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Edition 62 – Intimate Partner Violence: An Independent Predictor of Emergency Department Visits for Attempted Suicides and Self-inflicted Injuries among American women - HPHR Journal

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Citation

Akinyemi O, Nasef K, Aaron S, Martins C, Utomi A, Alqurashi L, Adeola O, Oduwole O, Ajogbasile O, Lipscombe C, Nwosu U, Ogundare T. Intimate partner violence: An independent predictor of emergency department visits for attempted suicides and self-inflicted injuries among American women. HPHR. 2022;62. 10.54111/0001/JJJ6

Abstract

Introduction

Intimate Partner Violence (IPV) is becoming a significant public health issue and has been associated with adverse health outcomes such as mental health disorders, medical conditions, and devastating lifestyle behaviors. The lifetime cost estimated with IPV has been estimated to be \$3.6 trillion. Intimate partner violence (IPV) has been associated with attempted suicide and self-inflicted injuries.

Aim

To determine if IPV is an independent predictor of attempted suicides and self-inflicted injuries among American women.

Methods

We analyzed data on emergency department visits for attempted suicides and self-inflicted injuries from the National Emergency Sample database from January 2016 to December 2017. In a multivariate analysis, we determined the association between IPV and attempted suicides and self-inflicted injuries, controlling for covariates such as schizophrenia and other psychotic symptoms, anxiety disorders, depression, bipolar disorder, dementia, alcohol and substance abuse disorder, hospital region, insurance, and annual income. Samples were weighed to generate nationally representative estimates.

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Results

We identified 64,152 women who visited the ED on account of attempted suicide and self-inflicted injuries between January 2016 and December 2017. Among this population, 0.19% have a background history of IPV. IPV increased the risk of attempted suicides/self-inflicted injuries by 4 folds (OR= 4.34, 95% CI 1.56-12.13, $p < 0.01$).

Conclusion

Intimate partner violence is an independent predictor of increased risk of attempted suicides and self-inflicted injuries among women in the United States.

Introduction

Intimate partner violence (IPV) is defined as the “emotional, physical, or sexual abuse of, or stalking that occurs among individuals in an intimate relationship including current and former spouses and dating partners”.¹ About 20% of all homicides are due to IPV.^{2,3} IPV has been associated with many adverse outcomes such as mental health disorders, medical conditions, and devastating lifestyle behaviors.⁴⁻⁷

It has been estimated that the economic burden associated with IPV in the United States is about \$3.6 trillion.² Given the impact of IPV on individual mental and physical health and the economic burden, IPV should be considered a public health issue. Among the 112,664 emergency department visits for injury inflicted by a romantic partner from 2006 to 2009, 93% occurred among women.⁸ Furthermore, during the COVID-19 pandemic, there was an increase in the number of severe physical injuries as a result of IPV compared to the preceding three years.⁹

Studies have shown an association between experiencing IPV and suicide attempts. One study in Kentucky, USA, found that 17% of all reported suicides between 2005-2012 were associated with IPV.¹⁰ Within the duration of or soon after ending an abusive relationship, approximately 35-40% of IPV victims attempt suicide.¹¹ Compared to the general population, suicide attempts were about three times more prevalent among IPV survivors.¹¹

The association between IPV and attempted suicide and self-inflicted injuries have been explored in studies and has been explained as being mediated by depression, PTSD, and other mechanisms. This study aims to determine if IPV is an independent predictor of attempted suicide and self-inflicted injuries.

Methods

The study is a retrospective study using data from the National Emergency Sample Database (NEDS). The NEDS contains data about emergency department (ED) visits from 989 hospitals in 40 states, including Washington D.C. approximating a 20% stratified sample of U.S. hospital-owned EDs.¹² Data was collected for all ED visits between January 2016 and December 2017. Using ICD-10 codes, data were extracted for all patients who presented to the ED on account of suicides or self-inflicted injuries. The NEDS contains de-identified patient information and is exempted from IRB approval. The samples were weighted to generate national estimates.

Study population

Women who presented to the ED between January 2016 and December 2017 with a discharge diagnosis of attempted suicide or self-inflicted injury. Since intimate partner violence is more likely to be underreported among men, they were excluded from the study.

