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Heat exposure is perceived as a problem by Finnish indoor workers during summer

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STATEMENT SLIDE

I have no conflicts of interest to disclose

Introduction

Climate change increases outdoor air temperature and may also cause an increment to the room temperature of indoor workplaces in Finland.

Purpose of this study was to investigate the extent of summertime heat problem in two Finnish laundries and a hospital by interviews and questionnaire study.

Aims of the interviews and questionnaire were to find out:

-if heat exposure is present at the workplaces during summers and what are the reasons behind the temperature rise

-in which working situations particularly the heat exposure is linked

-what are the factors alleviating/impeding comfort in hot working environment.

Material and Methods

Two Finnish laundries and one hospital participated in the study.

Group interviews (2-8 participants) were conducted in all the three organizations in October 2019 and September 2020. Employees, employers and occupational safety personnel participated in the interview sessions. Structured question list was used.

Anonymously answered questionnaire study was delivered for the workers in the fall of 2019 and 2020. Altogether 128 answers were obtained.

Results

Indoor temperature was reported to rise in all the organizations during summer and above the criterium of hot work (28 °C) in laundries. 86% of the questionnaire respondents felt the heat exposure as a problem.

Heat strain was experienced especially near heat radiative machines, in hot and moist conditions (e.g. shower rooms) and in tasks that required wearing PPE. Thermal sensation during work was generally reported as *hot* or *very hot* in laundries, and *hot* or *warm* in hospital (fig 1.).

60% of the respondents reported the need for better air conditioning. The buildings of the workplaces were old and the outdated industrial ventilation systems were perceived not effective enough.

18 % responded that hot working environment has a negative effect on health. Sick leaves due to hot work were still not taken.

Lighter and more breathable work clothing was required in several answers.

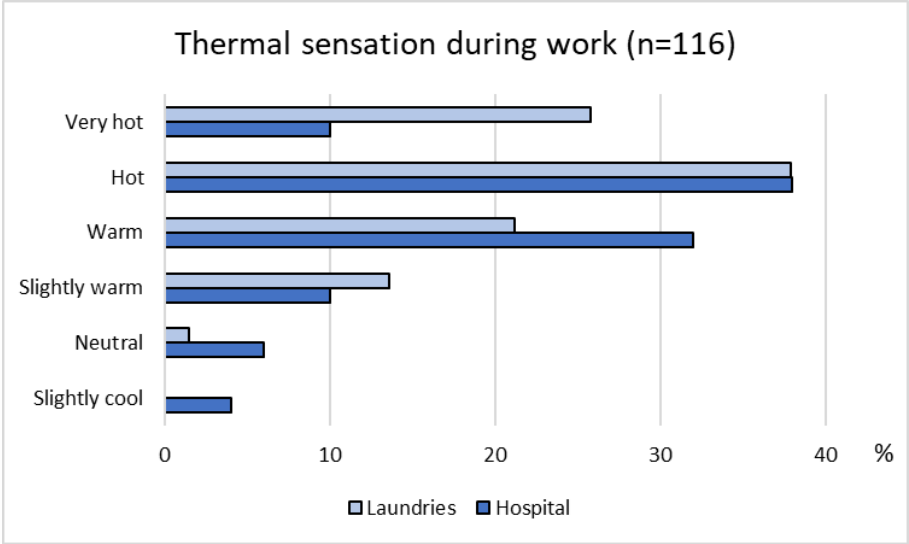

Figure 1. Thermal sensation during indoor work in summer in two Finnish laundries and a hospital.

Conclusions

Indoor temperature was reported to rise during summertime. Increment in workplace temperature impedes occupational comfort and endurance of the workers.

To secure working ability in hot indoor occupations attention should be made to

- the technical building and ventilation systems
- technical cooling systems near to the heat radiative machines
- shorter work cycle system in hot and moist working conditions
- individual actions of the workers (e.g. sufficient hydration, rest pauses in cool conditions)
- work clothing (lighter and more breathable textile materials)
- personal cooling gears (e.g. ice vests or phace change material vests provide cooling)
- close co-operation with occupational health service due to health effects (recognition of heat illnesses and first aid practices).

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