

A Concept of “Culture of Prevention”: A Review of Literature

Simo Salminen^{1*} and Jinsu Lee²

¹Finnish Institute of Occupational Health, Finland

²Korea Occupational Safety and Health Agency, South Korea

*Corresponding author: Simo Salminen, Finnish Institute of Occupational Health, Arinatie 3 A, FI-00390 Helsinki, Finland, Tel: +358-30-474 2731; Fax: +358-30-474 2020; E-mail: simo.salminen@ttl.fi

Received date: October 25, 2013, Accepted date: April 2, 2014, Published date: April 9, 2014

Copyright: © 2014 Simo S, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Abstract

The aim of this review is to analyse the use of the "culture of prevention" concept in different contexts. Firstly, we noticed that there is no generally accepted definition of this concept. Secondly, the "culture of prevention" is not operationalized. This is why we conclude that it is not a scientific concept. It is used more as a general concept in the discussion of the scientific results or as an umbrella concept for improvement measures. The "culture of prevention" concept has two important dimensions. Although on the one hand, it is used as a global concept related to, for example, conflict prevention in international politics; on the other hand, the concept refers local actions, for example eliminating the destructive effects of earth-quake disasters.

Keywords: Culture of prevention; Destructive; Socio-economic roots; Earth-quake

Introduction

The aim of this review is to analyze use of concept 'culture of prevention' in different contexts. We suggest that the 'culture of prevention' has different meanings in international politics, medicine, landslides, and work life.

Definition

There is no generally accepted definition of the concept 'culture of prevention'. However, Stamnes [1] wrote that a 'culture of prevention' is defined as the prevention of deadly conflict becoming a commonplace of daily life and part of a global cultural heritage passed down from generation to generation. This definition is associated with international politics and does not apply to the other areas of lives. Another definition said that risk reduction changing attitudes and behaviour promoted a 'culture of prevention' [2]. This definition is more general and applicable for many different research areas. Culture is based on the shared values, artifacts, communication and interaction. Culture has dual nature: on the one hand, individuals' acts create the culture, and on the other hand, culture influences on their behavior. Culture of prevention needs to span both work and non-work environments [3].

International Politics

The former Secretary-General of United Nations, Kofi Annan, started the use of concept "culture of prevention". In June of 2001 he presented a report titled Prevention of Armed Conflict, where he suggested the move from a 'culture of reaction' to a 'culture of prevention' [4,5]. The report reiterates that conflict prevention is one of the primary objectives of the United Nations Charter, that the primary responsibility for that rests with the states themselves with civil society playing an enabling role and the United Nations playing a role to enhance capacity. He advocates conflict prevention as a tool for

strengthening sovereignty [6]. In the peace-building context, a culture of prevention has been proclaimed, but a culture of reaction prevails. United Nations (UN) has to move from a 'culture of reaction to a culture of prevention' [7]. Among the most important steps to protect people are the development of a culture of prevention and the marshalling of sufficient human and material resources to ensure effective work [8]. An organizational culture of prevention requires several different types of research of three types of conflict prevention – operational, structural and systemic [9]. For a "culture of conflict prevention" to take root in international action, the full range of institutions concerned will need to give more respect to a "culture of development". Early warning tools can help encourage a "culture of prevention" and provides information required for situation-specific judgments [10]. In place of the "culture of prevention", the United Nations should expedite negotiations on the marking and tracing of small arms [11]. A step toward 'a culture of prevention' provides tasks for the mass media, religious institutions and education institutes [12]. Protection of minorities is a part of culture of prevention [13].

International Commission on Intervention and State Sovereignty identifies a burgeoning "culture of prevention" as a dynamic, which carries normative and political implications. Evans and Sahnoun [14] presented the principle of the responsibility to protect as a part of "culture of prevention". Since the global culture of prevention is still in progress, Kurasawa [15] poised between empirical and normative dimension of analysis. However, several bodies in literature have touched upon this sea-change toward a culture of prevention in world affairs. Even the smallest and most isolated crises are rapidly becoming a global phenomenon, we need more globalized culture of prevention. One important result of thinking of the prevention of deadly conflict as a public good is to establish a "culture of prevention" [16].

