

Program of Health/Safety Integration and the Total Worker Health Concept in the Improvement of Absenteeism of the Work Accommodation Management

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Abstract—Introduction: There is a worldwide trend for the employer to be aware of investing in health promotion that goes beyond occupational hygiene approaches with the implementation of a comprehensive program with integration between occupational health and safety, and social/psychosocial responsibility in the workplace. Work accommodation is a necessity in most companies as it allows the worker to return to its function respecting its physical limitations. This study had the objective to verify if the integration of health and safety in the companies, with the inclusion of the concept of TWH promoted by an occupational health service has impacted in the management of absenteeism of workers in work accommodation. Method: A retrospective and paired cohort study was used, in which the impact of the implementation of the Program for the Health/Safety Integration and Total Worker Health Concept (PHSITWHC) was evaluated using the indices of absenteeism, health attestations, days and hours of sick leave of workers that underwent job accommodation/rehabilitation. This was a cohort study and the data were collected from January to September of 2017, prior to the initiation of the integration program, and compared with the data obtained from January to September of 2018, after the implementation of the program. For the statistical analysis, the student's t-test was used, with statistically significant differences being made at $p < 0.05$. Results: The results showed a 35% reduction in the number of absenteeism rate in 2018 compared to the same period in 2017. There was also a significant reduction in the total numbers of days of attestations/absences (mean of 2,8) as well as days of attestations, absence and sick leaves (mean of 5,2) in 2018

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data after the implementation of PHSITWHC compared to 2017 data, means of 4,3 and 25,1, respectively, prior to the program. Conclusion: It can be concluded that the inclusion of the PHSITWHC was associated with a reduction in the rate of absenteeism of workers that underwent job accommodation. It was observed that, once health and safety were approached and integrated with the inclusion of the TWH concept, it was possible to reduce absenteeism, and improve worker's quality of life and wellness, and work accommodation management.

Keywords—Absenteeism, health/safety integration, work accommodation management, total worker health.

I. INTRODUCTION

THE current concept of health in the workplace has gained increasing importance in international forums or meetings. There is a worldwide trend for the employer to be aware of investing in health promotion that goes beyond occupational hygiene measures or conducting periodic examinations with the implementation of a comprehensive program with integration between occupational health and safety, with social and psychosocial responsibility in the work environment [1].

Assessing the organization of work, taking into account the importance of understanding production methods, the work environment, and the pace at work are essential in the worker health approach [2]. Adopting an integrated management strategy between the health and safety at work sectors can facilitate the adoption of preventive measures to improve workers' quality of life [3].

Professional or Work Accommodation/Rehabilitation refers to the educational and professional adaptation assistance, carried out by the Brazilian National Institute of Social Security (INSS). This strategy aims to provide beneficiaries partially or totally disabled for work, and "persons with disabilities", the means for the re-entry into the labor market and the context in which they live (art.89 of Law 8213/91 and article 136 of Decree 3,048 /99)

Work Accommodation is defined as empowering the individual's action for the development of work activities, observing the aptitudes, interests and experiences [4]. For the success of the whole work accommodation process, it was identified the need for partnerships with companies and the implementation of actions in the area of job rehabilitation management and absenteeism. Work accommodation is

known to be a great need for most working organizations as it allows the employee to return to function respecting all the physical restrictions or limitations [4].

TWH is defined by the National Institute for Occupational Safety and Health (NIOSH) as a combination of programs, practices and policies that integrate safety and health from work-related hazards with the promotion of disease prevention efforts to reach worker's well-being [5]. TWH may influence health in both ways including staff, the workers and their representatives [5]. The TWH concept establishes that work itself is a social determinant of worker's health and that factors related to employment, such as wages, workload, work pace, stress, interactions with co-workers, workplaces, among others, can have a significant impact on the well-being of the workers, their families and the community in which they live [6], [7].

