Anxiety and Depressive Disorder Admissions to the Georgetown Public Hospital Corporation's Psychiatric Outpatient Clinic - A Descriptive Study

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Abstract

The objective of this study was to determine the incidence of anxiety and depressive disorders at the GPHC POC 2019 -2021; and the percentage of these patients who were healthcare workers. This is a cross sectional study involving 3170 charts, 68 charts were identified for analysis. Variables were collected and the incidence of disorders calculated. Data was analyzed using Microsoft excel. The incidence of each disorder was as follows (the percentage of patients who were healthcare workers are listed in brackets): anxiety disorder - 2019 8% (32%), 2020 9% (15%), 2021 11% (18%); depressive disorders - 2019 13% (45%), 2020 17% (38%), 2021 16% (18%). Data for the health care group: 15% depressive illness and 9% anxiety illness. By sex: 2019 64% females, 36% males, 2020 46% females and 54% males, 2021 58% females and 42% males. By age group: 16-25 24%, 25-35 21%, 36-45 14%, 46-55 16%, >55 24%. Relationship status: 2019 68% single, 2020 69% single, 2021 55% single. Most affected: nurses 2019 31%, doctors 2020 38%, nurses 2021 36%. The incidence of anxiety disorders increased progressively during the years of the pandemic. The incidence of depressive disorders increased significantly in 2020 and then had a small decrease in 2021. In 2020, more doctors and males sought help than nurses and females. Nurses and females sought more help in 2021. Healthcare workers who were single, young, and completed tertiary level of education were most affected.

Keywords: Anxiety disorders, Depressive disorders, Incidence, Healthcare workers, Pandemic.

Introduction

The WHO in its constitution defines health as" a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" [1]. They also define mental health as "a state of well-being in which an individual realizes his or her own abilities, and copes with normal stresses of life, can work productively, and is able to make a contribution to his or her community" [2]. The implication being that mental health is more than simply the absence of mental disabilities. The mental aspect of heath is an often-overlooked feature of heath that is overshadowed by physical afflictions. Healthcare workers, especially, have been shown to pay little interest in their own mental health. Healthcare workers include physicians, nurses, dental professionals, medical and nursing students, laboratory technicians, emergency medical personnel, pharmacists, hospital volunteers, and administrative staff [3, 4]. Additionally, a healthcare worker may be anyone who delivers care and services, whether it be directly or indirectly, and may include medical waste handlers as well [5].

Sadness that is strong or persistent enough to impede functioning and, frequently, a loss of interest or enjoyment in activities is characteristic of depressive disorders [6]. The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), classifies depressive disorders as: major depressive disorder, persistent depressive disorder

(dysthymia), premenstrual dysphoric disorder, depressive disorder due to another medical condition, substance or medication induced depressive disorder, disruptive mood dysregulation disorder, unspecified depressive disorder, and otherwise specified depressive disorder. The DSM is a reference text used by psychiatrists for the diagnosis of mental disorders. A variety of environmental adversities such as job loss, marital difficulties, major health problems, and loss of close personal relationships are associated with a substantial increase in risk for the onset of depressive disorders [7].

Major depressive disorder (MDD) is a disease that is characterized by depressed mood, diminished interests, impaired cognitive function, and vegetative symptoms, such as disturbed sleep or loss of appetite [8]. It can also be described as a medical condition that includes abnormalities of affect and mood, neurovegetative functions, cognition, and psychomotor activity [9].

Dysthymia (also called persistent depressive disorder (PDD)) is defined by a chronic course (depressed most of the day, more days than not, for at least 2 years) and persistent symptoms (no symptom-free periods of longer than 2 months). PDD presents with the full gamut of depressive symptoms, although cognitive symptoms, affective symptoms, and social-motivational symptoms are usually more common than vegetative symptoms [10].

Premenstrual symptoms are a collection of psychological, behavioral, and physical symptoms that appear in women of reproductive age prior to menstruation and subsequently subside after the menstrual period. Most women only experience mild discomfort, and symptoms rarely affect their personal, social, or professional lives, however, 5 to 8% of women suffer moderate-to-severe symptoms that can result in major distress and functional impairment [11].

PMDD is characterized by depressed mood, anxiety, irritability, anger, and other symptoms occurring exclusively during the 2 weeks preceding menses. Other symptoms may include decreased interest in usual activities, difficulty concentrating, lethargy, fatiguability, or marked lack of energy, change in appetite, overeating, or specific food cravings, hypersomnia, or insomnia. It may also include other physical symptoms, such as breast tenderness or swelling, headaches, joint or muscle pain, a sensation of bloating, or weight gain.