The European Union advocacy of the principle of sustainable peace contributed to the United Nations Secretary General's report, which pledged the UN to move from 'a culture of reaction to a culture of prevention' [17]. That is based on the EU's longstanding commitment towards a 'culture of prevention', tailored towards addressing socio-economic roots causes and post-conflict peace building tasks rather than offensive military actions [18]. In UK, ministers agreed upon an

ambitious plan to help nurture a "culture of prevention". This means improving developmental policies to address the causes of conflict. The most immediate action was the control of illegal small and light weapons [19]. However, the problem is that researchers are not unanimous about the definition of conflict prevention. The definitions differ according to the aim of prevention. The aim of direct prevention is very sharp and targets the reduction of violence between identified actors [20]. It is possible to see many different dimensions in the use of "culture of prevention" in international politics. On the one hand, it is a global phenomenon and on the other hand, it includes local actions protecting minorities. The "culture of prevention" could be understood as conflict prevention between countries, but also the control of small and light weapons.

Natural Disasters

Natural disasters are the second area used to the term "culture of prevention" by United Nations Secretary General, Kofi Annan. He wanted the nations to focus on preventing these threats instead of simply reacting after the fact [21]. Lower level of seismic cultures of prevention has increased the vulnerability to earth-quake disasters in the Central Asia. The relative young age of the population influences the level of preparedness, planning, response and recovery capacity of communities. Teaming women and the elderly with disaster preparedness specialists would improve the culture of prevention [22]. UNDP has launched initiatives to encourage a 'culture of prevention' based on a recognition of vulnerability reduction as a part of the development process. UNDP had included disaster reduction as an integral component of their overall planning framework [23].

Landslides are gravitational mass movements of rocks, debris or earth. They may result in catastrophic disasters by destroying urban and country areas. Disaster prevention must ultimately be rooted in culture: Participation of national and local teams was at the center of selected landslide risk reduction. This approach is essential to the achievement of a culture of prevention [24]. Landslides disasters in Mexico caused 3500 deaths between 1935 and 2006. One of the key findings noted with respect natural hazards was prevailing culture of reaction vs. prevention. It should transform from a culture of reaction to a culture of prevention [25]. In Colombia, disaster prevention include community education, awareness raising and organization, the promotion of a culture of prevention, and the participatory definition of social and economic development model that will reduce the impact of natural disasters in the future [26]. The School Earthquake Safety Initiative has undertaken by United Nations Centre for Regional Development (UNCRD) has improved the prevention of schools towards earthquakes in India, Indonesia, Nepal and Uzbekistan as a part of culture of prevention [27]. Schools and particularly children play a crucial role in the development of a culture of prevention in order to prepare natural disasters [28]. Environmental events caused mass migration, in which tens of thousands of mostly poor people had died. Tens of millions have been temporarily or permanently displaced. To protect these people, we must shift from a culture of reaction to a culture of prevention [29].

Using climate change as an example, Briceno [30] mentioned four primary objectives of International Strategy for Disaster Reduction:

1. Increase public awareness to understand risk, vulnerability and disaster reduction
2. Promote the commitment of public authorities to disaster reduction

3. Stimulate multidisciplinary and inter-sectoral partnerships

4. Improve scientific knowledge about hazards, vulnerability and risk to disasters

Australia has developed an integrated community approach to disaster management. This approach demonstrated the promotion of a culture of 'spontaneous volunteers'.

We conclude that a "culture of prevention" means here eliminating the effects of natural disasters. On the national level, the seismic measurements should be improved. On the local level, preparation to evacuate exposed population should be done.

Medicine

Medical studies are the third area including the concept "culture of prevention". Culture of prevention should narrow the gap between medical science evidence and clinical practice on stroke prevention. There are supporting methods for this job. The neurologist should take a leading role in emphasizing the critical importance of risk factor identification [31]. Pediatrics is prevention. Education is prevention that involves teaching prevention knowledge, skills and attitudes that address prevention in all interactions with patients and families. Pediatrics has attempted to inculcate this culture of prevention into practice, both through anticipatory guidance in well-child care and through behavioral interventions in sick care [32]. There is a strong culture of prevention in the pediatric community, with immunization, nutrition and screening for developmental delays. One of the tasks for pediatrics is the prevention of obesity, although schools are obviously a natural setting for obesity prevention [33].