Independent variable/variable of interest

The independent variable was a history of IPV which was extracted from the database using the ICD-10 diagnosis codes for women with ED visits for attempted suicide/self-inflicted injuries.

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Study outcome

The main outcome of the study was attempted suicides or self-inflicted injuries among patients who presented to the Emergency Department during the study period.

Covariates

Covariates included in the final regression model were traditional risk factors for attempted suicides and self-inflicted injuries identified in the literature such as alcohol use disorder, depression, bipolar disorder, anxiety, dementia, schizophrenia and psychotic symptoms, obesity, smoking status, insurance type, income level, and region within the U.S.

Statistical analysis

Descriptive statistics, including frequencies and percentages, were used to describe baseline characteristics of patients and risk factor variables. Utilizing the Pearson chi-square tests, we evaluated the relationship between studied variables and the occurrence of attempted suicide or self-inflicted injury. We included variables with statistically significant associations with attempted suicides from the bivariate analysis in the final multivariate regression analyses. Estimates were expressed as adjusted odds ratios and 95% confidence intervals. A 2-tailed p-value <0.05 was considered statistically significant. All statistical analyses were performed using the STATA 14 (StataCorp College Station, TX).

Results

A total of 64,152 women visited the E.D. on account of attempted suicide or self-inflicted injury between January 2016 and December 2017. The prevalence of IPV among these women was 0.19% compared to 0.09% among the total study population. The majority (82.5%) of women with IPV were less than 45 years (Table 1), 1.9% had alcohol use disorder, 46.3% were smokers, and 16% were uninsured.

Women who had attempted suicide or with self-inflicted wounds were more likely to report depression (46.1% vs 5%, p < 0.001) compared to those with no history of IPV (Table 2); had higher rates of bipolar disorder (10.6% vs 1.43%, p < 0.001), anxiety disorder (23.4% vs 6.6%, p < 0.001) and schizophrenia (0.09% vs 0.03%, p < 0.001). In the multivariate logistic regression (Table 3), after controlling for mental illness, insurance type, age, substance abuse, and alcohol addiction, having a history of IPV was associated with four-fold increased odds of attempting suicide/self-inflicted injuries (OR=4.34; 95% CI 1.56-12.13, P<0.001). Finally, we showed the association between patients age, insurance type, annual median income and ED visits for attempted suicides or self-inflicted injuries (Table 4).

Table 1 Baseline distribution of study variables stratified by background history of Intimate partner violence (NEDS 2016-2017)

Variables	Total ED visits (N=80,367,791)	IPV		P value
		No IPV (n=80,295,460)	(n=72,331)	
Age				
< 45 years	58.39	82.52	58.37	<0.001*
45-65 years	23.04	13.02	23.05	
>65 years	18.56	4.46	18.58	
Substance abuse	0.03	0.03	0.03	0.80
Alcohol Addiction	0.66	1.91	0.66	<0.001*
Depression	5.02	6.44	5.02	<0.001*
Bipolar disorder	1.44	3.06	1.44	<0.001*
Anxiety	6.60	7.83	6.60	<0.001*
Impulse	0.05	0.11	0.05	<0.001*
Dementia	2.27	1.93	2.27	0.03*
Personality disorders	0.18	0.51	0.18	<0.001*
Schizophrenia and other psychotic symptoms	0.03	0.02	0.03	0.30

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Obesity	2.41	0.81	2.41	<0.001*
Smoking	23.88	46.34	23.86	<0.001*
Attempted Suicides	0.08	0.19	0.08	<0.001*
Insurance				
Private	28.63	23.85	28.63	<0.001*
Medicare	23.76	9.64	23.77	
Medicaid	33.83	34.80	33.83	
Uninsured	9.87	16.03	9.86	
Others	3.92	15.69	3.91	
Income				
Lowest income quartile	35.72	37.65	35.72	0.03*
Second income quartile	27.44	25.24	27.44	
Third income quartiles	20.86	20.00	20.86	
Highest income quartiles	15.98	17.10	15.98	
Region				
Northeast	17.86	18.05	17.86	0.02*
Midwest	22.93	27.12	22.93	
South	40.90	33.98	40.91	
West	18.30	20.85	18.30	