The DSM-5 lists several types of anxiety disorders, and each are defined individually. These disorders include separation anxiety disorder, selective mutism, specific phobia, social anxiety disorder, panic disorder, agoraphobia, generalized anxiety disorder, substance/medication-induced anxiety disorder, and anxiety disorder due to other medical conditions [12].

Anxiety is marked by worry and symptoms that result from activation of the sympathetic nervous system. Common symptoms include trembling, nervousness, paresthesia, psychomotor agitation, increased heart rate, sweating, increased respirations and dizziness. Ruminations and preoccupations also occur.

Healthcare workers are chief among those most likely to experience mental health struggles. One important reason is related to poor working conditions and the Covid-19 pandemic, both causing work related stress, as well as inherent stigma towards mental health [3, 4]. Three out of four healthcare workers caring for Covid-19 patients had a depressive disorder, with two-thirds of those having severe symptoms. Predictors of depression include young age, female gender, decreased sleep hours, history of psychiatric illness, fear of infection or death due to Covid-19. These are also predictors of severity [13]. Protective and risk factors can be summarized as being intrapersonal, interpersonal, organizational. Commonly identified intrapersonal factors include age, sex, and sleep quality. The most common interpersonal factor was marital status, with prevalence being higher in the married

population. Key organizational factors predisposing to depression were the profession and specialty, long hours of work, including being on call, level of training, and levels of work experience.

Published literature has established that healthcare workers are increasingly susceptible to alarming levels of psychological distress, that may present as anxiety, emotional exhaustion, burnout, or depression. Documented prevalence of depressive and anxiety disorders among healthcare workers ranges from 21.53% to 32.77% in high income nations, much higher than those of the general population which was noted to be approximately 4.40% in 2015. One country reported a prevalence of depression among healthcare workers ranging from 22.00% to 45.30%, with males (76.10%) being affected more than females (70.10%) [14].

Work related stress mostly affects mental health, causing anxiety, burnout, depression, suicide attempts, and sleep disorders are becoming increasingly common among healthcare workers [15]. This is mediated to a great extends by the biopsychological vulnerabilities of the individuals and socio-environmental factors such as risk of exposure or being infected with Covid or other diseases, possibility of exposing family members to said illnesses, as well as being afflicted with different ailments [16]. Healthcare workers are faced with multiple sources of stress, including work intensity, workplace challenges relative to daily work, as well as family responsibilities, which may all affect mental health. Moreover, personal coping style and the presence of job-related burnout may also have an impact on levels of depression and anxiety among healthcare workers [17]. Poor mental health and wellbeing among healthcare staff has organizational implications for patient safety, experience, and satisfaction, in addition to financial costs, impact on productivity, and the direct effects on the individual [18]. High pressured working environments, heavy workload, long hours, limited resources, organizational restructuring,

and a culture of blame and fear have all been implicated as contributory factors; all factors that have become increasingly salient within the context of the current global crisis [19]. With a grave impact on work productivity, patient care, staff attrition and turnover rates, a better understanding of existing relationships between work related stress, burnout, job satisfaction and general health of healthcare workers is required [20].

There are very few well conducted studies on the psychological distress faced by medical practitioners that it is difficult to formulate clear set recommendations on how to deal with them [21]. One study advocated for peer support networks and support groups, organizations to offer training modules about stress management, work-life balance, and early recognition of burnout [22]. Other studies recommend effective communication, tangible support from administrators, mental health screening with interventional facilities, curtailing misinformation and strict legal measures against violence or ill treatment of healthcare workers [16]. This study aims to add information to the existing literature. This study aims to identify the incidence of depressive disorders and anxiety disorders among admissions at Georgetown Public Hospital Corporation Psychiatric Outpatient Clinic (GPHC POC) during the period 2019 to 2021; and to determine what percentage of these cases are healthcare workers. A secondary objective is to examine the socio demographics of healthcare workers with a diagnosis of an anxiety or depressive disorder admitted to GPHCs POC during the period 2019 to 2021.

Methodology

Study Design and Population

This was a cross-sectional, descriptive type of study. Data was collected directly from the charts.

To this study, all categories of healthcare workers were included, with no exclusions or bias. The charts of all new patients admitted to

the clinic during 2019-2021 were analyzed and comprised the population. These numbers were used as the denominator in the formula that was used to calculate the incidence of depressive disorders and anxiety disorders during the period identified. Similarly, all new admissions with a diagnosis of a depressive or anxiety disorder were tallied, and these numbers used as the numerator in the formula.

