Safety Science 86 (2016) 48–56

Contents lists available at ScienceDirect

Safety Science

journal homepage: www.elsevier.com/locate/ssci

Prevalence and quality of workplace risk assessments – Findings from a representative company survey in Germany

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ARTICLE INFO

Article history:
Received 11 June 2015
Received in revised form 17 December 2015
Accepted 21 February 2016

Keywords:
Occupational safety and health
Workplace risk assessment
Prevalence
Quality
Predictors
Company survey

ABSTRACT

Although Workplace Risk Assessments (WRA) are legally required in all EU member states and widely considered to be a core element of occupational safety and health (OSH) management, the state of their implementation at company level is still viewed rather critically, both in quantitative and qualitative terms. In this study, data from a representative company survey ($N = 6500$) were used to estimate the frequency of different patterns (and corresponding quality levels) of WRA practice in Germany and to determine organisational factors influencing the chance of occurence of these WRA patterns. Results show that only one out of four companies carry out WRAs which not only meet the essential procedural requirements but also take account of potential risk areas in a fairly comprehensive manner. Multinomial logistic regression analysis further revealed that company size is by far the strongest predictor of WRA activity, especially of its more developed forms. Availability of safety specialist assistance, availability of occupational health specialist assistance, affiliation to the production sector, presence of an employee representative body and a good economic situation of the company were each associated with WRA activity as well. The still considerable deficiencies in WRA coverage and quality indicated by this study clearly call for an intensification of WRA-related control and advisory efforts by the OSH authorities, primarily in small companies and in the private services sector. Findings also suggest that reinforcement of worker representation structures at company level and strengthening professional OSH expert utilisation would be beneficial for WRA implementation.

1. Introduction

The obligation to perform Workplace Risk Assessments (WRA) was introduced into occupational safety and health legislation in 1989 through the European Framework Directive on Safety and Health at Work (Council of the European Communities, 1989). Since then, the related provisions have been transposed into national regulatory frameworks by all EU member states. In Germany, the Occupational Safety and Health Act ("Arbeitsschutzgesetz") from 1996 made it mandatory for employers to determine the necessary occupational health and safety measures by carrying out an assessment of the risks the workers are exposed to at work. In doing so, all sources of risks, including psychosocial factors, shall be considered, and the measures taken shall be reviewed for their effectiveness. Moreover, the results of the assessment, the measures derived and the evaluation of these must be documented (Bundesministerium der Justiz und für Verbraucherschutz, 2013; Froneberg and Timm, 2012). Therefore, WRAs are not only required to take a comprehensive perspective on work-related risks but also to be integrated in a clearly structured risk management process (Frick et al., 2000).

The procedures for conducting WRAs are described in numerous manuals published by safety and health authorities, OSH service providers, business and labour associations, or other organisations (e.g., European Agency for Safety and Health at Work, 2007; Health and Safety Executive, 2014). Although varying in detail, the recommendations given in these manuals are basically quite similar. The first steps in carrying out a WRA are to make an inventory of typical workplaces and/or work operations within the company and to check these for the presence of occupational hazards, which may be of physical, chemical, biological, mechanical or psychosocial nature. Each of the identified hazards must then be evaluated for the level of risk it actually poses to the employees. If the risk is unacceptably high according to relevant regulations or established scientific knowledge, control measures must be taken to eliminate it or to minimise it as far as reasonably possible. When planning preventive action, the companies have to obey a hierarchy of control measures which puts the

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http://dx.doi.org/10.1016/j.ssci.2016.02.017
0925-7535/

complete removal of the hazard by substitution or job redesign before technical and organisational controls to reduce the risk, and these before person-oriented measures such as providing personal protective equipment or behavioural instructions. To obtain the information needed for assessing occupational risks and determining the necessary health and safety measures, companies may draw on various resources such as legal provisions, technical standards, observational methods, internal surveys or focus groups. As workplaces and operations may change over time, employers should also take care of reviewing their WRAs and keeping them up to date.

In view of the experiences made over the years, some concerns have been raised about how WRA is dealt with in company practice. Among other things, it has been pointed out that WRAs are still not being carried out in a substantial part of the companies, especially in small ones and in certain branches; that far too often they are done, if at all, in an unsystematic way or as a purely formal exercise ("paperwork"); and that they frequently neglect relevant risk areas, particularly psychosocial risks (European Agency for Safety and Health at Work, 2008; Vogel, 2008).

