OPINION

Sibling anesthesiologists ask whether significantly low COVID-19 proportionate mortality ratios in 2020 among anesthetists in the United States could be extrapolated to India

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ABSTRACT

For the year 2020, the pre-vaccination COVID-19 pandemic era, public use data of decedents as delineated and stratified by their occupations among the residents in India may not be available. Contrastingly, public use data of decedents as delineated and stratified by their occupations among the residents in the United States (U.S.) is available for the year 2020. It was found that all-age (18–90-year-old) and older (65+ year-old) nurse anesthetists in the U.S. as well as the youngest (18–54-year-old) physicians and surgeons including U.S. anesthesiologists had significantly lower proportions of COVID-19 deaths as compared to COVID-19 deaths among all correspondingly age-grouped U.S. workers during the pre-vaccination COVID-19 pandemic era in the year 2020. The question remains whether inverse association between COVID-19 and deaths specifically amongst nurse anesthetists in the U.S. may be a proxy indicator of a potentially inverse association between COVID-19 and deaths amongst anesthesiologists across the world wherever anesthesiologists personally deliver anesthesia to their patients and stay with their patients during the entirety of peri-anesthesia period while following the peri-anesthesia standards of personal protective equipment use as analogous to their use standards followed by nurse anesthetists in the U.S.

For the year 2020, the pre-vaccination COVID-19 pandemic era, public use data of decedents as delineated and stratified by their occupations among the residents in India may not be available. Contrastingly, public use data of decedents as delineated and stratified by their occupations among the residents in the United States (U.S.) is available from 46 states and New York City (excluding Arizona, Iowa, North Carolina, Rhode Island, and Washington, D.C.) for the year 2020. This public use data is in public domain per National Occupational Mortality Surveillance (NOMS), U.S. Department of Health and

Human Services (HHS), Public Health Service, Centers for Disease Control and Prevention (CDC), National Institute for Occupational Safety and Health (NIOSH), Division of Field Studies and Engineering, Health Informatics Branch (1-4). The primary statistics deduced in this public use data are proportionate mortality ratios (PMRs) as derived from death certificates of U.S. resident populations with the objective to detect if the lone underlying causes of death as documented in such death certificates are associated with decedents' occupations (5-6). With mutually-dependent PMRs contributing to each other's PMR inversely (6-7), inter-dependent cause-specific PMRs based on lone documented underlying causes of death have their own set of limitations (a) when decedents may have been affected by up to twenty additionally documented multiple causes of death thus confounding biases, (b) when decedents' usual or longest held occupations per family members/guardians/informants may be incomplete and even inaccurate thus leading to classification biases, and (c) when decedents' data cannot quantify their specific exposure levels at occupation as pertaining to their significant underlying causes of death whereafter interpretations only going by the generally available information as pertaining to their inferable occupational exposures which could very well implicate non-causal associations if not chance associations secondary to indeterminable causal associations.

Anyhow, for this manuscript based on public use data thus non-human participant research, the authors zeroed in on exploring COVID-19 as the underlying cause of death to detect whether proportion of COVID-19 decedents among U.S. anesthetists in the year 2020 were similar to proportion of COVID-19 decedents among all U.S. workers in the year 2020. Moreover, the authors zeroed in on COVID-19 PMRs among similar healthcare practitioners as well as overall lowest/highest significant COVID-19 PMRs among NIOSH/NOMS census-coded occupations. Finally, COVID-19 PMRs were delineated per the following age-groups: 18-90 years (all-age decedents), 65+ years (older decedents), 18-64 years (younger decedents) and 18-54 years (the youngest decedents) with PMRs ranging from zero to infinity. These unadjusted COVID-19 PMRs were age-adjusted by 10-year age-group categories (8). For example, before age-adjustment, the unadjusted COVID-19 PMR for 18–90-year-old nurse anesthetists in the year 2020 was equal to 100 multiplied by ratio of proportion of COVID-19 deaths among 18–90-year-old nurse anesthetists in the year 2020 to proportion of COVID-19 deaths among all 18–90-year-old workers in the year 2020.