After permission was sought and granted by GPHC and Ethics Review Board, this data was collected, tallied, and represented in a table as shown in the appendix. Deductive data analysis was then used to analyze the data by using Microsoft Excel, and the data represented graphically.

The formula used to calculate the incidence of depressive disorders and anxiety disorders amongst admissions at the GPHC psychiatric outpatient clinic per year is as follows:

(Total number of patients with a depressive or anxiety disorder in a given year/ the total number of admissions that year) x 100.

Variables: Registration Number, Age, Sex, Ethnicity, Religion, Education status, Migration status, Marital Status, Occupation, Category of Healthcare worker.

Inclusion criteria: All patients admitted between January 2019 to December 2021 at the GPHC Psychiatric clinic with completed charts.

Exclusion criteria: 1. All medical records that fall outside the January 2019 to December 2021 admission time frame. Incomplete records.
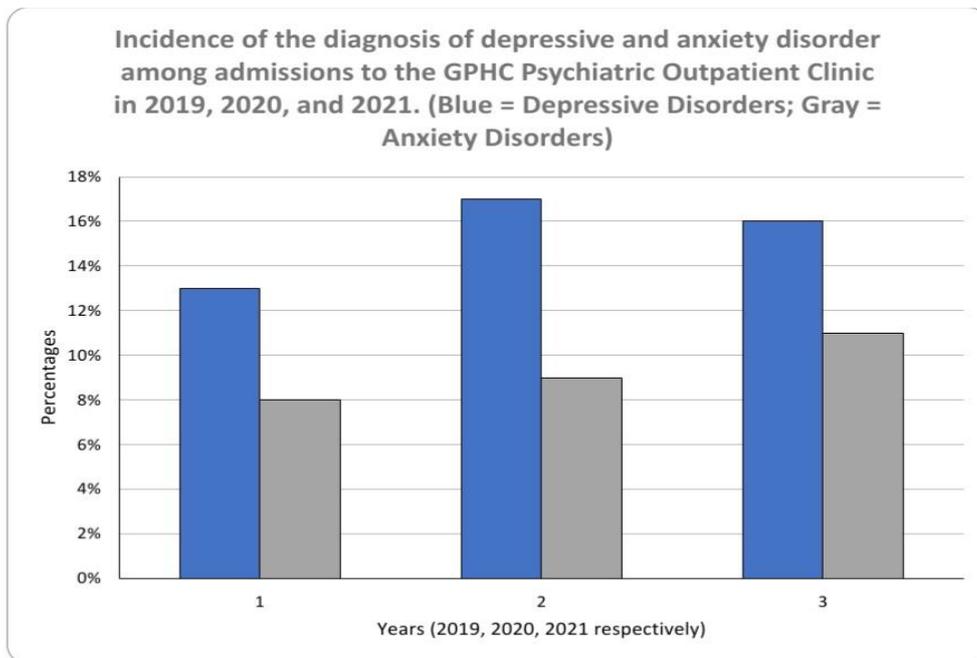

Figure 1. The Incidence of the Diagnosis of Depressive and Anxiety Disorder among Admissions to the GPHC's POC in 2019, 2020 and 2021

Results

Table 1. The Incidence of the Diagnosis of Anxiety and Depressive Disorders among Admissions to the Georgetown Public Hospital's (GPHC's) Psychiatric Outpatient Clinic (POC), and the Number of those that were Healthcare Workers

