Smjenski rad i zdravlje radnika

Shift work and workers health

Tanja Lelas
Ines Kovačević Cvetko
Mirjana Ptičar
Ines Ostović
SHIFT WORK

- Economic and technological progress - market globalisation

- Shift work- time schedule is permanent or frequently out of standard daily working hours (8-16 h)

- Night work-working time between 22-6 h

- 20% workers in Europe and North America work in shifts or at night

- healthcare, firefighting, traffic, textile, chemical, food industry,…
Health problems:
- Sleeping problems and chronic fatigue
- Reproductive, gastrointestinal and psychic disorders
- Cardiovascular and metabolic diseases
- Carcinoma
- 20% leaves shift work during first year
- 10% has no complaints on shift work
- Frequent sickness absence
- Older workers and workers with longer night work experience have higher risk for chronic diseases
- Social isolation
- Bad habits (smoking, alcoholic and stimulating drinks)
AIM:
- To determine how shift workers assess their health
- Assessment of their health compared to the general population of Croatia

METHOD:
- SF-36 Health Survey
- 8 scales
- 3 general dimensions: physical, general and mental health
- Higher score indicate better assessment of health (scale 0-100)
SF-36 Health Survey

Items

- 3a. Vigorous Activities
- 3b. Moderate Activities
- 3c. Lift, Carry Groceries
- 3d. Climb Several Flights
- 3e. Climb One Flight
- 3f. Bend, Kneel
- 3g. Walk Mile
- 3h. Walk Several Blocks
- 3i. Walk One Block
- 3j. Bathe, Dress

- 4a. Cut Down Time
- 4b. Accomplished Less
- 4c. Limited in Kind
- 4d. Had Difficulty

- 7. Pain-Magnitude
- 8. Pain-Interference

- 1. EVGFP Rating
- 11a. Sick Easier
- 11b. As Healthy
- 11c. Health To Get Worse
- 11d. Health Excellent

- 9a. Pep/Life
- 9e. Energy
- 9g. Worn Out
- 9i. Tired

- 6. Social-Extent
- 10. Social-Time

- 5a. Cut Down Time
- 5b. Accomplished Less
- 5c. Not Careful

- 9b. Nervous
- 9c. Down in Dumps
- 9d. Peaceful
- 9f. Blue/Sad
- 9h. Happy

Scales

- Physical Functioning (PF)
- Role-Physical (RP)
- Bodily Pain (BP)
- General Health (GH)*
- Vitality (VT)*
- Social Functioning (SF)*
- Role-Emotional (RE)
- Mental Health (MH)

Summary Measures

- Physical Health
- General Health
- Mental Health
SUBJECTS

- 540 shift workers who work 12h night shifts
- 261 chemical, 195 firefighting, 84 medical services
- 460 (85,5%) male, 78 (14,5%) female
- Age average: 43.57y (SD=9.46, min=20, max=62)
- Night work experience: 20.17y (SD= 9.69 )
- Night shifts monthly: 7.89 (SD= 2.05 )
### RESULTS

<table>
<thead>
<tr>
<th>Scale</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical Health</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical functioning – PF</td>
<td>80,17</td>
<td>21,60</td>
<td>14 - 100</td>
</tr>
<tr>
<td>Role-physical – RP</td>
<td>82,67</td>
<td>21,06</td>
<td>5 – 100</td>
</tr>
<tr>
<td>Bodily pain – BP</td>
<td>81,49</td>
<td>32,63</td>
<td>0 – 100</td>
</tr>
<tr>
<td><strong>General health</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Health – GH</td>
<td>66,03</td>
<td>16,30</td>
<td>7,50 - 100</td>
</tr>
<tr>
<td>Vitality – VT</td>
<td>68,78</td>
<td>17,84</td>
<td>5 – 100</td>
</tr>
<tr>
<td><strong>Mental Health</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social functioning – SF</td>
<td>76,50</td>
<td>24,16</td>
<td>0 – 100</td>
</tr>
<tr>
<td>Role-emotional – RE</td>
<td>81,49</td>
<td>32,63</td>
<td>0 – 100</td>
</tr>
<tr>
<td>Mental health – MH</td>
<td>71,93</td>
<td>15,95</td>
<td>2 - 100</td>
</tr>
</tbody>
</table>

*M* = arithmetic mean; *SD* = standard deviation
## RESULTS

<table>
<thead>
<tr>
<th>HEALTH DIMENSION</th>
<th>Male (N=458) M (SD)</th>
<th>Female (N=78) M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Health</td>
<td>82.84 (19.48)</td>
<td>64.33 (24.47)</td>
</tr>
<tr>
<td>General Health</td>
<td>68.06 (15.45)</td>
<td>54.38 (16.19)</td>
</tr>
<tr>
<td>Mental Health</td>
<td>80.96 (17.24)</td>
<td>68.34 (20.40)</td>
</tr>
</tbody>
</table>

### Chart

- **Physical Health**
- **General Health**
- **Mental Health**

**Legend:**
- **M** (Male)
- **F** (Female)
RESULTS - MALE SHIFT WORKERS

20 – 34 years

35 – 44 years

45 – 54 years

55 – 64 years

GENERAL POPULATION
M SHIFT WORKERS
(N=74)

GENERAL POPULATION
M SHIFT WORKERS
(N=146)

GENERAL POPULATION
M SHIFT WORKERS
(N=156)

GENERAL POPULATION
M SHIFT WORKERS
(N=73)
RESULTS - FEMALE SHIFT WORKERS

20–34 years

35–44 years

45–54 years

55–64 years

Median ages:
- GENERAL POPULATION
- F SHIFT WORKERS
Comparison of services on SF-36 health scales
CONCLUSION

- Shift workers assessed their health as satisfactory
- Lowest score in General Health and highest in Physical Health dimension
- Female assess their health worse compare to men
- Lower score in Social Functioning for younger and older male workers
- Sensitivity of women childbearing age, especially in scales Vitality and Bodily Pain
- Shift work - a risk factor for workers health in combination with other psychosocial risks