Essentially, when age-adjusted COVID-19 PMR for an age-grouped occupation was more than 100, it indicated that higher proportion of COVID-19 deaths occurred in that age-grouped occupation as compared to all workers in that age group; and when age-adjusted COVID-19 PMR for an age-grouped occupation was less than 100, it indicated that lower proportion of COVID-19 deaths occurred in that age-grouped occupation as compared to all workers in that age group. However, whenever COVID-19 PMRs' confidence intervals (lower confidence limits-upper confidence limits) included 100 within, those COVID-19 PMRs did not achieve statistical significance per chi-square test irrespective of whether COVID-19 PMRs were higher than, lower than, or equal to 100. Moreover, significance levels were either at *<0.05 level or at **<0.01 level (Tables 1-2) with higher significance levels suggesting precision with narrower confidence intervals.

Table 1 2020 COVID-19 Proportionate Mortality Ratios (PMRs): Occupation Titles With Significantly Lowest/Highest PMRs Per Age Groups

Occupation title	Total number of decedents in occupation title with COVID-19 as	Total number of decedents in	Proportionate Mortality Ratio (PMR)	PMR 95% Lower Confidence	PMR 95% Upper Confidence Limit (UCL)	Significance Level: *<0.05 **<0.0

	underlying cause of death N (%)	occupation title		Limit (LCL)		1
WITHIN THE AGE GROUP 18-90, TOTAL NUMBER OF DECEDENTS WITH COVID-19 AS UNDERLYING CAUSE OF DEATH BEING 251,591 (10.4%) AMONG THE TOTAL NUMBER OF DECEDENTS BEING 2,419,403						
MASSAGE THERAPISTS	38 (4.4)	872	47	33	65	**
NURSE ANESTHETISTS	18 (5.4)	332	50	30	79	**
HEALTH DIAGNOSING AND TREATING PRACTITIONERS, ALL OTHER	15 (5.3)	285	51	29	85	**
BIOLOGICAL SCIENTISTS	66 (5.6)	1187	52	40	66	**
ASTRONOMERS AND PHYSICISTS	35 (5.8)	599	52	37	73	**
FLIGHT ATTENDANTS	59 (5.6)	1054	53	41	69	**
WEB DEVELOPERS	15 (4.5)	337	54	30	89	*
COMPUTER AND INFORMATION RESEARCH SCIENTISTS	16 (5.7)	281	55	32	90	*
INFORMATION SECURITY ANALYSTS	13 (5.1)	255	55	29	94	*
MARINE ENGINEERS AND NAVAL ARCHITECTS	21 (6.1)	342	57	35	87	**
TRANSPORTATION ATTENDANTS, EXCEPT FLIGHT ATTENDANTS	69 (17.3)	400	167	130	211	**
HELPERS--PRODUCTION WORKERS	23 (15.8)	146	174	110	261	*
SHOE AND LEATHER WORKERS AND REPAIRERS	128 (19.2)	667	175	146	208	**
PARKING LOT ATTENDANTS	85 (17.6)	482	178	142	220	**
MISCELLANEOUS AGRICULTURAL WORKERS	2313 (19.6)	11806	193	188	199	**
AMBULANCE DRIVERS AND ATTENDANTS, EXCEPT EMERGENCY MEDICAL TECHNICIANS	65 (19.2)	339	195	151	249	**
DISHWASHERS	329 (17.8)	1845	196	176	219	**
AGRICULTURAL ENGINEERS	26 (21.5)	121	198	129	290	**
TAXI DRIVERS AND CHAUFFEURS	1295 (23.2)	5574	229	221	236	**
WITHIN THE AGE GROUP 65+, TOTAL NUMBER OF DECEDENTS WITH COVID-19 AS UNDERLYING CAUSE OF DEATH BEING 198,478 (11.3%) AMONG THE TOTAL NUMBER OF DECEDENTS BEING 1,759,004						
ASTRONOMERS AND PHYSICISTS	32 (5.8)	551	51	35	72	**
NURSE ANESTHETISTS	16 (5.9)	272	52	30	85	**
MASSAGE THERAPISTS	23 (5.9)	391	53	33	79	**
BIOLOGICAL SCIENTISTS	58 (6)	959	54	41	69	**
FLIGHT ATTENDANTS	46 (6.1)	757	54	39	72	**
TECHNICAL WRITERS	33 (6.7)	493	59	41	83	**
CONSERVATION SCIENTISTS AND FORESTERS	38 (6.8)	559	60	43	83	**
DIRECTORS, RELIGIOUS ACTIVITIES AND EDUCATION	16 (6.8)	237	60	34	97	*
SMALL ENGINE MECHANICS	27 (6.7)	403	60	39	87	**
PUBLIC RELATIONS AND FUNDRAISING MANAGERS	20 (6.9)	290	61	37	94	*
PRODUCERS AND DIRECTORS	52 (6.8)	761	61	45	80	**
MARINE ENGINEERS AND NAVAL ARCHITECTS	20 (7.1)	282	63	38	97	*
SHOE AND LEATHER WORKERS AND REPAIRERS	113 (19.3)	584	171	141	206	**
PARKING LOT ATTENDANTS	55 (19.4)	283	173	130	225	**
AMBULANCE DRIVERS AND ATTENDANTS, EXCEPT EMERGENCY MEDICAL TECHNICIANS	38 (21.2)	179	189	134	260	**
MISCELLANEOUS AGRICULTURAL WORKERS	1754 (22.2)	7913	197	191	203	**
TAXI DRIVERS AND CHAUFFEURS	787 (23)	3428	205	191	220	**

