively viewed by the public, there may be less sympathy or support available for the sufferers and their families, sufferers may be stigmatized, and attitudes may even influence the level of funding available for medical research. Public sympathy for some diseases and not others appears to relate to a range of factors, including age of the 'typical' sufferer, mode of transmission, and physical and cognitive symptomatology.<sup>[5]</sup> Knowledge and attitudes about PD may play a role in the currently unexplained reasons behind diagnostic delays and treatment disparities in PD.<sup>[4]</sup>

The aim of the current study is to determine the level of awareness among university students regarding Parkinson's disease.

#### **METHODOLOGY**

Our study is descriptive cross-sectional institutional-based study, conducted at February, 2016. The sample size was 150 participants who are students affiliated to Almaarefa colleges, excluding students who reach clerkship level, graduated students and/or students not affiliated to Almaarefa colleges. Convenience sampling is the technique used to choose participants. In this study we used self-administered questionnaire (a series of close and open-ended questions directed to the students that will aid in gathering the information about Parkinson's Disease knowledge and attitude about life quality, clinical symptoms, etiologies, and treatments), it was developed specifically for this study after consulting literature and epidemiology consultant then it was subjected to probe to test for reliability and validity before being used in the study.. The data were analyzed

using SPSS version 20 and Microsoft Excel was used to generate figures and charts. Chi square test was the statistical test used with significant level (P-value 0.05). Consent was obtained before data collection emphasizing each participant's right to withdraw from the study at any point of time.

#### **RESULTS**

Table (1): with response rate (75%). Majority of participants were male (90%) due to hard access to female section. Almost two-thirds (65.3%) of participants fell in the age group 21-25 years. While only (2.7%) were fallen in the age group 31-35 years. Almost equal percentages were coming from faculty of medicine (35.3%) and faculty of pharmacy (34.7%). Minority of participants (7.3%) came from information system faculty due to the relative small number of the total students at it. Out of 150 participants 39 students (26%) were coming from eighth level, very close percentages (16.7%), (16%) and (17.3%) were coming from fourth, fifth and sixth levels respectively.

Table (2-A): (65.3%) of participants have read/heard about Parkinson's disease. Majority of participants (62%) believed that Parkinson's disease more commonly affects elderly. While only a minority (6%) thought that it affects infants. Most of the participants (76%) answered correctly that Parkinson's disease is a neurological disease.

Table (2-B): Generally almost half the students (46%) showed a good level of general knowledge.

Table (3): Majority of participants rated their knowledge as either moderate knowledge (42%) or poor knowledge (39.3%). While only a minority (18.7%) rated their knowledge as good.

Diagram (1): Revealed that a minority (15.3%) do feel uncomfortable dealing with Parkinson's disease patients. More than half (58.7%) of participants choose to consider themselves feeling supportive and want to help While (14%) of participants considered themselves having no feelings.

Table. (1): Personal Characteristics.

Gender	Frequency	Percent
Male	135	90.0 %
Female	15	10.0 %
Total	150	100.0 %
Age	Frequency	Percent
18-20	41	27.3 %
21-25	98	65.3 %
26-30	7	4.7 %
31-35	4	2.7 %
Total	150	100.0 %
Faculty	Frequency	Percent
Medical	53	35.3 %
Pharmacy	52	34.7 %
Nursing	15	10.0 %
Information system	11	7.3 %
Respiratory therapy	19	12.7 %
Total	150	100.0 %
Level	Frequency	Percent
Frist level	1	0.7 %
Second level	3	2.0 %
Third level	7	4.7 %
Fourth level	25	16.7 %
Fifth level	24	16.0 %
Sixth level	26	17.3 %
seventh level	17	11.3 %
Eighth level	39	26.0 %
Ninth level	2	1.3 %
Tenth level	6	4.0 %
Total	150	100.0 %

Sample size (n) = 150

Table (2): Level of general knowledge.

Table (2-A).

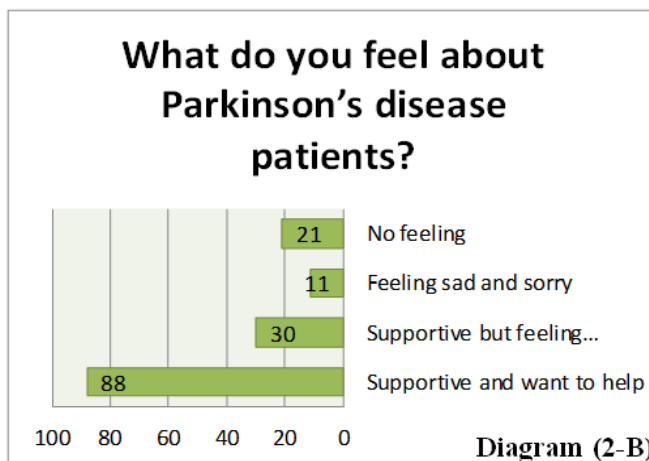
Have you ever read/heard about Parkinson's disease?					
	Yes	No	Total		
Number	98	52	150		
Percentage	65.3 %	34.7 %	100 %		
Parkinson's disease more commonly affects					
	Infants	Children	Young adult	Elderly	Total
Number	9	16	31	94	150
Percentage	6.0 %	10.7 %	20.7 %	62.7 %	100 %
Do you think Parkinson's disease is?					
	Systemic disease	Neurological	Psychiatric illness	I don't know	Total
Number	8	114	6	22	150
Percentage	5.3 %	76.0 %	4.0 %	14.7 %	100 %

Table (2-B).

