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北里大学
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Factors on working conditions and prolonged fatigue among physicians in Japan

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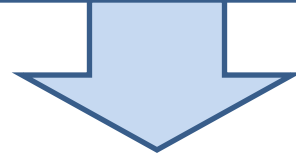
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Purpose of the study

To obtain basic data for improving working conditions among health care workers



To determine the working condition factors associated with prolonged fatigue among physicians in Japan

Introduction

Unfavorable working conditions for physicians

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graph TD; A[Unfavorable working conditions for physicians] --> B[Affecting physicians' health]; B --> C[Decreasing work performance and affecting patients' safety];
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Affecting physicians' health

Decreasing work performance and affecting patients' safety

Major issues to ensure better patient outcomes and physicians' health

- Sleep deprivation
- Long working hours
- Fatigue
- Stress
- Diseases (mental health)
- Work/life balance

Participants and methods

- All the physicians who graduated from a medical school in Japan from 1986 to 2003 (1,746 persons)
- Anonymous self-administered questionnaire on working conditions with the checklist of individual strength
- 540 men and 158 women completed the questionnaire, and 34 declined to answer

Working condition factors

- Workload
- Career satisfaction
- Patient care issues
- Relationships with other physicians
- Personal time
- Administrative work
- Relationships with staff
- Relationships with patients
- Hospital resources
- Income fairness

Checklist of Individual Strength (CIS)

- Originally developed for chronic fatigue syndrome and validated to measure prolonged fatigue among workers (Vercoulen et al.)
- 20 questions on a 7-point Likert scale (range, 20 - 140)
- Subscales
 1. subjective feelings of fatigue
 2. concentration
 3. motivation
 4. physical activity

Statistics

Multiple regression analysis by a forward selection to examine the associations between the working condition factors and prolonged fatigue

Step 1: workload, career satisfaction, and patient care issues

Step 2: administrative work, relationships with other physicians, and personal time were added

Step 3: other factors were added

Characteristics of the participants

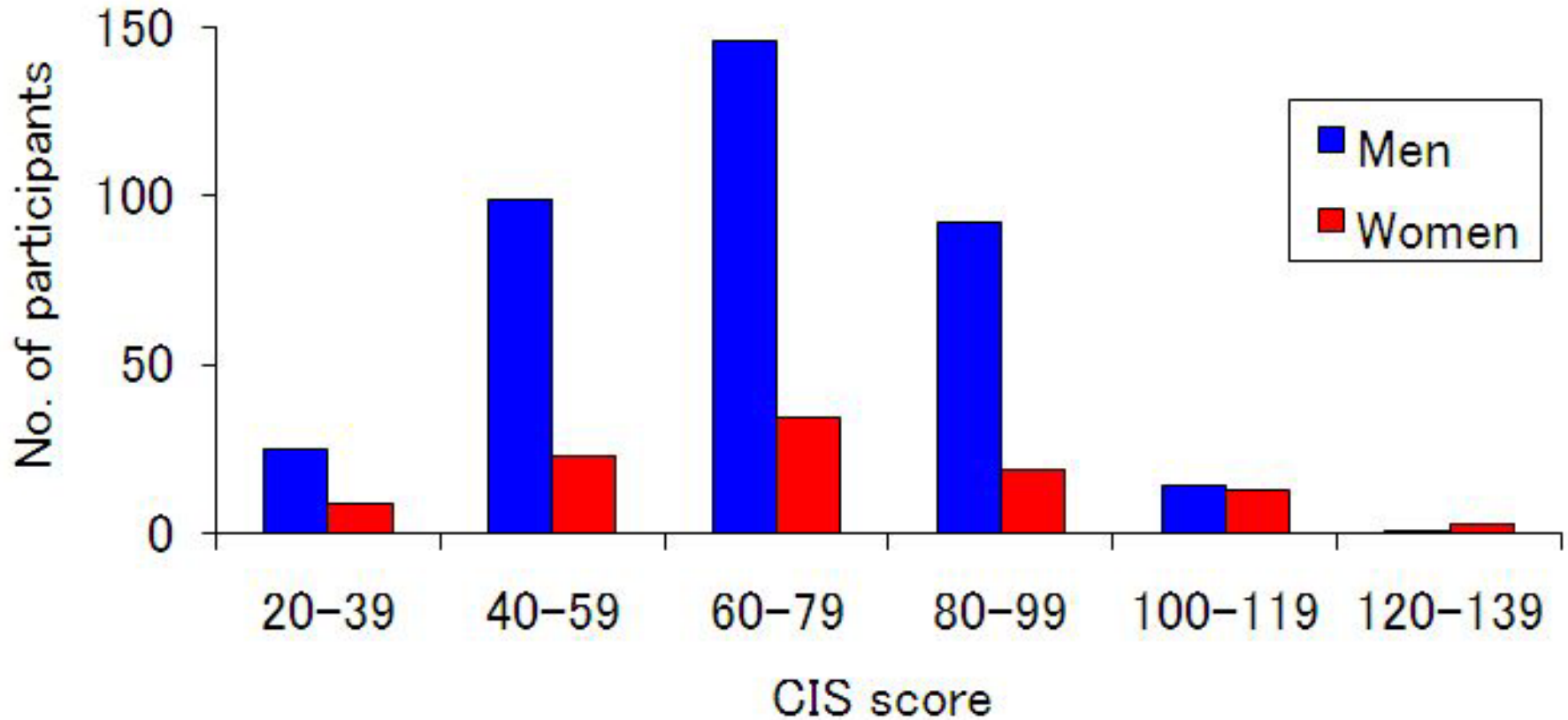
	Men	Women
	n = 377	n = 101
Age (y)		
27-29	28	18
30-39	134	53
40-49	206	28
50-59	18	3
60+	1	0