AGRICULTURAL ENGINEERS	24 (23.3)	103	206	132	307	**
DISHWASHERS	196 (23.6)	831	211	182	242	**
WITHIN THE AGE GROUP 18-64, TOTAL NUMBER OF DECEDENTS WITH COVID-19 AS UNDERLYING CAUSE OF DEATH BEING 53,113 (8%) AMONG THE TOTAL NUMBER OF DECEDENTS BEING 660,399						
FISHERS AND RELATED FISHING WORKERS	21 (2.2)	963	28	17	42	**
WRITERS AND AUTHORS	20 (2.6)	783	32	20	50	**
CEMENT MASONS, CONCRETE FINISHERS, AND TERRAZZO WORKERS	18 (2.6)	702	32	19	51	**
STRUCTURAL IRON AND STEEL WORKERS	21 (2.8)	748	35	22	54	**
LOGGING WORKERS	38 (3.3)	1136	40	28	55	**
MASSAGE THERAPISTS	15 (3.1)	481	41	23	67	**
SHIP AND BOAT CAPTAINS AND OPERATORS	11 (3.5)	316	41	20	73	**
BARTENDERS	77 (3.4)	2252	46	36	58	**
HOSTS AND HOSTESSES, RESTAURANT, LOUNGE, AND COFFEE SHOP	13 (2.9)	448	47	25	81	**
NONFARM ANIMAL CARETAKERS	24 (3.5)	690	47	30	71	**
SAILORS AND MARINE OILERS	12 (3.6)	331	47	24	83	**
MINING MACHINE OPERATORS	34 (4.2)	808	49	34	68	**
SOFTWARE DEVELOPERS, APPLICATIONS AND SYSTEMS SOFTWARE	61 (4)	1526	50	38	64	**
MILITARY COMMISSIONED OFFICERS AND WARRANT OFFICERS	17 (4)	424	50	29	80	**
AMBULANCE DRIVERS AND ATTENDANTS, EXCEPT EMERGENCY MEDICAL TECHNICIANS	27 (16.9)	160	204	135	298	**
FIRST-LINE SUPERVISORS OF CORRECTIONAL OFFICERS	25 (18.4)	136	207	134	306	**
TRANSPORTATION ATTENDANTS, EXCEPT FLIGHT ATTENDANTS	23 (17.6)	131	210	133	315	**
SHOE AND LEATHER WORKERS AND REPAIRERS	15 (18.1)	83	212	119	350	*
FIRST-LINE SUPERVISORS OF FARMING, FISHING, AND FORESTRY WORKERS	45 (18.8)	240	217	159	291	**
SEWING MACHINE OPERATORS	195 (19.7)	992	220	190	253	**
TAILORS, DRESSMAKERS, AND SEWERS	74 (20.6)	360	232	182	291	**
CLERGY	434 (23)	1887	259	235	284	**
TAXI DRIVERS AND CHAUFFEURS	508 (23.7)	2146	279	255	304	**
WITHIN THE AGE GROUP 18-54, TOTAL NUMBER OF DECEDENTS WITH COVID-19 AS UNDERLYING CAUSE OF DEATH BEING 19,831 (6.5%) AMONG THE TOTAL NUMBER OF DECEDENTS BEING 304,433						
SOFTWARE DEVELOPERS, APPLICATIONS AND SYSTEMS SOFTWARE	22 (2.8)	778	42	27	64	**
ARTISTS AND RELATED WORKERS	28 (2.6)	1086	44	29	63	**
WRITERS AND AUTHORS	12 (3)	397	46	24	81	**
COMPUTER PROGRAMMERS	17 (3.4)	507	47	28	76	**
MARKET RESEARCH ANALYSTS AND MARKETING SPECIALISTS	12 (3)	400	48	25	84	**
LOGGING WORKERS	14 (3.3)	430	48	26	81	**
WAITERS AND WAITRESSES	141 (2.6)	5487	49	41	58	**
MILITARY	63 (2.7)	2361	50	38	64	**
MILITARY NON-COMMISSIONED OFFICER AND OTHER ENLISTED PERSONNEL	16 (2.8)	572	50	29	82	**
MILITARY OCCUPATION BLANK	42 (2.6)	1591	51	37	69	**
PERSONAL FINANCIAL ADVISORS	13 (3.7)	348	52	28	89	*
ROOFERS	51 (3.2)	1596	52	39	68	**
FIRST-LINE SUPERVISORS OF POLICE AND DETECTIVES	23 (15.4)	149	197	125	295	**
DOOR-TO-DOOR SALES WORKERS, NEWS AND STREET VENDORS, AND RELATED	30 (13.8)	217	197	133	281	**