	Poor knowledge	Moderate knowledge	Good knowledge
Number	44	37	69
Percentage	29.3%	24.6%	46%

**Table. (3): Perceived knowledge.**

	Poor knowledge (0-2)	Moderate knowledge (3-6)	Good knowledge (7-10)	Total
Number	59	63	28	150
Percentage	39.3 %	42.0 %	18.7 %	100 %

**Diagram (1): General attitudes of students.****DISCUSSION**

Almost all studies tend to use a questionnaire to assess knowledge and attitude about a particular condition or disease entity. The purpose of our questionnaire was to identify students' general and perceived knowledge about Parkinson's disease and specific knowledge about etiology, characteristics, symptoms, complication, management and treatment of the disease. This study has some limitations to consider. First, only students who didn't reach clerkship level were included in the study. Second, minority of participants were female (10%) due to relative difficult access to them. Also, in the review of the medical literature, there are very few published articles regarding knowledge and attitude about Parkinson's disease among students.

From table (2), it is evident that Parkinson's disease awareness is generally good, almost half of the study respondents showed a good level of general knowledge. This goes in line with Yadav R<sup>1</sup>, et al, 2012<sup>[6]</sup> in which the respondents were Parkinson's disease patients and caregivers, that study also showed adequate knowledge about Parkinson's disease in both patients and caregivers. The reason for this might have been their regular exposure to Parkinson's disease experts during consultations they may also had received knowledge by booklets and brochures about Parkinson's disease in the clinics. On the other hand, our study contradicts with Pan<sup>1</sup>, et al, 2014<sup>[4]</sup> in which the respondents were American general population, that study demonstrated a very low level of knowledge about Parkinson's disease. This difference may be attributed to that most of respondents in our study were medical students and they have some basic information about the disease.

Table (3) showed that (18.7%) of participants rated their knowledge about Parkinson's disease as good knowledge,

this goes in line with a study conducted in Israel (Palestine) by Werner<sup>1</sup> and Korczyn<sup>2</sup>, 2010<sup>[7]</sup> which revealed that (34%) of participants (lay person) reported knowing much or very much about Parkinson's disease when they had been asked how much they knew about the disease.

From Diagram (1), a key finding from our study was that majority (72%) of participants embraced a good and supportive attitude towards Parkinson's disease patients, which is quite expected attitude from health care students. This goes in contrary to an Australian study published by Moore<sup>1</sup>, 2006<sup>[5]</sup>, in which there was a relatively poor attitude "mean negative attitudes score of the sample was (42.7%)", keeping in mind that the study participants were general population.

**CONCLUSION**

This study showed overall moderate knowledge of Parkinson's disease and positive attitudes toward Parkinson's disease among Almaarefa colleges students, although there were deficits in some of the answers. In general, most of the participants especially those in allied health fields showed moderate to good knowledge about Parkinson's disease. Future research should continue to explore behavior of public and its attributes mainly stigma regarding Parkinson's disease in diverse communities and different samples.

**REFERENCES**

1. Nabila Dahodwala, MD, MSA, Andrew Siderowf, MD, MSCEa, Mona Baumgarten, PhD, Aaron Abrams, BAa and Jason Karlawish, MDc. Screening Questionnaires for Parkinsonism: A Systematic Review, 2012 March; 18(3): 216–224. doi:10.1016/j.parkreldis.2011.09.003.

2. Linda Tickle-Degnen, PhD, Leslie A. Zebrowitz, PhD, Hui-ing Ma, ScD. Culture, Gender and Health Care Stigma: Practitioners' Response to Facial Masking Experienced by People with Parkinson's Disease, July 2011; 73(1): 95–102. doi:10.1016/j.socscimed.2011.05.008.
3. Benjamin C.L. Lai, MD, MSc, Joseph K.C. Tsui, MD, FRCP (UK), FRCPC. Epidemiology of Parkinson's disease. April 2001; 133-137 Articles.
4. Sarah Pan, MPH, Julie Stutzbach, BS, Suzanne Reichwein, BASW, Brian K. Lee, PhD, and Nabila Dahodwala, MD, MS. Knowledge and attitudes about Parkinson's disease among a diverse group of older adults, September, 2014; 29(3): 339–352. doi:10.1007/s10823-014-9233-x.
5. Susan Moore, Simon Knowles, Faculty of Life and Social Sciences Swinburne University of Technology, Hawthorn VIC 3122 Australia. Beliefs and Knowledge about Parkinson's Disease. *Clinical and Social Issues*, 2006; 2(1): 15-21.
6. Yadav R, Shukla G, Goyal V, et al. Knowledge of Parkinson's disease among patients and caregivers attending movement disorder clinic at a tertiary care centre in north India. *Annals of Indian Academy of Neurology*, 2012; 15(4): 294-296.
7. Werner, Perla, and Amos D. Korczyn. "Lay persons' beliefs and knowledge about Parkinson's disease: Prevalence and socio-demographic correlates." *Parkinsonism & related disorders*, 2010; 16.6: 415-417.