Two models of educational interventions to prevent bloodstream infections were done in a university hospital in Sao Paulo, Brazil [34]. Continuous tailored education was effective in prevention than one basic lecture. This personal customized, continuous intervention seems to develop a 'culture of prevention'. It is extremely difficult to identify the exact contribution of surgical staff's effective use of prevention equipment and that of a culture of prevention, which could be associated with improved access to prevention equipment in the hospitals [35]. Based on an existing culture of prevention, it is possible to prevent malaria during pregnancy. The first step in the change process was an evidence-based program strategy that was clearly articulated by a well-respected multilateral organization. Approximately 24 million pregnancies occur among women living in malaria-epidemic areas and 10 000 maternal deaths due anaemia caused by malaria [36]. Patient safety is strengthened by a culture of prevention. This is a conclusion by survey made among Icelandic nurses. Securing patient safety and preventing mistakes were the key elements in operating room nursing [37]. Richardson ja Storr [38] mentioned the results of this study in their review of patient safety. In the Ottawa Hospital, Canada, ulcer monitoring system decreased the proportion of high risk patients from 18% to 14%. Prevention of pressure ulcers is also an indicator of quality and profession, which has enhanced and sustained the culture of prevention [39].

The first eradication of human pathogen happened in 1915 [40]. Eradication of poliomyelitis is one of main targets of World Health Organization. The benefits of this work have been impressive. It has also helped to establish the culture of prevention [41]. Pan American Health Organization has promoted the culture of prevention. An important step was vaccination campaigns for men and women of childbearing age. These campaigns had eliminated rubella in many countries in Central and South America [42]. In Ecuador, best

practices observed included a well-established medical waste disposal program that coordinated with the municipally plan. Develop a culture of prevention will improve this development with care workers and hospital managers [43]. In Australia, dominant policy and practice did not give adequate consideration to prevention and protection for people with intellectual disability. Their accommodation services were not at the satisfied level. This situation fails to develop a culture of prevention in this sector [44]. The culture of prevention is also related reducing inhaled corticosteroids in asthma care [45].

In the multifaceted quality improvement intervention at a university-based residency program clinic in Texas improved documentation in 8 of 19 preventive services. Measurements of the intervention, including use of the Health Risk Profiles and the educational curriculum, had only little association with observed improvement. This increased documentation is fostering a culture of prevention [46].

In Italy, the task of veterinary services is to protect public health and safety of the environment in which people and animals live required new skills, new knowledge, and new technical-scientific responses. Official veterinary Services are responsible for maintain hygiene and animal health standards. A culture of prevention prevails, which places 'food safety' at the forefront of its priorities, through tools of hazard analysis and critical control point [47].

The concept of culture of prevention is used at least two different meanings in medical studies. Firstly, it is used as a part of prevention illnesses like malaria. Secondly, it is used as part of the process where for example poliomyelitis is eliminated in certain area. Of course the prevention culture is related to education and training of medical profession.

Work life

Workplaces are the fourth area, where the concept "culture of prevention" is used. The enlargement of European Union with ten new members has reopened inherent tensions in current policy-making on safety and health in the workplace. These spring from seemingly incompatible objectives; the need to ensure broad European Union member states compliance with regulation, around agreed minimum standards through active regulatory enforcement, and the promotion of softer voluntary initiatives in the management of workplace risks and hazards in order to create "a culture of prevention" [48]. In a Norwegian petroleum company, the concept of health, safety and environment culture was introduced. The incidence of work-related diseases and work-related sickness absence can be indicators of the quality of working environment. European Agency for Safety and Health at work creates and maintains a culture of prevention in Europe's work life [49].

In a cohort of Spanish workers with long-term, non-work-related sick leave the association between organizational support and time to return to work was studied. Overall high organizational support help early return to work. A culture of prevention is one of the factors in the company helping the early return [50]. U.S. Mine Safety and Health Administration [51] foster a culture of prevention at industry operations nationwide. This is done by:

- 1) Targeting enforcement to those who fail to recognize the values of health and safety
- 2) Investing in compliance assistance tools to help employers' protect workers, and

- 3) Establishing partnerships with business, unions, trade associations and professional organizations to spread the message that safety and health adds value.