WORKERS						
PACKAGING AND FILLING MACHINE OPERATORS AND TENDERS	55 (12)	459	197	148	256	**
TAILORS, DRESSMAKERS, AND SEWERS	13 (14.9)	87	210	112	360	*
FOOD PROCESSING WORKERS, ALL OTHER	40 (12.5)	320	213	152	291	**
TRANSPORTATION ATTENDANTS, EXCEPT FLIGHT ATTENDANTS	11 (18.3)	60	254	127	455	**
CLERGY	127 (21.9)	581	281	234	334	**
TAXI DRIVERS AND CHAUFFEURS	187 (21.3)	877	294	253	339	**
FIRST-LINE SUPERVISORS OF FARMING, FISHING, AND FORESTRY WORKERS	18 (21.4)	84	296	175	468	**
SEWING MACHINE OPERATORS	59 (22.7)	260	301	229	388	**
AMBULANCE DRIVERS AND ATTENDANTS, EXCEPT EMERGENCY MEDICAL TECHNICIANS	19 (25)	76	351	211	548	**

Source: National Institute for Occupational Safety and Health (NIOSH): National Occupational Mortality Surveillance (NOMS)

Table 2: 2020 COVID-19 Proportionate Mortality Ratios (PMRs) Of Nine Occupational Titles Among Health Practitioners Per Age Groups