However, empirical information which allows for a precise judgement of current WRA practice is rather sparse. Only a few European countries regularly provide representative data on the prevalence of WRAs among companies, figures ranging from 45% in the Netherlands (Inspectie SZW, 2014) to as high as 89% in Denmark (Arbejdstilsynet, 2012). Additional information is more or less confined to prevalence variations according to company size and economic sector, indicating that WRA is being less frequently performed in small establishments (e.g., Vanadzins and Matisāne, 2011) and in the service sector (e.g., Coutrot et al., 2013). Data on qualitative characteristics of WRAs are rarely collected or reported, with Finland (Anttonen and Pääkkönen, 2010), Spain (Instituto Nacional de Seguridad e Higiene en el Trabajo, 2011) and the Netherlands (Inspectie SZW, 2014) as exceptions in this regard. Furthermore, available survey data on WRA often suffer from not covering the entire economy (e.g., the French REPONSE survey, which is restricted to private sector companies with more than 9 employees (Coutrot et al., 2013), or the German PARGEMA-WSI Works Concils Survey, which only covers companies with an employee representative body (Ahlers, 2011)). In other cases, such as the German Labour Force Surveys carried out by the Federal Institutes for Vocational Education and Training and for Occupational Safety and Health (Beck and Lenhardt, 2009), data on WRA are collected from employees, which makes them inappropriate for precisely determining the WRA prevalence among companies. The European Survey of Enterprises on New and Emerging Risks (ESENER) (European Agency for Safety and Health at Work, 2010) could only partly close these gaps, as small companies with less than 10 employees (which make up the vast majority of companies in all countries) were not included and the national subsamples too small for more differentiated statistical analyses.

The purpose of the study reported in this article was to overcome some of the aforementioned empirical limitations by (a) estimating, on a representative basis, the prevalence of WRAs among the entirety of companies at national level, (b) determining different WRA-related activity patterns which indicate variations in the quality of implementation, and (c) identifying organisational factors by which the chance of occurence of these WRA patterns is influenced.

2. Material and methods

2.1. Data source

The study is based on data from a national company survey carried out in 2011 as part of the evaluation of the German Joint Occupational Safety and Health Strategy ("Gemeinsame Deutsche Arbeitsschutzstrategie" – GDA). Data were collected from a disproportionate stratified random sample of 6500 companies with at least one employee and were subsequently readjusted by means of design weighting in order to obtain a representative dataset (weighting factors ranging between 0.01 and 14.274). The target persons (i.e., the highest-ranking company members with responsibilities in occupational safety and health coordination) responded to a questionnaire, administered by CATI, on a wide range of safety and health topics, including several aspects of WRA. Even though field work was carried out according to generally accepted procedural standards, the net response rate did not exceed 15% (which will be discussed in Section 4.1 of this article). A more detailed description of the survey methodology (including the questionnaire) can be found in TNS Infratest Sozialforschung (2012).

2.2. Variables

2.2.1. Workplace risk assessment

To determine if there is any WRA activity in a company, the interviewees were asked the following question: "Are risk assessments being carried out at the workplaces in your company (*yes; no; do not know; not answered (n/a)*)?" (Q B306). In case of confirmed activity several questions concerning the completeness of the WRA process were then posed. Respondents were to indicate whether the results of WRAs are being documented (*yes; no; partly; do not know; n/a*) (Q B309) and whether needs for improvements have been identified in the most recent WRA (*yes; no; do not know; n/a*) (Q B311). Those who answered the latter question positively were then asked whether measures have been taken in order to realise the necessary improvements (*yes; no; not yet, but projected; do not know; n/a*) (Q B312). If measures were reported, an additional question on evaluation was posed: "Was the effectiveness of the measures checked at a later date (*yes; no; not yet, but projected; partly; do not know; n/a*)?" (Q B313). Further, the scope of WRAs (if any) was measured by asking which of the following aspects of work were being routinely examined in this context (*yes; no; do not know; n/a*): "(A) Layout of the workplace?"; "(B) Physical work environment?"; "(C) Work equipment?"; "(D) Working time arrangements?"; "(E) Psychosocial risks related to dealing directly with difficult clients, e.g., dissatisfied customers or patients?" (not included in our analyses since the item is of major relevance only for parts of the service sector); "(F) Aspects of work organisation, e.g., concerning time/performance pressure?"; "(G) Social relations, e.g., conflicts among colleagues or leadership style?" (Q B308).

Based on the answers to these questions, five patterns of WRA activity were determined as dependent variables which represent different qualities of company practice as regards process and content of WRAs. As far as the available set of items allowed, the construction of these variables followed the criteria for appropriate WRA conduct laid down in the national WRA surveillance guideline which was initially agreed in 2008 (and repeatedly amended since) by the German Ministry of Labour, the regional OSH authorities and the German Statutory Accident Insurance Association (Nationale Arbeitsschutzkonferenz, 2015). The WRA patterns were defined as follows:

(A) *Inactive*: companies which had not responded positively to question B306.
(B) *Incomplete process*: companies which had reported WRAs but had not responded positively (i.e., response categories *yes*, *partly*, *projected*) to one or more of the process-related questions B309, B312 and B313 (if applicable).