

NIGHT-WORK AND HEALTH

a study on a population
of workers in the Metropolitan
Area of Florence, Italy



Manfredi MONTALTI, Nicola MUCCI,
Costanza BINI, Francesco SOFI,
Vincenzo CUPELLI, Giulio ARCANGELI

Università degli Studi di
Firenze
University of
Firenze
Department of Public Health
Occupational Health Section



24-hours society

Tesco extra supermarket, Manchester
open 24 hours a day Monday to Saturday



In the contemporary 24-hours society
night-work affects almost *all areas of
employment*, representing
an *emerging issue* in Occupational Health

1970

2010

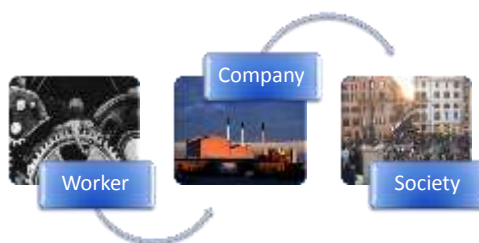
Night work and health



Man is
a diurnal animal



Potential costs



Aims of the study

Evaluation of
the impact of
night work on health

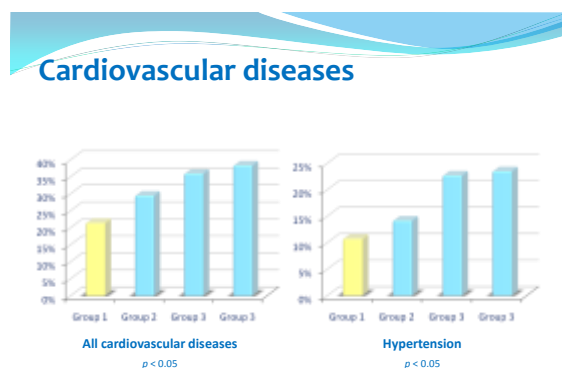
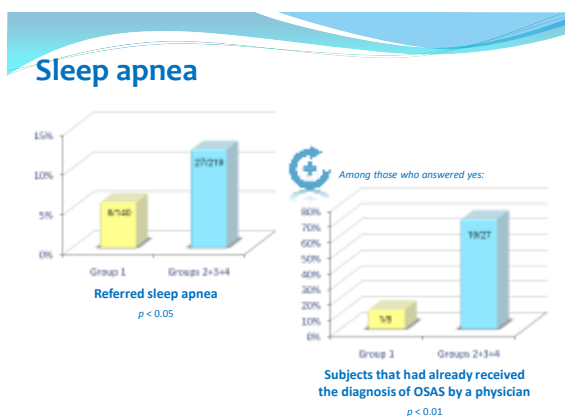
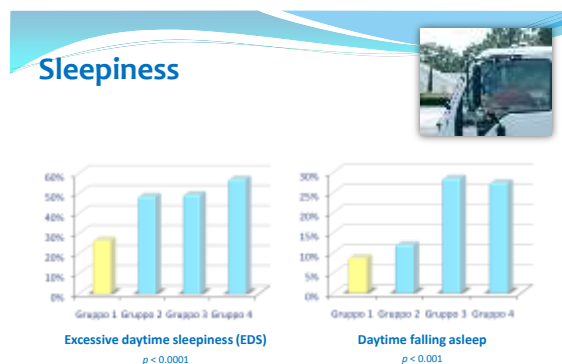
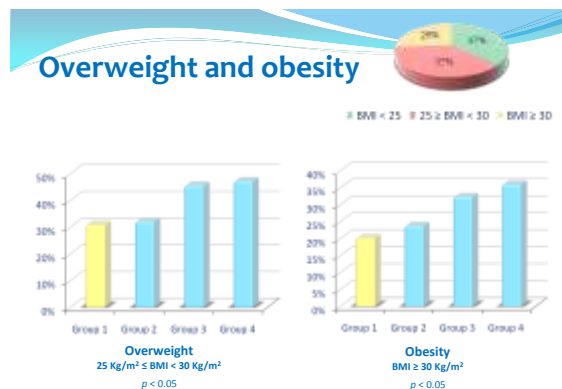
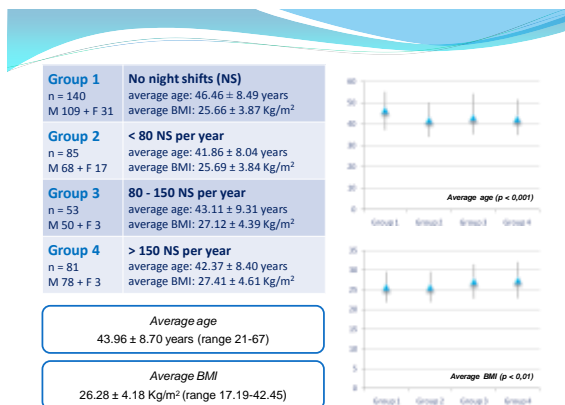
Identification
of intervention
strategies



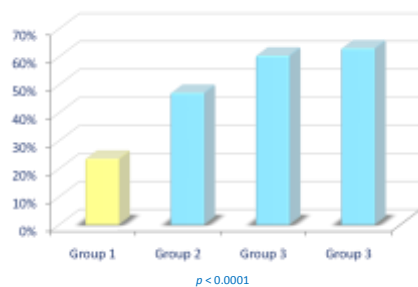
Population of the study

Led administration to **359 workers** of the
AIMS screening questionnaire
for occupational physicians
with our integrations