Year	Total number of admissions	#/% of Males	#/% of Females	# Of admissions with a diagnosis of depressive/incidence	# Of admissions with a diagnosis of anxiety disorder/incidence	Total # of healthcare workers	#/% of healthcare workers with anxiety disorder	#/% of healthcare workers with depressive disorder
2019	1163	563\48%	600\52%	156/13%	98\8%	22/2%	7/32%	10/45%
2020	918	437/48%	481/52%	152/17%	81/9%	13/1%	2/15%	5/38%
2021	1089	505/46%	584/54%	174/16%	114/11%	33/3%	6/18%	6/18%
Total	3170	1505/47%	1665/53%	482/15%	287/9%	68/2%	15/22%	21/30.8%
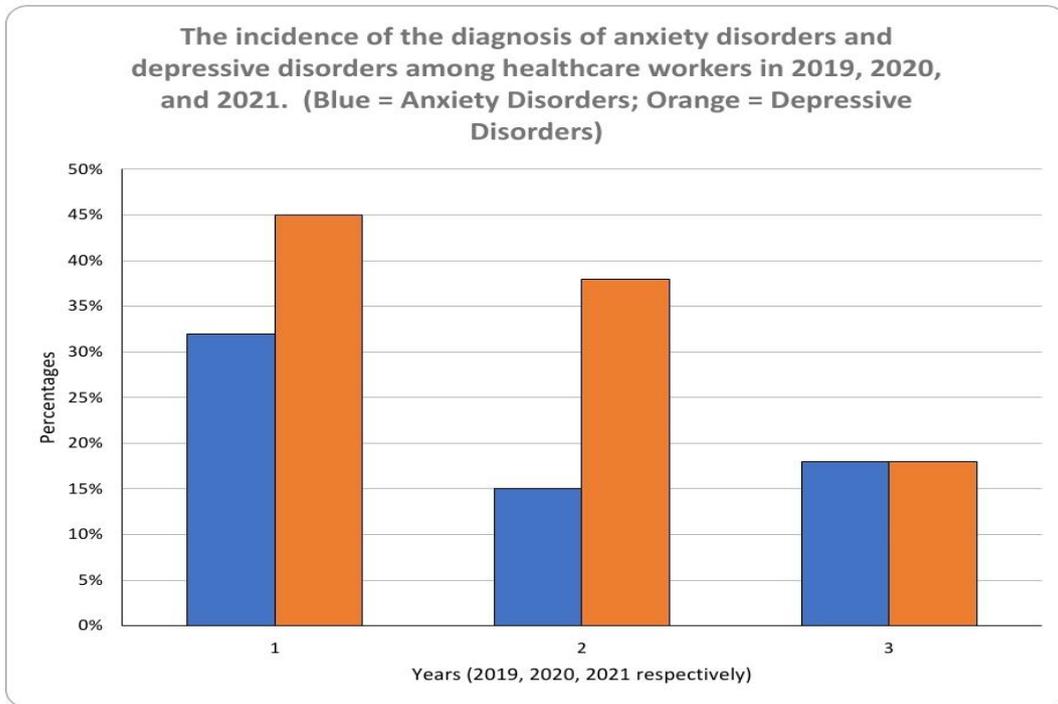
Figure 2. The Incidence of the Diagnosis of Anxiety Disorders and Depressive Disorders among Healthcare Workers Admitted to GPHC's POC in 2019, 2020 and 2021
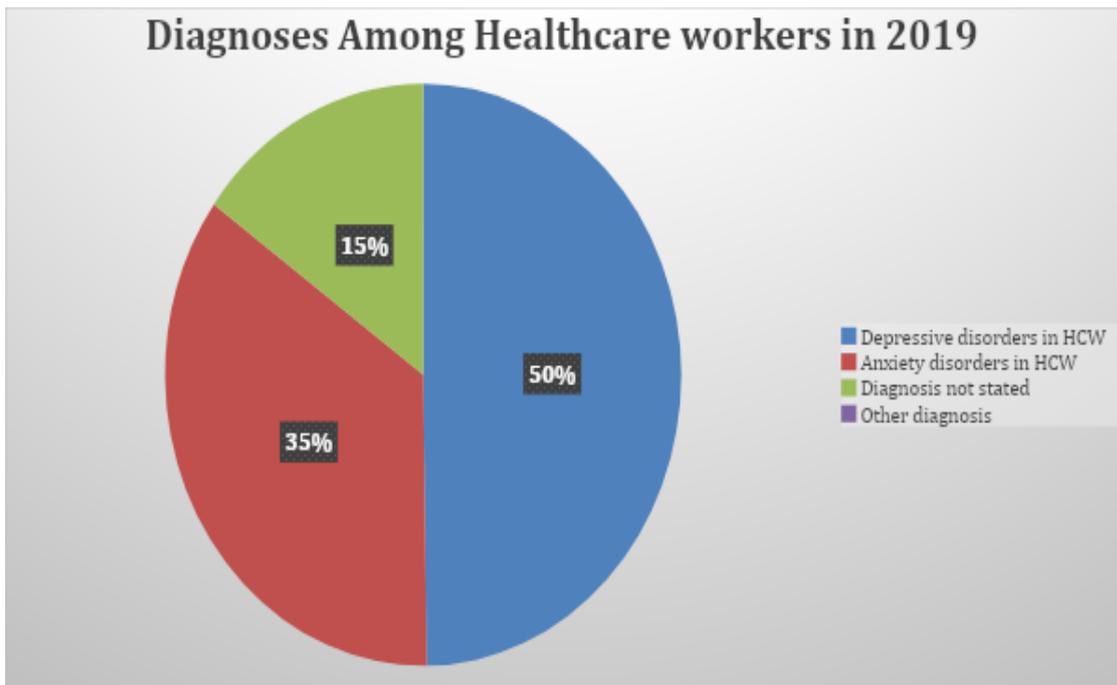