Well managed American mine companies had built a culture of prevention. In these companies a value-based culture of prevention was established, which focused all employees on the prevention of all accidents and injuries. The prevention work should prioritize to high-risk mines [52]. Total productive maintenance strategy was implemented to the UK manufacturing small- and medium-sized enterprise. Early equipment management was introduced to prevent breakdowns and defects of machinery. Thus an organization develops a culture of prevention rather than fostering a reactive culture [53]. Sander and Brombacher [54] have developed the Maturity Index on Reliability (MIR) to measure and improve the capability of organization to analyze, predict and improve the reliability of current and future products. Because there is no risk analysis at the beginning of a project, there is no culture of prevention of problems, but a culture of fire fighting.

The strategy of a Brazilian bus company is to show that the driver involved in a crash is not alone, and the company can give him/her support and it concerns itself co-responsible for the errors. Drivers are not penalized financially for accidents. The company has also two social service workers, who can be sent to the accident site [55]. With this culture of prevention the company has succeeded to keep serious accidents as minimum. International Social Security Association set the goal to mainstream the concept of prevention in social security. This is done by mainstreaming a culture of prevention across all branches of social security. On the other hand, nurturing a more general culture of prevention might lead to adverse risk event outcomes to be increasingly seen as stemming from individual failure [56]. A zero accident vision stated that nobody should hurt seriously or died at work. In Finland, more than 280 companies had joined the Finnish "Zero Accident Forum", where they changed their experiences on the accident prevention [57]. In Korea, more than 61 000 companies participated in Zero Accident Campaign and more than 13 000 companies achieved the certifications of Zero Accident [58]. The goal of "Zero Accident Forum" and culture of prevention are the same accident prevention, although "Zero Accident Forum" works on the company level, whereas culture of prevention is more general concept.

It was described at Seoul Declaration on Safety and Health at Work in 2008 that a national preventative safety and health culture is one in which the right to a safe and healthy working environment is respected at all levels, where governments, employers and employees actively participate in securing a safe and health working environment through a system of defined rights, responsibilities and duties, and where the principle of prevention is accorded the highest priority [59]. We noticed that the concept "culture of prevention" is used in work life as nearby the concepts of safety culture and safety management. The core of each concept is to prevent occupational accidents. In the Brazilian bus company the culture of prevention included also softening the consequences of accidents. On the other hand, it can mean the advance maintenance of machines.

Conclusions

Based on the review of literature, we can conclude that "culture of prevention" is not a scientific concept. There is not an exact definition of culture of prevention. In addition, there is no operationalization of

this concept. An important dimension in the culture of prevention is global versus local actions. Both in international politics and medicine have these two points. Globally it is defined the general principles related to culture of prevention, but the actions are usually local ones. This review showed that the concept of "culture of prevention" is many-sided concept. It is used in four different areas of life, which totally differed from other ones. This also shows that the concept of "culture of prevention" is a dynamic concept.