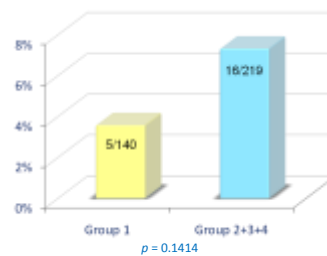




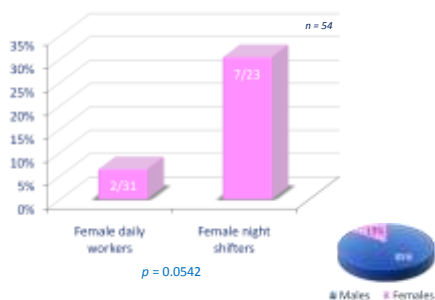
Gastrointestinal diseases



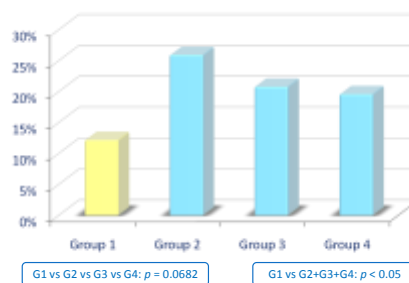
Diabetes



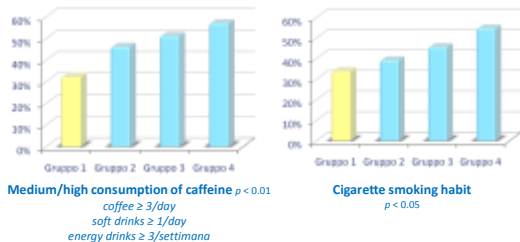
Menstrual disorders



Mood disorders

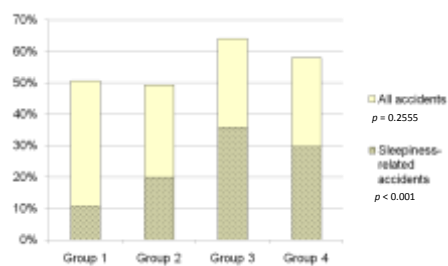


Psychoactive substances consumption

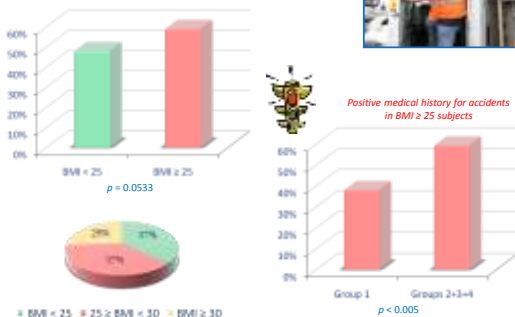


No significant differences regarding alcohol and hypnotic drugs intake

Occupational- and work-accidents



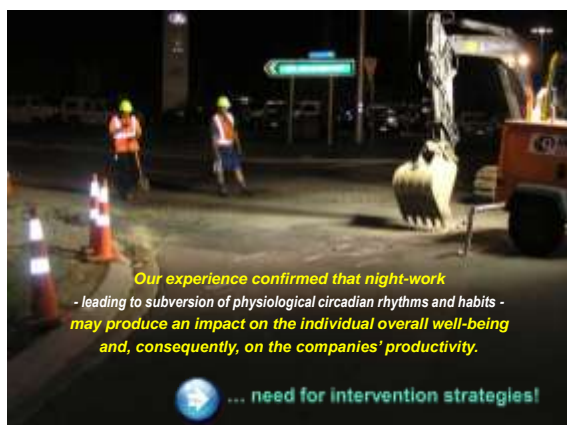
Accidents and BMI



G4: better results than in G3?

Hypotheses

- In people who constantly work at night there may be a **resynchronization of the circadian rhythm** with a reverse reset effect
- Possible "healthy worker" effect in G4
- Low compliance of G4 workers in responding to the questionnaire



Intervention strategies

A biologically optimal shift-schedule doesn't exist!



1. Intervention on work organization
2. Intervention on workers



1. Work organization



Shifts scheduling according to bio-ergonomic criteria



Forward-rotating schedule

it helps the natural extension of biological rhythms
it allows homogeneous periods of rest between each work shift



Costa G. Giornale Italiano di Medicina del Lavoro ed Ergonomia 2008; 30: 280-282
Sallinen M, Kecklund G. Scandinavian Journal of Work, Environment & Health 2010; 36: 121-133

... and if isn't possible to choose a forward-rotating schedule?

- Regular shift cycles to allow more possible non-working weekends
- 24 hours of rest after each night shift
- Limit the number of consecutive nights (two at most)
- Define the duration of the night shift considering the workload for each task
- Ergonomic optimization of working places (lighting, microclimate, noise)



2. Workers

The role of occupational physician

Health surveillance

Mandatory according to D.Lgs. 81/2008

Health promotion

Optional participation of workers



Preventive actions

collective

Lifestyle
Sleep hygiene
Substances of abuse

individual

Clinical parameters
Routine blood tests
Risk factors

Night work and nutrition

Dietary habits may be influenced by living with variable times



Canteen open during the night

*It offers a hot and good quality meal
It educates the workers to a regular feeding*

*A well done
shift scheduling*

*A really
effective
intervention*

Economic benefits

Increased
productivity

Costs
reduction

Optimization
of human resources



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University of Florence - Department of Public Health - Occupational Health Section
Florence, Italy



Thanks