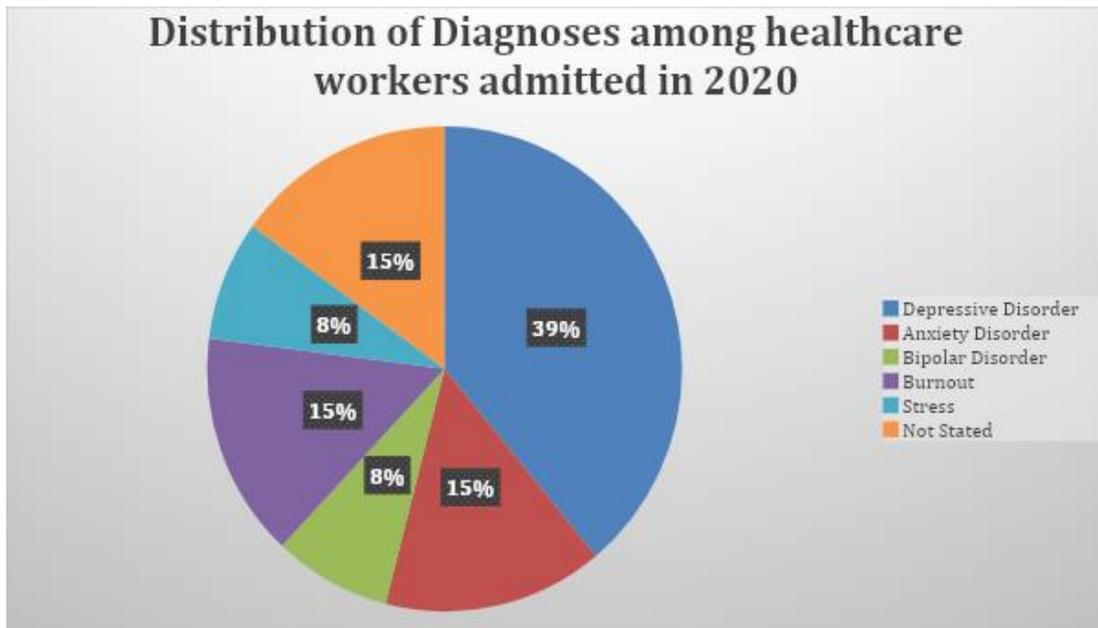**Figure 3.** Distribution of Diagnoses among Healthcare Workers Admitted to GPHCs POC in 2019

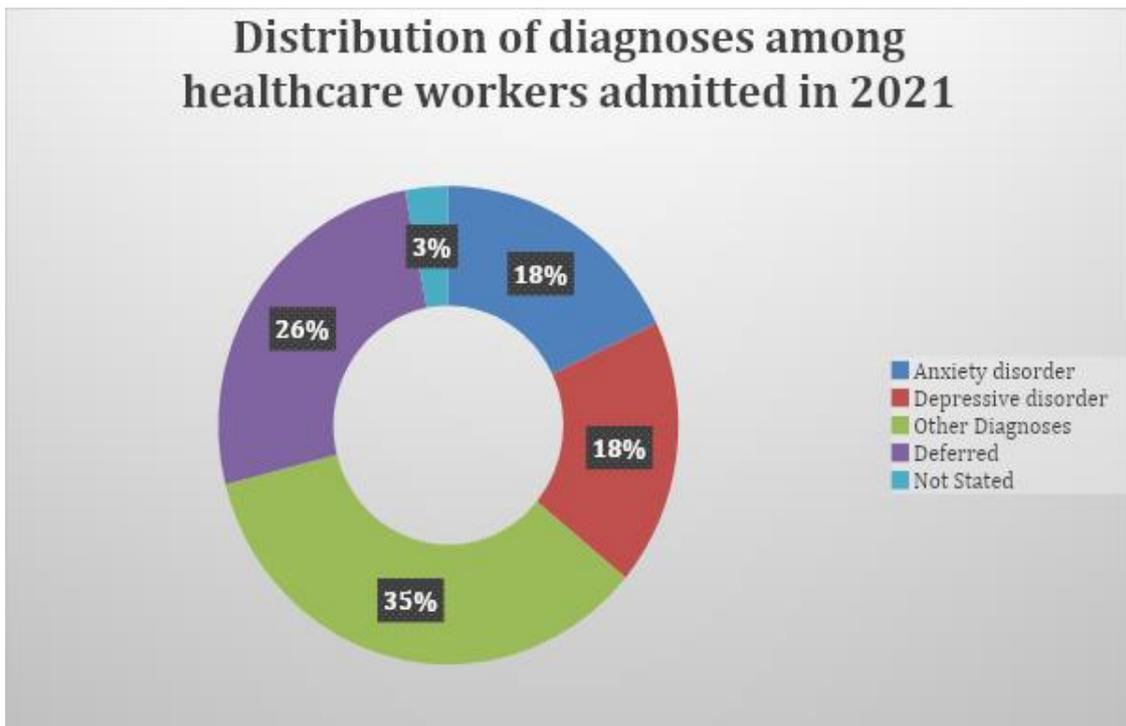**Figure 4.** Distribution of Diagnoses amongst Healthcare Workers Admitted to GPHCs POC in 2020