The scores of working conditions

Medians (Interquartile ranges)

	Men	Women
Workload	11.0 (10.0-13.0)	10.0 (9.0-12.0)
Career satisfaction	7.0 (6.0-8.0)	6.0 (4.0-7.0)
Patient care issues	17.0)	17.0)
Relationships with other physicians	15.0 (13.0-16.0)	14.0 (13.0-16.0)
Personal time	12.0 (9.0-14.0)	13.0)
Administrative work	8.0 (6.0-9.0)	7.0 (6.0-8.0)
Relationships with staff	15.0 (13.0-16.0)	15.0 (14.0-16.0)
Relationships with patients	10.0 (8.0-11.0)	8.0 (7.0-9.0)
Hospital resources	12.0)	10.0 (8.5-12.0)
Income fairness	6.0 (4.0-8.0)	7.0 (5.0-8.0)

Distribution of the CIS score



Step 1

Variables	Men			Women		
	Beta	<i>P</i> value	R ² change	Beta	<i>P</i> value	R ² change
<i>Step 1</i>			0.20			0.29
Harder workload	0.20	<0.001		0.43	<0.001	
Better career satisfaction	-0.23	<0.001		-0.23	0.01	
Poor patient care issues	0.25	<0.001		0.12	0.20	

Step 2

Variables	Men			Women		
	Beta	P value	R ² change	Beta	P value	R ² change
<i>Step 1</i>			0.20			0.29
Harder workload	0.15	<0.001		0.43	<0.001	
Better career satisfaction	-0.26	<0.001		-0.28	0.006	
Poor patient care issues	0.22	<0.001		0.14	0.16	
<i>Added in step 2</i>			0.06			0.04
Better relationships with other physicians	-0.23	<0.001		0.01	0.90	
Less personal time	0.01	0.88		-0.26	0.01	
Harder administrative work	0.11	0.06		0.10	0.14	

Step 3

Variables	Men			Women		
	Beta	<i>P</i> value	R ² change	Beta	<i>P</i> value	R ² change
<i>Added in step 3</i>			0.02			0.03
Better relationships with staff	-0.10	0.04		-0.06	0.52	
Better relationships with patients	-0.09	0.04		-0.03	0.73	
Better resources at hospitals	0.01	0.95		-0.17	0.08	
More fair income	-0.03	0.59		0.11	0.28	
Age	-0.01	0.90		0.04	0.66	

The final model of prolonged fatigue with working condition factors

	Men		Women	
	Beta	<i>P</i> value	Beta	<i>P</i> value
Harder workload	0.17	0.001	0.52	<0.001
Better career satisfaction	-0.14	0.004	-0.22	0.01
Poor patient care issues	0.23	<0.001		
Better relationships with other physicians	-0.19	<0.001		
Less personal time			-0.25	0.01
Harder administrative work	0.12	0.03		
Better relationships with staff	-0.10	0.04		
Better relationships with patients	-0.08	0.04		
Better resources at hospitals			-0.19	0.04

Discussion

- Some associations between working conditions and prolonged fatigue were different between men and women.
- Workload and career satisfaction were associated with prolonged fatigue.

- Poor patient care issues might be caused by changing patient-physician relationships
- Relationships with other physicians and staff should be considered at hospitals
- Less personal time was negatively associated with prolonged fatigue for women

A few limitations

- Causal relationships not determined
- Generalizability of our results to the entire Japanese physicians not confirmed
- Participants might be biased
- Other factors not included
- The response rate not ideal

Conclusions

- Associations between working conditions and prolonged fatigue were identified
- Comprehensive occupational health approaches could handle some of them
- Career development for physicians needs to be discussed

Future tasks

- The Japan Medical Association established a project team to support physicians' health and working conditions in 2008
- Support grass-root activities for improving working conditions at hospitals

Acknowledgements

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