Absenteeism refers to delays, absences and early dismissals at work, in a justified or unjustified way. Justified absences may include medical treatment certificates. Absenteeism at work can be conceptualized as the absence of the worker at his job, either because of absences, due to delays or early departures from the service and is one of the main problems faced by organizations. Absenteeism compromises the cycle of activities and impairs the final results. The management of absenteeism works as a tool to enable analyzes of delays, absences or exits during the working day, because, as a whole, there is a loss of productivity [7]. The absenteeism index is important because it acts as a thermometer for absences at work, with a tolerable percentage of up to 2% [7].

This study aimed to verify if the integration of safety and health in the working environment, with the insertion of the worldwide concept of TWH promoted by an occupational medicine company influenced the management of absenteeism of workers in job accommodation/rehabilitation.

II. METHODS

A retrospective and paired cohort study was performed, in which the impact of the implementation of a Program with TWH approaches called PHSITWHC. The program was evaluated concerning the absenteeism management using the indices of absenteeism rate, health and medical certificates, days and hours of sick leave of workers that were submitted to work accommodation. The absenteeism rate is the number of workdays lost to absenteeism divided by the total number of available workdays, expressed as a percentage.

The analysis of the data was performed for a period of 9 months from January to September, 2017, before the insertion of the integration PHSITWHC program, and compared with the results collected from the same time period a year later, from January to September 2018, after the initiation of the PHSITWHC program. For methodological purposes the Comparative data was divided in two groups: Group 1: on the number of days of absence from work for medical absences and attestation; Group 2: on the number of days of absences, attestations and sick leave benefits.

The following strategies were used for implementing the integration program: - integrated and joint participation of the

Health and Safety sectors in occupational accident prevention; appliance of the TWH concept WITH specific risk assessments; appliance of preventive measures; - joint participation in the weekly safety dialogues with themes relevant to worker health and safety; analysis and ergonomic suitability of workstations with risks of prevention for musculoskeletal diseases; investigation and preparation of reports related to work accidents with the immediate installation of preventive measures; health promotion including presentation of lectures with relevant themes; application of quality of life questionnaires for workers with diabetes and hypertension; reorganization of workplace layout, and monitoring of all servers professionally rehabilitated/accommodated by INSS.

The absenteeism index was calculated using the following formula: total absences, attestations, delays in the month / total of active employees x total days worked x 100 = absenteeism index [7].

For the statistical analysis, the student's t-test was applied, with statistical significance being established from $p < 0.05$.

III. RESULTS

The results demonstrated a 35% reduction in the number of absenteeism in 2018 (absenteeism index=1,1) compared to the same period in 2017 (absenteeism index=1.7). There was also a significant reduction in the total numbers of days of absences and medical attestations, with a mean of 2,8, and also days of medical attestations, absence and sick leaves, with a mean number of 5,2 in the 2018 data, after the implementation of PHSITWHC (Table I). When these results are compared to 2017 data, with means of 4,3 and 25,1, respectively for group 1 and 2, for the same period prior to the program (Table I), the differences were all statically significant at $p < 0,001$ and $p < 0,05$, respectively (Table I). The results demonstrated a reduction in the number of absenteeism in 2018 and the total numbers of work absences compared to the same period in 2017. All values presented a significant difference.

TABLE I
 COMPARATIVE DATA ON THE NUMBER OF DAYS OF ABSENCE FROM WORK FOR MEDICAL ATTESTATIONS AND ABSENCES (GROUP 1) AND ABSENCES, MEDICAL ATTESTATIONS AND SICK LEAVE BENEFITS (GROUP 2) IN THE PERIOD OF 9 MONTHS BETWEEN JANUARY AND SEPTEMBER 2017 AND 2018, FROM PROFESSIONALLY REHABILITATED/ACCOMMODATED EMPLOYEES WITH A TOTAL OF 13 MUNICIPAL WORKERS (N = 13)

	2017	2018	Statistical Analysis
Group 1 (medical attestations, absences)	4,3 ± 1,1	2,8 ± 0,8	t = 3,976 p < 0,001
Group 2 (medical attestations, absence, sick leave benefits)	25,1 ± 6,9	20,0 ± 5,2	t = 2,128 p < 0,05

Data presented as mean and standard deviation. Statistic performed with Student's t-test. Significant differences were considered with $p < 0.05$.