Figure 5. Distribution of Diagnoses amongst Healthcare Workers Admitted to GPHCs POC in 2021

Table 2. The Socio-demographics of the Different Classes of Healthcare Professionals Admitted to GPHC's POC in 2019

Year Total	Socio-demographics		Doctors	Nurses	Medical Students	Nursing Students	Opto-metrists	Medical Technologists	EMT	Dental Assistants	Dispensary technicians	Nursing Assistant	Medical Intern	Total
			4/18%	7/31%	2/9%	1/5%	1/5%	2/9%	1/9%	1/5%	1/5%	1/5%	1/5%	22
2019	**Age**	16-25	0	2/29%	1/50%	1/100%	1/100%	0	1/100%	1/100%	0	1/100%	0	8/36%
		26-35	2/50%	3/43%	1/50%	0	0	2/100%	0	0	1/100%	0	1/100%	10/45%
		36-45	1/25%	1/14%	0	0	0	0	0	0	0	0	0	2/9%
		46-55	1/25%	0	0	0	0	0	0	0	0	0	0	1/5%
		>55	0	1/14%	0	0	0	0	0	0	0	0	0	1/5%
	Sex	Males	2/50%	2/29%	0	1/100%	0	1/50%	0	1/100%	0	0	1/100%	8/36%
		Females	2/50%	5/71%	2/100%	0	1/100%	1/50%	1/100%	0	1/100%	1/100%	0	14/64%
	Ethnicities	African	1/25%	1/14%	0	1/100%	1/100%	1/50%	1/100%	1/100%	1/100%	0	0	8/36%
		East Indian	1/25%	1/14%	2/100%	0	0	0	0	0	0	0	0	4/18%
		Not Stated	0	2/29%	0	0	0	1/50%	0	0	0	0	1/100%	4/18%
		Mixed	2/50%	3/43%	0	0	0	0	0	0	0	1/100%	0	6/28%
	Marital Status	Single	2/50%	2/29%	2/100%	1/100%	0	2/100%	1/100%	1/100%	1/100%	1/100%	0	13/59%
		Married	1/25%	2/29%	0	0	0	0	0	0	0	0	0	3/14%
		Common law	1/25%	1\13%	0	0	0	0	0	0	0	0	0	2/9%
		Not Stated	0	2/28%	0	0	1/100%	0	0	0	0	0	1/100%	4/18%

Table 3. The Socio-demographics of the Different Classes of Healthcare Professionals Admitted to GPHC's POC in 2020

Year	Socio-demographics		Doctors	Nurses	Medical Students	Nursing Students	Optometrists	Medical Technologists	Nursing Assistant	Total
Total			5/38%	3/22%	1/8%	1/8%	1/8%	1/8%	1/8%	13
2020	**Age**	16-25	1/20%	1/33%	0	1/100%	1/100%	0	1/100%	5/39%
		26-35	3/60%	0	1/100%	0	0	1/100%	0	5/39%
		36-45	1/20%	1/33%	0	0	0	0	0	2/15%
		46-55	0	0	0	0	0	0	0	0
		>55	0	1/33%	0	0	0	0	0	1/8%
	Sex	Males	3/60%	0	0	1/100%	1/100%	1/100%	1/100%	7/54%
		Females	2/40%	3/100%	1/100%	0	0	0	0	6/46%
	Ethnicities	African	2/40%	1/33%	0	1/100%	0	0	0	5/38%
		East Indian	2/40%	0	0	0	1/100%	1/100%	0	4/31%
		Not Stated	1/20%	0	1/100%	0	0	0	1/100%	3/23%
		Mixed	0	2/67%	0	0	0	0	0	2/8%
	Marital Status	Single	3/60%	2/67%	1/100%	1/100%	0	0	1/100%	8/61%
		Married	1/20%	1/33%	0	0	1/100%	1/100%	0	4/31%
		Not Stated	1/20%	0	0	0	0	0	0	1/8%