References

1. Stamnes E (2009) Speaking R2P and the prevention of mass atrocities. *Global Resp Protect* 1: 70-89.
2. Thywissen K (2005) Core terminology of disaster reduction. United Nations University – Institute for Environment and Human Security.
3. Schulte PA (2013) Prevention culture as culture. Paper presented at the International Symposium on Culture of Prevention 25-27 September in Helsinki, Finland.
4. Annan KA (2001) Prevention of armed conflict: report of the Secretary-General. New York: United Nations Publications.
5. Lefkon OP (2002) Culture shock: Obstacles to bringing conflict prevention under the wing of U.N. development ... and vice versa. *NYU J Int L Pol* 35: 671-680.
6. John MS (2005) The concept and practice of conflict prevention: A critical reappraisal. *Int Studies* 42: 1-19.
7. Ackermann A (2003) The idea and practice of conflict prevention. *J Peace Res* 40: 339-347.
8. Golberg E, Hubert D (2001) Human security and the new diplomacy: Protecting people, promoting peace. Montreal: McGill-Queen's Press.
9. Rubin BR, Jones BD (2007) Prevention of violent conflict: Tasks and challenges for the United Nations. *Global Govern: Rev Multilater Int Org* 13: 391-408.
10. Wood B (2001) Development dimensions of conflict prevention and peace-building. New York: United Nations Development Programme.
11. Bellamy AJ (2008) Conflict prevention and the responsibility to protect. *Global Govern* 14: 135-156.
12. Alger CF (2000) Challenges for peace researchers and peace builders in the twenty-first century: Education and coordination of a diversity of actors in applying what we are learning. *Int J Peace Studies* 5: 1-7.
13. Letschert R (2002) Towards a UN special representative on minority issues – drawing upon the experiences of the OSCE High Commissioner on national minorities. *Helsinki Monitor* 13: 326-335.
14. Evans G, Sahnoun M (2001) The responsibility to protect. Report of the International Commission on Intervention and State Sovereignty. Ottawa: International Development Research Centre.
15. Kurasawa F (2004) Cautionary tales: The global culture of prevention and the work of foresight. *Constellations* 11: 453-475.
16. Hamburg DA, Holl JE (1999) Preventing deadly conflict. From global housekeeping to neighbourhood watch. In: I. Kaul, I. Grunberg, MA Stern (eds.) *Global Public Goods*. New York: Oxford University Press 366-381.
17. Manners I (2006) Normative power Europe reconsidered: beyond the crossroads. *J European Public Policy* 13: 182-199.
18. Berenskoetter FS (2005) Mapping the mind gap: A comparison of US and European security strategies. *Sec Dial* 36: 71-92.
19. Axworthy L (2001) Human security and global governance: Putting people first. *Global Govern* 7: 19-23.
20. Melander E, Pigache C (2007) Conflict prevention: Concept and challenges.
21. Showstack R (1999) UN head calls for "culture of prevention" in addressing natural disasters. *Eos, Transact Am Geophys Union* 80: 438-450.
22. Halvorson SJ, Hamilton JP (2007) Vulnerability and the erosion of seismic culture in mountainous Central Asia. *Mountain Res Develop* 27: 322-330.
23. Christoplos I, Mitchell J, Liljelund A (2001) Re-framing risk: the changing context of disaster mitigation and preparedness. *Disasters* 25: 185-198.
24. Sassa K (2004) Preface. *Landslides* 1: 1-5.
25. Alcantara-Ayala I (2008) On the historical account of disastrous landslides in Mexico: the challenge of risk management and disaster prevention. *Adv Geosci* 14: 159-164.
26. Cardona OD (2007) Curriculum adaptation and disaster prevention in Colombia. In: JP Stoltman et al. (edn.) *International perspectives on natural disasters: occurrence, mitigation and consequence*. New York: Springer. 397-408.
27. Shaw R, Kobayashi M (2001) Role of schools in creating earthquake-safer environment. Paper presented at the symposium on Disaster Management and Educational Facilities, 7-9.
28. Izadkhan YO, Hosseini M (2005) Towards resilient communities in developing countries through education of children for disaster preparedness. *Int J Emer Manag* 2: 138-148.
29. Masters SB (1999) Environmentally induced migration: beyond a culture of reaction. *Geo Immigr L J* 14: 855-865.
30. Briceno S (2004) Global challenges in disaster reduction. *Aust J Emer Manag* 19: 1-3.
31. Holloway RG, Benesch C, Rush SR (2000) Stroke prevention: narrowing the evidence-practice gap. *Neurology* 54: 1899-1906.
32. Cheng TL, Greenberg L, Loeser H, Keller D (2000) Teaching prevention in pediatrics. *Acad Med* 75: S66-71.
33. Stettler N (2004) Comment: The global epidemic of childhood obesity: is there a role for the paediatrician? *Obesity Rev* 5: 1-3.
34. Lobo RD, Levin AS, Oliveira MS, Gomes LMB, Gobara S, et al. (2010) Evaluation of interventions to reduce catheter-associated bloodstream infection: Continuous tailored education versus one basic lecture. *Am J Infection Control* 38: 440-448.
35. Tarantola A, Golliot F, L'Heriteau F, Lebascle K, Ha C, et al. (2006) Assessment of preventive measures for accidental blood exposure in operating theaters: A survey of 20 hospitals in Northern France. *Am J Infection Control* 34: 376-382.
36. Newman RD, Moran AC, Kayentao K, Benga-De E, Yameogo M, et al. (2006) Prevention of malaria during pregnancy in West Africa: policy change and the power of subregional action. *Trop Med Int Health* 11: 462-469.
37. Alfredsdottir H, Bjornsdottir K (2008) Nursing and patient safety in the operating room. *J Adv Nurs* 61: 29-37.
38. Richardson A, Storr J (2010) Patient safety: a literature [corrected] review on the impact of nursing empowerment, leadership and collaboration. *Int Nurs Rev* 57: 12-21.
39. Harrison MB, Mackey M, Friedberg E (2008) Pressure ulcer monitoring: a process of evidence-based practice, quality, and research. *Jt Comm J Qual Patient Saf* 34: 355-359.
40. Aylward B, Hennessey KA, Zagaria N, Olivé JM, Cochi S (2000) When is a disease eradicable? 100 years of lessons learned. *Am J Public Health* 90: 1515-1520.
41. Aylward RB, Hull HF, Cochi SL, Sutter RW, Olivé JM, et al. (2000) Disease eradication as a public health strategy: a case study of poliomyelitis eradication. *Bull World Health Organ* 78: 285-297.
42. Castillo-Solórzano C, Andrus JK (2004) Rubella elimination and improving health care for women. *Emerg Infect Dis* 10: 2017-2021.
43. Lavoie MC, Yassi A, Bryce E, Fujii R, Logronio M, et al. (2010) International collaboration to protect health workers from infectious diseases in Ecuador. *Rev Panam Salud Publica* 27: 396-402.
44. Robinson S, Chenoweth L (2011) Preventing abuse in accommodation services: from procedural response to protective cultures. *J Intellect Disabil* 15: 63-74.