IPV, Intimate partner violence, *, $p < 0.05$, statistically significant

Table 2 Association between studied variables and emergency admissions on account of attempted suicides/ selfinflicted injuries (NEDS 2016-2017)

Variables	Total ED Visits		Other Conditions		p-value
	Attempted suicides (n=64,152)		n=80,303,639		
		57.88			
		17.90	24.22		<0.001*
0.66	<0.001*	4.99	<0.001*	1.43%	<0.001*
		6.59	<0.001*	0.05	
		2.27	0.03		0.53
			<0.001*		
			0.03		<0.001*
			0.09		<0.01*
			2.41		<0.001*
			23.86		
		28.62			
		23.77			
			33.82		<0.001*
		9.87			
		3.92			

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		35.72	
		27.44	
		20.86	<0.001*
		15.98	
		17.32	
		20.95	
		42.61	<0.001
		19.13	
< 45 years	57.90	84.05	
45-65 years	24.22	13.65	
Age	17.88	2.30	
>65			
Substance abuse	0.03	0.02	
Alcohol Addiction	0.66	4.40	
Depression	5.02	46.07	
Bipolar disorder	1.44	10.58%	
Anxiety	6.60	23.39	
Impulse	0.05	1.18	
years			
Dementia	2.27	0.45	
Schizophrenia and other psychotic symptoms	0.03	0.09	
IPV	0.09	0.22	
Obesity	2.41	1.66	
Smoking	23.88	48.62	
Insurance			
Private	28.63	34.10	
Medicare	23.76	8.76	
Medicaid	33.83	43.33	
Uninsured	9.87	9.81	
Others	3.92	4.01	
Income			
Lowest income quartile	35.72	27.91	
Second income quartile	27.44	28.04	
Third income quartiles	20.86	23.76	
Highest income quartiles	15.98	20.29	
Region			

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	17.31	15.44
Northeast	20.95	24.19
Midwest	42.60	36.45
South	19.14	23.92

West

IPV, Intimate partner violence, *, $p < 0.05$, statistically significant

Table 3 Association between Intimate Partner Violence and Risk of Attempted Suicides or Self-inflicted Injuries (NEDS 2016-2017)

Variables	Odds ratio	Lower CI	Upper CI	P-value
Alcohol Addiction	2.14	1.52	3.01	<0.001*
Depression	9.44	7.67	11.63	<0.001*
Bipolar disorder	5.30	4.19	6.71	<0.001*
Anxiety	1.00	0.80	1.25	0.97
Impulse	3.39	1.58	7.28	<0.001*
Dementia	1.62	0.76	3.47	0.22
IPV	4.34	1.56	12.13	0.005*

† Model adjusted for age, income, Insurance, obesity, smoking status, and region of the country. IPV, Intimate partner violence, *, $p < 0.05$, statistically significant

Table 4 Association between women’s age, insurance type, and Income and Emergency admissions for attempted suicides and self-inflicted injuries (NEDS 2016-2017)

Variables	Odds ratio	Lower CI	Upper CI	P value
Age				
<45 years	Reference	0.19	0.29	< 0.001*
45-65 years	0.24	0.10	0.10	< 0.001*
>65 years	0.06	0.04		
IPV	4.34	1.56	12.13	0.005*
Insurance				
Private	Reference	0.47	0.83	<0.001*
Medicare	0.62	0.72	1.13	0.36
Medicaid	0.90	0.90	1.56	0.23
Uninsured	1.18	0.70	1.60	0.78
Others	1.06			
Income				
Lowest income quartile	Reference	1.42	0.28	
Second income quartile	1.13	0.90	1.86	<0.001*
Third income quartiles	1.48	1.18	1.91	<0.001*
income quartiles	1.45 Highest	1.10		

IPV, Intimate partner violence, *, $p < 0.05$, statistically significant

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Discussion

This study used discharged data from the National Emergency Sample (NEDS) database from 2016 to 2017 to determine the association between IPV and attempted suicide or self-inflicted injury among women who presented to the ED. The study showed that IPV was associated with a four-fold increase in the odds of attempting suicide/self-inflicted injury after controlling for traditional risk factors such as mental health disorders, income, and insurance type. This is consistent with studies in the literature that reported that IPV has a strong association with increased incidence of attempted suicide and completed suicide.^{11,13,14}