Table 4. The Socio-demographics of the Different Classes of Healthcare Professionals Admitted to GPHC's POC in 2021

Year	Socio-demographics		Doctors	Nurses	Medical Students	Nursing Students	Opto-metrists	Medical Technologists	EMT	Dental Assistants	Dispensary Technicians	Nursing Assistant	Medical Intern	Total
Total			7/21%	12/36%	2/6%	1/5%	1/5%	3/9%	2/6%	2/6%	1/5%	1/5%	1/5%	33
2021	**Age**	16-25	1/14%	6/50%	1/50%	1/100%	1/100%	1/33%	1/50	1/50%	0	1/100%	1/100%	15/46%
		26-35	4/58%	3/25%	1/50%	0	0	2/67%	1/50%	0	1/100%	0	0	13/36%
		36-45	1/14%	1/8%	0	0	0	0	0	0	0	0	0	2/6%
		46-55	1/14%	0	0	0	0	0	0	1/50%	0	0	0	2/6%
		>55	0	2/17%	0	0	0	0	0	0	0	0	0	2/6%
	Sex	Males	5/71%	3/25%	1/50%	0	0	1/33%	1/50%	2/100%	0	0	1/100%	14/42%
		Females	2/29%	9/75%	1/50%	1/100%	1/100%	2/67%	1/50%	0	1/100%	1/100%	0	19/58%
	Ethnicities	African	2/29%	4/33	0	0	0	2/67%	1/50%	2/100%	1/100%	0	0	12/37%
		East Indian	2/29%	3/25%	1/50%	1/100%	1/100%	0	0	0	0	0	0	48/24%
		Not Stated	2/29%	1/9%	1/50%	0	0	1/33%	0	0	0	0	1/100%	6/18%
		Mixed	1/13%	4/33%	0	0	0	0	1/50%	0	0	1/100%	0	7/21%
	Marital Status	Single	3/42%	5/41%	2/100%	1/100%	0	1/33%	0	1/50%	1/100%	1/100%	0	15/46%
		Married	2/29%	3/25%	0	0	0	2/67%	0	0	0	0	0	7/21%
		Common law	2/29%	2/17%	0	0	0	0	0	0	0	0	0	4/12%
		Not Stated	0	2/17%	0	0	1/100%	0	2/100%	1/50%	0	0	1/100%	7/21%

Discussion

The incidence of the diagnosis of anxiety disorders among admissions to the clinic were 8% in 2019, 9% in 2020 and 11% in 2021. For the incidence of the diagnosis of depressive disorders; these percentages were 13% in 2019, 17% in 2020 and 16% in 2021. Healthcare workers made up 2% of the population in 2019, 1% in 2020 and 3% in 2021.

This data illustrates that there was an increase in the number of patients seeking help for the first time for both anxiety and depressive disorder. This increase was more marked for depressive disorders. The number of patients newly diagnosed with an anxiety disorder increased continually through the pandemic. On the other hand, we had less patients newly diagnosed with a depressive disorder from 2020 to 2021.

Healthcare workers such as doctors, nurses, medical and nursing students, optometrists, medical technologists, dental assistants, and EMTs were admitted to Georgetown Public Hospital Corporation's Psychiatric Outpatient Clinic within the study period.

For healthcare workers visiting the clinic for the first time in the year 2019, 45% of them were diagnosed with a depressive disorder while 32% of them were diagnosed with an anxiety disorder. In the year 2020, 38% of the healthcare workers visiting the clinic for the first time were diagnosed with a depressive disorder while 15% of these patients were diagnosed with an anxiety disorder. In 2021, 18% of health care workers visiting the clinic for a first time was diagnosed with a depressive disorder and an equal percentage was diagnosed with an anxiety disorder.

Healthcare workers visited the clinic less in 2020, they accounted for only 1% of new admissions as opposed to 2019 and 2021 where they made up 2% and 3% of the admissions respectively.

For healthcare workers that did attend the clinic for the first time during the study period, the percentage of these patients diagnosed with an anxiety disorder dipped in 2020 to 15% and increased in 2021. When we look at those newly diagnosed with depression within this group this number steadily declined from 2019 to 2021.