Occupation title	Total number of decedents in occupation title with COVID-19 as underlying cause of death N (%)	Total number of decedents in occupation title	Proportionate Mortality Ratio (PMR)	PMR 95% Lower Confidence Limit (LCL)	PMR 95% Upper Confidence Limit (UCL)	Significance Level: *<0.05 **<0.01
WITHIN THE AGE GROUP 18-90, TOTAL NUMBER OF DECEDENTS WITH COVID-19 AS UNDERLYING CAUSE OF DEATH BEING 251,591 (10.4%) AMONG THE TOTAL NUMBER OF DECEDENTS BEING 2,419,403						
CHIROPRACTORS	50 (7.9)	634	75	56	99	*
DENTISTS	229 (9.7)	2358	88	77	101	Not Significant
PHYSICIANS AND SURGEONS	1059 (11.3)	9406	103	98	109	Not Significant
PHYSICIAN ASSISTANTS	68 (11.1)	615	107	83	136	Not Significant
PODIATRISTS	16 (14.2)	113	130	74	212	Not Significant
VETERINARIANS	70 (9.4)	744	88	69	112	Not Significant
REGISTERED NURSES	4539 (10)	45271	93	91	96	**
NURSE ANESTHETISTS	18 (5.4)	332	50	30	79	**
NURSE PRACTITIONERS	72 (8.8)	815	86	67	108	Not Significant
WITHIN THE AGE GROUP 65+, TOTAL NUMBER OF DECEDENTS WITH COVID-19 AS UNDERLYING CAUSE OF DEATH BEING 198,478 (11.3%) AMONG THE TOTAL NUMBER OF DECEDENTS BEING 1,759,004						
CHIROPRACTORS	37 (8.4)	442	74	52	103	Not Significant
DENTISTS	203 (9.8)	2072	87	75	99	*
PHYSICIANS AND SURGEONS	917 (11.5)	7996	102	95	108	Not Significant
PHYSICIAN ASSISTANTS	54 (12.8)	423	114	85	148	Not Significant
PODIATRISTS	14 (15.4)	91	136	75	229	Not Significant
VETERINARIANS	63 (10.5)	602	93	71	119	Not Significant
REGISTERED NURSES	3662 (10.2)	36017	90	87	93	**

NURSE ANESTHETISTS	16 (5.9)	272	52	30	85	**
NURSE PRACTITIONERS	39 (7.3)	536	65	46	89	**
WITHIN THE AGE GROUP 18-64, TOTAL NUMBER OF DECEDENTS WITH COVID-19 AS UNDERLYING CAUSE OF DEATH BEING 53,113 (8%) AMONG THE TOTAL NUMBER OF DECEDENTS BEING 660,399						
CHIROPRACTORS	13 (6.8)	192	78	41	133	Not Significant
DENTISTS	26 (9.1)	286	105	68	154	Not Significant
PHYSICIANS AND SURGEONS	142 (10.1)	1410	118	99	139	Not Significant
PHYSICIAN ASSISTANTS	14 (7.3)	192	87	48	147	Not Significant
PODIATRISTS	<11	-	-	-	-	-
VETERINARIANS	<11	-	-	-	-	-
REGISTERED NURSES	877 (9.5)	9254	110	103	117	**
NURSE ANESTHETISTS	<11	-	-	-	-	-
NURSE PRACTITIONERS	33 (11.8)	279	138	95	194	Not Significant
WITHIN THE AGE GROUP 18-54, TOTAL NUMBER OF DECEDENTS WITH COVID-19 AS UNDERLYING CAUSE OF DEATH BEING 19,831 (6.5%) AMONG THE TOTAL NUMBER OF DECEDENTS BEING 304,433						
CHIROPRACTORS	<11	-	-	-	-	-
DENTISTS	<11	-	-	-	-	-
PHYSICIANS AND SURGEONS	26 (4.7)	549	65	42	95	*
PHYSICIAN ASSISTANTS	<11	-	-	-	-	-
PODIATRISTS	<11	-	-	-	-	-
VETERINARIANS	<11	-	-	-	-	-
REGISTERED NURSES	275 (8.1)	3391	111	98	125	Not Significant
NURSE ANESTHETISTS	<11	-	-	-	-	-
NURSE PRACTITIONERS	14 (11.2)	125	147	80	246	Not Significant

Source: National Institute for Occupational Safety and Health (NIOSH): National Occupational Mortality Surveillance (NOMS)