IPV is a preventable public health issue and can occur at any age.¹⁵ It can start early among women when they start dating or at any time during their lifespan.¹⁵ IPV can be in the form of physical violence (such as kicking or hitting), sexual violence (such as forcing a nonconsenting partner to perform sexual acts), stalking (providing an unwanted and repeated attention that causes fear of safety), or psychological aggression (involves using coercive tactics which could be verbal and non-verbal to cause mental or emotional harm to have control over the other partner).²

Our findings showed that in the absence of psychiatric disorders or mental illness, women who are victims of IPV are still at increased risk of attempted suicide and self-inflicted injuries similar to findings from other studies.¹⁶⁻¹⁸ Possible reasons for this include feelings of shame and guilt after the event and second-guessing their reactions during the attack.^{16,17} In addition, IPV can negatively impact the mood resulting in suicide attempts without any prior mental disorder.¹⁹⁻²¹ A study by Fedina et al. showed that the increased rate of suicide among people experiencing IPV could be attributed to loneliness.²² The study further demonstrated that inadequate social interaction and support increase suicidal attempts. In addition, IPV is a risk factor for post-traumatic stress disorder (PTSD) which is strongly associated with an increased risk of attempted suicides.^{14,19}

Attempted suicide and self-inflicted injuries are the most important predictor of completed suicide^{23,24}. Therefore, reducing IPV and mitigating the impact of IPV should be part of the national suicide prevention strategies. It is essential that individuals experiencing IPV be identified during routine clinic visits or ED visits and provided with an online, group, or social support resources. In addition, there should be increased awareness about IPV in the community to help people identify friends and families experiencing IPV and give them the social and psychological support needed to overcome the situation to reduce the risk of suicide. Additionally, increasing awareness will help victims of IPV understand the various available support, explore their options, and reduce the risk of suicidal attempts. Beyond mitigating the impact of IPV, preventing IPV should also be a public health priority. Several approaches can be taken to tackle IPV. This includes addressing risk factors for IPV such as low socioeconomic status, identifying, and treating substance use disorders, creating a norm of zero tolerance to IPV via mass media campaigns, and integrating it into the school curriculum.

Conclusion

IPV is a significant public health issue with a major impact on individual mental and physical health and has a large economic burden. This study has demonstrated an independent association between IPV and attempted suicide and self-inflicted injuries. Therefore, part of the national suicide prevention response should be to address IPV.

Public Health Significance

The present study is similar to a world health organization report which quoted an odd ratio of 4.54 (95% CI=1.78 to 11.61) of attempted suicides among IPV survivors²³. This reinforces the importance of directing suicide prevention strategies to this particular group of women.

Attempted suicide and self-inflicted injuries are major predictors of complete suicide^{24,25}. Suicide is a leading cause of death in the United States and prevalence has been increasing in the past decade, more among women and young adults²⁶. This study has found that IPV is a major risk factor for attempted suicide and self-inflicted injury among women. The association between IPV and attempted suicide and self-inflicted injuries, a major predictor of suicide — one of the leading causes of death in the United States— makes IPV a significant public health issue. Aside from its devastating impact on society as a major cause of substantial morbidity and mortality, it's a major cause of significant economic burden with an estimated financial cost of about \$ 490 billion²⁷.

Recommendations

Law enforcement officers are often first responders to many cases of IPV. Suicide risk screenings are seldom part of the law enforcement response to calls on account of IPV²⁸. Since these women may be at an increased risk of attempted suicides or complete suicides, it is

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crucial to add suicide screening to the response protocols to calls or emergency department visits on account of IPV. This may serve as a critical part of the algorithms to prevent suicide in the general population. Similar studies should explore the association between IPV and the risk of attempted suicides among men.

Limitation of the Study

The results of this study should be interpreted with some limitations in mind. The NEDS database was designed primarily for billing purposes rather than detailed medical analyses. The study is also a cross-sectional, retrospective analysis and therefore cannot establish a causal link between experiencing IPV and attempted suicide and self-inflicted injuries. Secondly, the findings may not be generalizable to the whole United States population, because the NEDS collects data from 40 states. There may be differences in the population not included in the analysis. Thirdly, while we accounted for traditional risk factors that have been associated with attempted suicide and self-inflicted injuries in the literature, it is possible that not all confounders have been accounted for in the association between IPV and attempted suicide and self-inflicted injuries. Nevertheless, the study has significant strengths, given the large sample size drawn from a

large cross-section of the United States. In addition, the data was weighted to generate a national estimate. Our analyses also controlled for all the identified traditional risk factors of suicide in the literature.