45. Weiner JM (2003) Reducing inhaled corticosteroids in asthma is just the start. *Med J Aust* 179: 173.
46. Schneider GW, DeHaven M, Snell LM (2003) Fostering a culture of prevention in a residency program through a continuous quality improvement project. *Am J Med Qual* 18: 82-89.
47. Marabelli R (2003) The role of official veterinary services in dealing with new social challenges: animal health and protection, food safety, and the environment. *Rev Sci Tech* 22: 363-371.
48. Woolfson C (2006) New modes of regulation for health and safety: post-enlargement policy perspectives for the European Union. *New Solut* 16: 155-173.
49. Hoivik D, Moen BE, Mearns K, Haukelid K (2009) An explorative study of health, safety and environment culture in a Norwegian petroleum company. *Saf Sci* 47: 992-1001.
50. Sampere M, Gimeno D, Serra C, Plana M, Martínez JM, et al. (2011) Organizational return to work support and sick leave duration: a cohort of Spanish workers with a long-term non-work-related sick leave episode. *J Occup Environ Med* 53: 674-679.
51. (2003) U.S. Mine Safety and Health Administration 25 years of success. Arlington, VA.
52. Grayson RL (2010) Comments on prevention of major-hazard events. Public meeting on Mine Emergency Preparedness and Response.
53. Bamber CJ, Sharp JM, Hides MT (1999) Factors affecting successful implementation of total productive maintenance: A UK manufacturing case study perspective. *J Quality Maint Eng* 5: 162-181.
54. Sander PC, Brombacher AC (2000) Analysis of quality information flows in the product creation process of high-volume consumer products. *Int J Production Economics* 67: 37-52.
55. Brunoro C, Sznclwar LI, Bolis I, Abrahão J (2012) Contributions of ergonomics to the construction of bus drivers health and excellence in public transport and at work. *Work* 41 Suppl 1: 30-35.
56. McKinnon R (2010) Promoting the concept of prevention in social security: issues and challenges for the International Social Security Association. *Int J Social Welfare* 19: 455-462.
57. Zwetsloot GIJM, Aaltonen M, Wybo JL, Saari J, Kines P, et al. (2013) The case for research into the zero accident vision. *Saf Sci* 58: 41-48.
58. Korea Occupational Safety and Health Agency (2011) The annual report of Culture and Public Relations Offices in Kosha. Seoul: The author.
59. Seoul Declaration on Safety and Health at Work (2008) Seoul: Korea Occupational Safety and Health Agency.