

Knowledge and Concern of Workplace Safety Among US Pediatric Dentists

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BACKGROUND

- Dentistry uniquely exposes personnel to numerous potential occupational risks that can affect health and quality of life¹⁻⁴
- Most literature does not classify occupational risks by specialty and there is a need for more focused data on workplace safety knowledge and concerns in the specialty of pediatric dentistry
- The number of female dentists in pediatric dentistry is growing significantly⁵ and this shift might affect the profession's outlook and priorities when it comes to occupational risks and safety

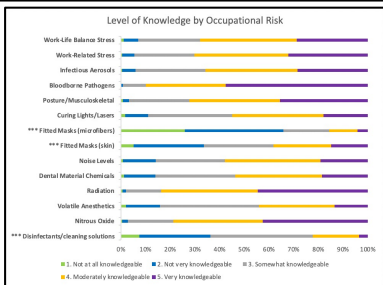
PURPOSE

- To assess knowledge and concern of workplace health risks and safety among US pediatric dentists and identify demographic associations
- To identify the sources of education and recognize areas for improvement in occupational health risks education

METHODS

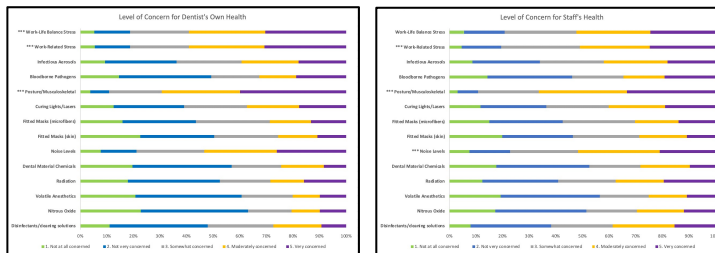
- An anonymous electronic survey via REDCap (Research Electronic Data Capture) was sent to 7009 US pediatric dentists that are members of the American Academy of Pediatric Dentistry
- Demographical data was collected (scan QR code), N=453
- Logistic regression performed and associations analyzed
- Odds ratios were calculated with a 95% confidence interval and statistical significance set at P = 0.05

RESULTS



Graph 1 *** Marks the categories with the lowest level of knowledge

RESULTS (CONTINUED)