References

- Clark CJ. Chapter 48 – intimate partner violence. In: Goldman MB, Troisi R, Rexrode KM, eds. *Women and health* (second edition). Academic Press; 2013:725-<https://doi.org/10.1016/B978-0-12-384978-6.00048-0>
- Centers for Disease Control and Prevention. Fast facts: Preventing intimate partner violence. <https://www.cdc.gov/violenceprevention/intimatepartnerviolence/fastfact.html>. 2021
- Cooper A, Smith EL. Homicide trends in the United States, 1980–2008. *Washington, DC: Bureau of Justice Statistics*. 2011.
- Breiding, M. J., Chen J., & Black, M. C. Intimate partner violence in the United States — 2010. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. 2014.
- Smith SG, Basile KC, Gilbert LK, et al. National intimate partner and sexual violence survey (NISVS): 2010–2012 state report. 2017.
- Black MC. Intimate partner violence and adverse health consequences: Implications for clinicians. *American journal of lifestyle medicine*. 2011;5(5):428-439
- Warshaw, C., Brashler, P., & Gil, J. Mental health consequences of intimate partner violence. In C. Mitchell & D. Anglin (Eds.), *Intimate partner violence: a health-based perspective*. New York: Oxford University Press. 2009; pp 147-170
- Comiford AL, Sanderson WT, Chesnut L, Brown S. Predictors of intimate partner problem-related suicides among suicide decedents in Kentucky. *Journal of injury and violence research*. 2016;8(2):81. <https://doi.org/10.5249/jivr.v8i2.776>
- Davidov DM, Larrabee H, Davis SM. United States emergency department visits coded for intimate partner violence. *J Emerg Med*. 2015;48(1):94-100. <https://doi.org/10.1016/j.jemermed.2014.07.053>
- Gosangi B, Park H, Thomas R, et al. Exacerbation of physical intimate partner violence during COVID-19 pandemic. *Radiology*. 2021;298(1):E38-E45.
- McLaughlin J, O'carroll RE, O'connor RC. Intimate partner abuse and suicidality: A systematic review. *Clin Psychol Rev*. 2012;32(8):677-689. <https://doi.org/10.1016/J.CPR.2012.08.002>
- Overview of the Nationwide Emergency Department Sample (NEDS). Neds Overview. (n.d.). Retrieved May 12, 2022, from <https://www.hcup-us.ahrq.gov/nedsoverview.jsp>
- Graham LM, Kafka JM, AbiNader MA, et al. Intimate partner Violence–Related fatalities among US youth aged 0–24 years, 2014–2018. *Am J Prev Med*. 2022;62(4):529-537. <https://doi.org/10.1016/j.amepre.2021.09.018>
- Wolford-Clevenger C, Smith PN. A theory-based approach to understanding suicide risk in shelter-seeking women. *Trauma, Violence, & Abuse*. 2015;16(2):169-178. <https://doi.org/10.1177%2F1524838013517562>
- Niolon PH, Centers for Disease Control and Prevention. *Preventing intimate partner violence across the lifespan: A technical package of programs, policies, and practices*. Government Printing Office; 2017. <https://www.cdc.gov/violenceprevention/pdf/ipvtechnicalpackages.pdf>
- Holliday R, Forster JE, Schneider AL, Miller C, Monteith LL. Interpersonal violence throughout the lifespan: Associations with suicidal ideation and suicide attempt among a national sample of female veterans. *Med Care*. 2021;59:S77-S83. . <https://doi.org/10.1097/mlr.0000000000001447>
- Li X, Xiang S, Dong J. The concurrence of sexual violence and physical fighting among adolescent suicide ideators and the risk of attempted suicide. *Scientific reports*. 2022;12(1):1-12. <https://doi.org/10.1038/s41598-022-09387-3>
- Buttar A, Clements-Nolle K, Haas J, Reese F. Dating violence, psychological distress, and attempted suicide among female adolescents in the juvenile justice system. *Journal of Correctional Health Care*. 2013;19(2):101-112. <https://doi.org/10.1177/1078345812474639>