Among a total of 572 occupation titles/codes for each of the four age groups, occupation titles/codes with <11 COVID-19 decedents were suppressed for confidentiality and thus COVID-19 PMRs were not calculated for those suppressed occupation titles/codes (9). When COVID-19 PMRs for occupation titles/codes with 11-19 decedents were calculated despite their potential for unreliable significance level due to smaller sample sizes (10), some of such occupational titles with "unreliable" COVID-19 PMRs have been tabulated in Table 1 depicting occupation titles with significantly lowest/highest PMRs per age groups as well as in Table 2 depicting nine occupational titles among health practitioners per age groups.

In terms of deducing association between the underlying causes of death like COVID-19 and decedents' reported usual or longest held occupations, cause-specific PMRs like COVID-19 PMRs are potential indicators of (a) positive association when significantly higher than 100, (b) inverse association when significantly lower than 100, and (c) no-association when their confidence intervals either include 100, begin at 100, or end at 100. However, such cause-specific PMRs like COVID-19 PMRs are depicting comparisons of decedents in specific occupations with the decedents amongst the overall worker population. Therefore, they may NOT effectively deduce comparisons between the decedents of one occupation with the decedents of another occupation despite the non-overlapping confidence intervals of multiple occupations' significant COVID-19 PMRs potentially indicating their PMRs as significantly different amongst themselves too. For example, in Table 1, significant

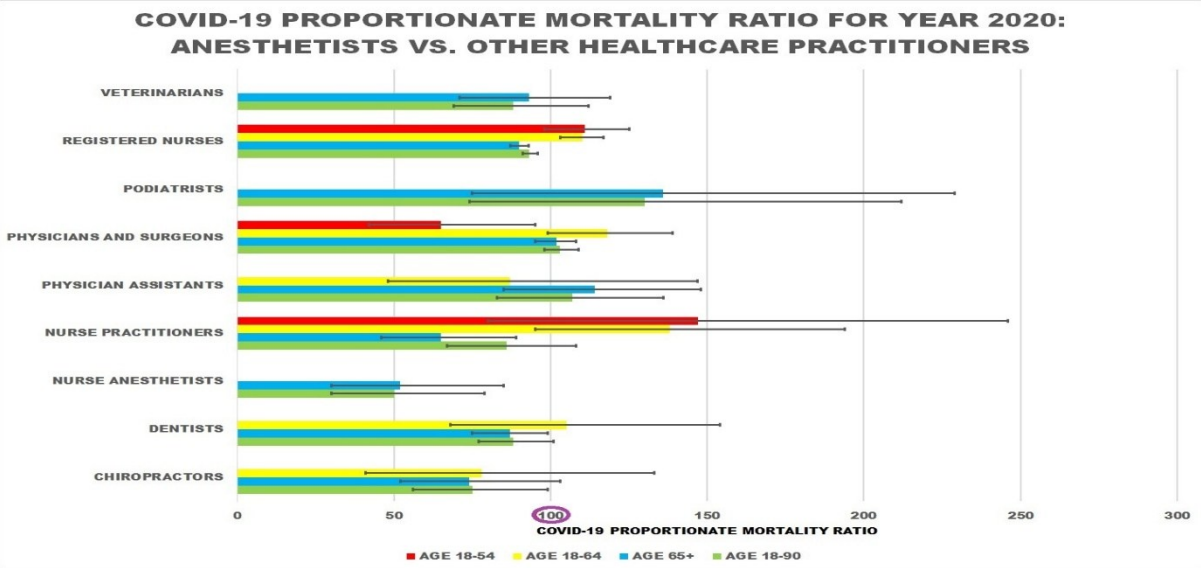
COVID-19 PMR at **<0.01 level as 229 (95% CI: 221-236) for 18–90-year-old taxi drivers and chauffeurs was significantly different with non-overlapping confidence interval from significant COVID-19 PMR at **<0.01 level as 193 (95% CI: 188-199) for 18–90-year-old miscellaneous agricultural workers thus potentially implicating that among 18–90-year-olds, the occupation of taxi drivers and chauffeurs might have had significantly more positive association with COVID-19 deaths than the occupation of miscellaneous agricultural workers.