Graph 2

*** Marks the categories with the highest level of concern

Graph 3

Demographics	Significant Associations of Concern or Knowledge	Occupational Risk Mentioned in Survey	P Value
Female vs. Male	More concerned	Disinfectants/cleaning solutions- Own health	0.0002
	More concerned	Disinfectants/cleaning solutions- Staff's health	0.003
	More concerned	Nitrous oxide effects- Own health	0.02
	More concerned	Radiation effects- Own health	0.02
	More concerned	Radiation effects- Staff's health	0.04
	Less knowledgeable	Dental material chemicals effects- Knowledge	0.009
	More concerned	Dental material chemicals effects- Own health	0.005
	More concerned	Dental material chemicals effects- Staff's health	0.01
	More concerned	Prolonged wear of fitted masks effects- Own skin health	0.002
	More concerned	Prolonged wear of fitted masks effects- Staff's skin health	0.006
	More concerned	Inhalation of fibers from fitted masks effects- Own health	<0.0001
	More concerned	Inhalation of fibers from fitted masks effects- Staff's health	<0.0001
Employee/associate vs. Dentist/co-owner	More concerned	Curing lights and lasers effects- Own health	0.02
	More concerned	Curing lights and lasers effects- Staff's health	0.03
	More concerned	Infectious respiratory fluids, toxins in aerosols effects- Own health	0.03
	More concerned	Infectious respiratory fluids, toxins in aerosols effects- Staff's health	0.03
	More concerned	Disinfectants/cleaning solutions- Own health	0.002
	More concerned	Disinfectants/cleaning solutions- Staff's health	0.03
	More concerned	Nitrous oxide effects- Own health	0.0001
	More concerned	Nitrous oxide effects- Staff's health	0.002
	More concerned	Volatile anesthetics effects- Own health	0.01
	More concerned	Volatile anesthetics effects- Staff's health	0.009
	More concerned	Radiation effects- Own health	0.0002
	More concerned	Radiation effects- Staff's health	0.0008
Academic/practice vs. Dentist/co-owner	More concerned	Dental material chemicals effects- Own health	0.003
	More concerned	Dental material chemicals effects- Staff's health	0.01
	More concerned	Prolonged wear of fitted masks effects- Staff's skin health	0.02
	More concerned	Inhalation of fibers from fitted masks effects- Own health	0.005
	More concerned	Inhalation of fibers from fitted masks effects- Staff's health	0.004
	More concerned	Bloodborne pathogens transmission- Own health	0.03
	More concerned	Infectious respiratory fluids, toxins in aerosols effects- Own health	0.04
	More concerned	Infectious respiratory fluids, toxins in aerosols effects- Staff's health	0.04
	More concerned	Disinfectants/cleaning solutions- Own health	0.007
	More concerned	Dental material chemicals effects- Own health	0.03
	More concerned	Dental material chemicals effects- Staff's health	0.02
	More concerned	Inhalation of fibers from fitted masks effects- Own health	0.03
Less than part time practice (<20 hrs/week vs. Full time practice (>30 hrs/week))	Less knowledgeable	Radiation effects on health- Knowledge	0.02
	Less knowledgeable	Bloodborne pathogens transmission- Knowledge	0.05
	Less concerned	Effects of work-related stress- Own health	0.03
	More knowledgeable	Effects of repeated exposures to high intensity- Knowledge	0.03
	More knowledgeable	Prolonged wear of fitted masks effects- Knowledge	0.03
	More concerned	Curing lights and lasers effects- Own health	0.05
	More knowledgeable	Inhalation of fibers from fitted masks effects- Knowledge	0.04
Age in years	More knowledgeable	Effects of repeated exposures to high intensity- Knowledge	0.03
	More knowledgeable	Prolonged wear of fitted masks effects- Knowledge	0.03
	More concerned	Curing lights and lasers effects- Own health	0.05
	More knowledgeable	Inhalation of fibers from fitted masks effects- Knowledge	0.04

Associations Table

DISCUSSION

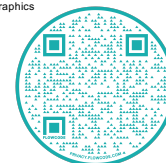
- Respondents are more knowledgeable about well-researched and documented workplace risks such as those from blood-borne pathogens and radiation but less knowledgeable about recently highlighted risks of fitted masks and disinfectants/cleaning solutions
- Similar to other reports⁶⁻¹⁰, pediatric dentists are most concerned about the effects of poor posture on their musculoskeletal health followed by work-related and work-life balance stress
- Top concerns for staff's health include effects from work-related stress, poor postures, and noise levels
- Almost all (97%) believe that education about occupational risks should be incorporated in dental school and residency education curricula
- Limitations include a low response rate, overrepresentation of pediatric dentists in academic practice, and possible lower reported concern levels with workplace safety after the more robust safety protocols implemented during the pandemic

CONCLUSIONS

- Females showed significantly more concern about the effect of various workplace health risks on both their own health and the health of their staff, who were mostly female
- Employee/associate pediatric dentists and those who work in an academic practice showed significantly more concern than owner/co-owner colleagues about the effects of various workplace health risks on their own health and the health of their staff
- The most commonly reported source of information on workplace risks and risk mitigation was self-guided study and research followed by CE courses, which demonstrates provider interest in these topics and the need to incorporate education on these topics during dental school and residency

REFERENCES

Scan for References and Demographics



83.2%
Said the pandemic made them re-evaluate and change other office safety protocols

71.1%
Have a written risk management and risk reduction plan in place

Educational sources for occupational risks in dentistry and risk mitigation:
 • Self-guided study and research 79.5%
 • CE courses 75.7%
 • Pediatric Dentistry Residency 54.7%
 • Dental School 48.6%