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19. Hui, V., & Constantino, R. E. (2021). The association between life satisfaction, emotional support, and perceived health among women who experienced intimate partner violence (IPV) – 2007 behavioral risk factor surveillance system. *BMC Public Health*, 21, 641. <https://doi.org/10.1186/s12889-021-10665-4>
20. Iovine-Wong PE, Nichols-Hadeed C, Thompson Stone J, et al. Intimate partner violence, suicide, and their overlapping risk in women veterans: A review of the literature. *Mil Med*. 2019;184(5-6):e201-e210. <https://doi.org/10.1093/milmed/usy355>
21. Devries KM, Mak JY, Bacchus LJ, et al. Intimate partner violence and incident depressive symptoms and suicide attempts: A systematic review of longitudinal studies. *PLoS medicine*. 2013;10(5): e1001439. doi:10.1371/journal.pmed.1001439
22. Fedina L, Mushonga DR, Bessaha ML, Jun H, Narita Z, DeVlyder J. Moderating effects of perceived neighborhood factors on intimate partner violence, psychological distress, and suicide risk. *J Interpers Violence*. 2021;36(21-22):10546-10563. <https://doi.org/10.1177/0886260519884687>
23. Global and regional estimates of violence against women: prevalence and health effects of intimate partner violence and nonpartner sexual violence. Published online 2013. Accessed July 17, 2022. who.int
24. Bostwick JM, Pabbati C, Geske JR, McKean AJ. Suicide attempt as a risk factor for completed suicide: Even more lethal than we knew. *Am J Psychiatry*. 2016;173(11):1094-1100. DOI: [1176/appi.ajp.2016.15070854](https://doi.org/10.1176/appi.ajp.2016.15070854)
25. Mars B, Heron J, Klonsky ED, et al. Predictors of future suicide attempt among adolescents with suicidal thoughts or non-suicidal self-harm: A population-based birth cohort study. *The Lancet Psychiatry*. 2019;6(4):327-337. DOI: [https://doi.org/10.1016/S2215-0366\(19\)30030-6](https://doi.org/10.1016/S2215-0366(19)30030-6)
26. CDC WONDER: Underlying cause of death, 1999–2019. Atlanta, GA: US Department of Health and Human Services, CDC; 2020. <https://wonder.cdc.gov/Deaths-by-Underlying-Cause.html>
27. Peterson C, Miller GF, Barnett SBL, Florence C. Economic cost of injury—United states, 2019. *Morb Mortal Weekly Rep*. 2021;70(48):1655. DOI:[http://dx.doi.org/10.15585/mmwr.mm7048a1](https://doi.org/10.15585/mmwr.mm7048a1).
28. Intimate Partner Violence: A Pathway to Suicide – LEB. Accessed July 17, 2022. <https://leb.fbi.gov/articles/featured-articles/intimate-partner-violence-a-pathway-to-suicide>

About the Authors

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Dr. Oluwasegun Akinyemi received his Bachelor of Medicine/ Bachelor of Surgery degree from the Obafemi Awolowo University, Nigeria. He completed a residency training in Obstetrics and Gynecology, becoming a fellow of the Nigerian Postgraduate Medical College in 2017. He subsequently completed a Master of Science in Public Health program at Western Illinois University, Illinois, USA, in 2020 and is presently a Research Associate at the Department of Surgery Outcomes Research Center, Howard University College of Medicine. Dr. Akinyemi's research interest includes studying disparities in access to quality health care, particularly among women and minority populations. He also explores the role of social determinants of health and chronic conditions such as obesity, diabetes, and hypertension on pregnancy outcomes and how they affect women's health, focusing on the minority and immigrant populations. He is not only interested in highlighting these disparities but also passionate about designing interventional studies tailored to improve them. Dr. Akinyemi is currently a Ph.D. student at the Health Policy and Management department of the University of Maryland School of Public Health, College Park, Maryland, USA.