As detailed in Table 2 and diagrammed in Figure 1, although all-age (18–90-year-old) nurse anesthetists as well as older (65+ year-old) nurse anesthetists had significant COVID-19 PMRs at **<0.01 level with PMRs being lower than 100 implicating an inverse association between their occupation and COVID-19 as the underlying cause of their deaths, the results might be deemed "unreliable" due to <20 decedents in either age group. Anyhow, inverse association between COVID-19 and deaths amongst nurse anesthetists in the U.S. may be a proxy indicator of a potentially inverse association between COVID-19 and deaths amongst anesthesiologists across the world wherever anesthesiologists personally deliver anesthesia to their patients and stay with their patients during the entirety of peri-anesthesia period while following the peri-anesthesia standards of personal protective equipment use as analogous to their use standards followed by nurse anesthetists in the U.S. Interestingly, preponderance of female gender amongst nurse anesthetists with female gender itself potentially protective against COVID-19 and its complications including mortality might have contributed to this inverse association (11-12). Correspondingly, a "reliable" inverse association between COVID-19 and deaths amongst physicians and surgeons including U.S. anesthesiologists was only deduced amongst 18–54-year-old workers with significant COVID-19 PMR at *<0.05 level with PMR being lower than 100. However, U.S. anesthesiologists have multifaceted roles during anesthesia delivery with varying degrees of personally performing, medical direction, and medical supervision of anesthesia procedures which may not be equivalent to the level of occupational exposure as pertaining to COVID-19 among nurse anesthetists in the U.S. and anesthesiologists outside-the-U.S. staying with their patients during the entirety of peri-anesthesia period. Contrastingly, Kiang et al had reported excess mortality among 45–84-year-old U.S. physicians over a 22-month period (March 2020 – December 2021) based on American Medical Association (AMA) Physician Masterfile and AMA Deceased Physician File not containing their causes of death but investigating COVID-19 as potential contributor to their deaths (13). Anyhow, significant COVID-19 PMRs lower than 100 thus depicting inverse association between COVID-19 and deaths amongst U.S. anesthetists and many if not all healthcare practitioner occupations (Table 2) could be reflective of potentially effective use of personal protective equipment by them, decreased volumes of elective surgical procedures and elective healthcare visits in the U.S. during shutdowns/lockdowns, and other unknown unknowns such as healthcare practitioners' own diverse microbiomes secondary to lifelong occupational exposures potentially protecting them and keeping them protected during anesthesia and other healthcare delivery in the pre-vaccination COVID-19 pandemic era (14-17).

Few limitations specific to this public use data exploration were that (a) U.S. anesthesiologists were not coded as a separate occupation unlike nurse anesthetists, only whose data could be extrapolated to anesthetists outside-the-U.S. like those practicing anesthesia in India; and (b) sex-grouped, race-grouped, and ethnicity-grouped COVID-19 PMRs were not calculated to avoid classification bias secondary to potential discordance between self-identified demographics and observer-identified demographics considering that eliciting self-identified gender, race and ethnicity could not be feasible from decedents (18).

Summarily, all-age (18–90-year-old) and older (65+ year-old) nurse anesthetists in the U.S. as well as the youngest (18–54-year-old) physicians and surgeons including U.S. anesthesiologists had significantly lower proportions of COVID-19 deaths as compared to COVID-19 deaths among all correspondingly age-grouped U.S. workers during the pre-vaccination COVID-19 pandemic era in the year 2020.

Figure 1: Pre-vaccination pandemic era COVID-19 proportionate mortality ratios for the year 2020 grouped by healthcare practitioners' age-groups: Nurse anesthetists vs. other healthcare practitioners (Source: National Institute for Occupational Safety and Health (NIOSH): National Occupational Mortality Surveillance (NOMS))



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Authors Contribution

All authors have contributed equally.

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Conflict of Interest

There are no conflicts of interest.

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