The dip in numbers that occurred is 2020 may have been because of person's fear of the virus within Guyana and resultant social isolation. Health care workers would not have wanted to visit the psychiatric clinic. Initially there were a lot of patients who contracted Covid and died. Many of the staff were scared. Persons knew very little about the corona virus. This made people avoid hospitals for fear of contact with infected persons. Lots of departments operated with reduced staffing and staff remained in their assigned areas. The staff especially experienced this fear of the virus, and they were particularly afraid of infecting not only themselves but also their relatives. Staff would only seek help if it were absolutely necessary, as they would count this as an exposure. Psychiatry was a particular area of avoidance for staff because lots of psychiatric patients did not follow Covid protocols. The percentage of health care workers diagnosed with a depressive disorder was higher in 2019 and 2020 than those diagnosed with anxiety disorders. In the year 2021 the percentage was equal for both groups of disorders. This may be because depression may have caused more subjective distress and social occupational dysfunction than the anxiety disorders and so regardless of stigma or any other reason, depression would have been a major push factor to seek help.

Nurses accounted for most of the healthcare workers who visited the clinic for the first time during 2019 and 2021, whilst doctors were the most frequent in 2020. 2019 was a pre pandemic year. The number may have been increased for nurses in 2019 because they may have visited the clinic more than doctors during this period. The stigma attached to mental illness affects many doctors. Many doctors are financially able and prefer to seek help outside of the hospital, within a more private setting.

During the year 2020 patients infected by the corona virus were detected in Guyana for the first time. After the first case, many other cases appeared. Many doctors were transferred from their place of normal employment to areas designated only for Covid patients. Doctors were also required to work longer hours and be stationed at diagnostic centers. This would have had a negative effect on them. This might explain why doctors were most frequently affected in 2020. After 2020, the nurses would have been more involved in testing and management of infected patients. This added to their regular duties of patient care - cleaning, administration of medications, performing procedures; all of which increase exposure to body fluids and aerosols. This may have affected them negatively.

The incidence of these disorders among medical technologists remained quite stable. They handled samples of infected patients daily even before the pandemic. They were not involved in direct patient care as sample collection was done by doctors and nurses.

Within the group of health care workers, in 2019 and 2021 more females sought help than males. In 2020, more male healthcare workers sought help. This is significant as within each year the number of females seeking help for the first time was greater than the number of men for each year. So even though there were less men seeking help in 2020, there were still more male healthcare workers than female healthcare workers seeking help.

One contributing factor to the development of anxiety and depressive disorders identified by published literature was age. Though no particular age or range was identified in reviewed studies as being more common, data collected showed the younger demographic of healthcare workers (16 - 35 years of age) being affected most commonly as compared to the older population in the rest of the population. Reasons for this may include that younger healthcare professionals were less established in their fields of work, as such they were more

readily reassigned during the early phases of the pandemic. Of note, some young doctors working in departments with low exposure risks were reassigned to Covid swabbing sites or to the ICU/transition/isolation wards.

A study of the marital status over the 3-year period showed in all years, a glaring majority of the admissions to the clinic being single. This contrasts with reviewed literature, which acknowledged marital status as a contributor, with chiefly the married population being affected. The years of the pandemic, 2020 and 2021 were a time of isolation. Humans were long referred to as social beings. With the closure of restaurants, theatres, malls, schools/universities, and some working environments came the challenge of home isolation. In those times of isolation, the single population would have been especially affected negatively as they would have been locked away by themselves in a time of uncertainty.

Conclusion

The incidence of anxiety disorders increased progressively during the years of the pandemic. The incidence of depressive disorders increased significantly in 2020 and then had a small decrease in 2021. Healthcare workers were more often diagnosed with depressive disorders. In 2020, more doctors and males sought help than nurses and females. Nurses and females sought more help in 2021. Healthcare workers who were single, young, and completed tertiary level of education were most affected.

Limitations

1. Incomplete records: since all required information may not have been recorded in the charts, the information gathered from the data may have been skewed.
2. Written records: quality of handwriting and the ability to decipher what is written left certain bits of information up to the readers' interpretation.
3. The medical fraternity is a close knit one. As such, medical practitioners may approach

their colleagues in the psychiatry department for assistance, with the insistence of being off the record. This also may have skewed the result.

Recommendations

1. The hospital should develop protocols, agreed upon by all departments, to govern the functioning of the hospital during a pandemic.
2. It should be agreed upon priori, the compensation that will be given to staff who sacrifice time and other aspects of their lives

to assist during an emergency. This might entice persons to volunteer. If a person volunteers and is made to feel like they have more control over themselves in these situations, their level of distress will be less.
3. Team building exercises and safe spaces should be provided for staff to share experiences and provide emotional support to build better working relationships.

Conflict of Interest

The authors declare that there was no conflict of interest whilst conducting this study.

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