Kindha Elleissy Nasef

Kindha is a third year medical student at Howard University College of Medicine. Her upbringing in Cairo, Egypt has fueled her interest in healthcare disparities. She looks forward to pursuing a career in Surgery and ultimately to become a trauma surgeon.

Sabrina Aaron

Sabrina A. Aaron, B.Sc. earned her Bachelor of Science from Howard University with a major in Biology, minoring in Chemistry. She is a current third year medical student at Howard University College of Medicine in Washington, D.C. where she is pursuing her M.D.. Sabrina is interested in Orthopaedic Surgery, specifically the trauma subspecialty. She is passionate about researching health inequities affecting under resourced communities, mentoring students interested in medicine, and increasing diversity in the field overall.

Chidi Martins

Chidi Martins is currently an MD candidate at Howard University College of Medicine, who received an undergraduate degree in Biology from South Dakota State University. He plans to become a plastic surgeon in the future to help provide reconstructive surgeries in underserved communities around the world.

Awele Utomi

Awele Utomi obtained his Bachelor of Science degree in Biology & Chemistry in 2019 from Howard University, Washington, DC, USA. He subsequently received his Masters of Science in Bioethics from Columbia University, NY, NY in 2020. Currently a second-year

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Linah Alqurashi

Linah Alqurashi is a Registered Dietitian and recently graduated with Doctoral Degree in Nutritional Sciences. worked as a dietitian in an intensive care unit. My research interests include: the Impact of Nutrition Support on Clinical Outcomes in Critically Ill Patients With COVID-19, patients satisfaction and bioactive compounds of food and the role of diet and and lifestyle in preventing chronic diseases.

Oluwakemi Adeola

Oluwakemi (Kemi) Lois Adeola is a Registered Dietitian and a Clinical Assistant Professor in the Department of Nutritional Sciences at Howard University. She obtained her undergraduate degree in biochemistry (2007) from the University of Ilorin, Nigeria, her Master's degree in Nutrition and Dietetics (2015) from the University of the District of Columbia, Washington DC, and her Ph.D. in Nutritional Sciences (2020) from Howard University, Washington DC. She teaches Medical Nutrition Therapy and Nutrition Care Management and facilitates clinical rotations of the dietetics students. She completed her dietetic internship through the coordinated program in dietetics at

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Olayemi Oduwole

Olayemi Oduwole is a registered nurse with 11 years experience In various acute care setting. They currently working as a research nurses and in school for masters in Clinical Research Management.

Oluwole Ajogbasile

Dr. Oluwole Ajogbasile received his Bachelor of Medicine/ Bachelor of Surgery degree from Nigeria's premier University of Ibadan. Dr Ajogbasile's research interest includes improving utilization of healthcare by investigating the factors affecting prolong wait times of patients attending outpatient clinics and exploring patients' satisfaction following surgery. He is also passionate about mental health related research.

Christina Lipscombe

Dr. Christina Lipscombe received her Doctor of Osteopathic Medical Degree from Philadelphia College of Medicine in Philadelphia, PA. She is currently in the final year of her OBGYN residency program at Howard University Hospital in Washington, DC. Dr. Her research interests include health care disparities within minority populations and how this affects pregnancy outcomes. She is also interested in promoting and advancing minimally invasive gynecology surgery for all women. Lastly she wishes to further explore endometriosis and the discrepancy of the prevalence of diagnosis in the African American population.

Uzoamaka Nwosu

Dr. Nwosu is a resident physician with the Department of Psychiatry at Howard University Hospital. Dr. Nwosu has over ten years of leadership experience with domestic and international organizations dedicated to health and well-being. She is passionate about mental health and has honed her public health prevention and promotion skills while completing specialty training in Psychiatry. Dr. Nwosu's professional interests include positive psychology, mood disorders, suicidal ideation, minority health, and novel therapies. In addition, she enjoys traveling and spending time with her family and friends.

Temitope Ogundare

Temitope Ogundare is a Psychiatry resident at Boston Medical Center and Clinical Instructor at Boston University School of Medicine.

He previously trained in Psychiatry at Neuropsychiatry Hospital, Abeokuta, Nigeria, one of the two World Health Organization centers for research in Mental Health in the country, and is board certified in psychiatry by West African College of Physicians, and Nigeria Postgraduate Medical College.