IV. DISCUSSION

The present study revealed a reduction in absenteeism as well as sick leave benefits among workers whom underwent work rehabilitation/accommodation after the installation of an integration program between safety and health with the

appliance of the TWH concept.

The main objective of occupational health is to protect and promote health among workers, in order to maintain and improve their capacity to work, to contribute to the establishment and maintenance of a healthy and safe working environment. [8]. Likewise, understanding about the interrelationships between Occupational Health, Environmental Health, Quality Management, Product and Service Security, Safety, and Community Public Health is also growing. This strategy favors the development of Occupational Health and Safety management systems, with emphasis on worker quality of life and healthier and safer work environments [9].

The PHSITWHC program approaches used in this study have included the participation of all managers and workers in an integrated approach including the integration of the health and safety sections with daily joint meetings; targeting of working conditions meaningful to workers and employers; implementation of policies and practices that create and sustain positive working conditions aiming the reduction of hazard exposures and the improvement of ergonomic conditions; and the evaluation and continually efforts to enhance worker safety, health, and well-being and the control of workers absenteeism.

The reintegration of the workers removed by the Brazilian INSS is a lengthy process. Improving quality of life and well-being in the workplace are key factors for the companies. On the other hand, some companies may seek productivity results without any interest in the worker's well-being. This attitude may cause employees' demotivation and humiliation. Most reintegrated workers seek recognition and appreciation at the workplace. Health and dignity may prevail in other to enhance the human condition [9].

The main focus on workers' health care and health promotion at work addresses the health of workers and their social and human needs in a comprehensive and coherent way, including preventive health care, health promotion, curative care, first aid, rehabilitation including strategies for the recovery and reintegration of workers in work environments [5], [7].

Health and Safety are two activities present in the workplace and operated independently by different organizational teams. Although companies have attempted to create separate health and safety cultures, experts have shown that health impacts on safety and vice versa, and there is a tendency to create a sustainable culture of integration between these two areas. The integration of Health and Safety is a way for greater dynamism and productivity in companies [8].

NIOSH has created the concept of TWH which is defined by a set of protection policies, programs and practices to integrate workers' safety and health, through the promotion of many prevention efforts against hazards and diseases that affected the worker. The well-established health and safety protection programs have focused primarily on ensuring that the worker is protected against the risks at the workplace environment; however, the TWH concept states that labor itself is a social or psychosocial determinant of worker health

and that employment-related factors can have a significant impact on the well-being of workers, their families and their community [5].

Some practical examples of TWH approach include: reorganizing or redesigning work environments to increase safety, respecting workers' physical and psychological conditions, making ergonomic workplace corrections accessible, reducing work stress with the implementation of organizational policies and management and training on approaches to reduce stressful working conditions and workers' skills building [1].

The attention on workers' health care and health promotion at the workplace addresses the health of employees and their social and human needs in a comprehensive way, and includes preventive health care, health promotion, curative care, work rehabilitation including strategies for the recovery and reintegration of workers in the work environment [8].

In Brazil, regulatory legislations including NR-7 may monitor worker health but this alone yet will not be enough to guarantee a high level of prevention and it should be associated with the inclusion of measures such as PHSITWHC program. This integration program has contributed to improving health care for workers, associated with health and safety monitoring and maintenance. The installation of this program in the companies is bringing positive results, mainly for the promotion of workers' health and reduction of absenteeism.

We expect that this work may help developing a new understanding of the employers for the management of the absenteeism of job rehabilitated workers, leading to a better comprehension of the whole process of work accommodation. We have demonstrated that the return of the work rehabilitated employees to the companies, with the use and implementation of the THW concept is characterized by a significant reduction of absenteeism.

V. CONCLUSION

It can be concluded from the results obtained that the implementation of a program of integration between the health and safety sectors in the company with the concept of TWH was associated with a statistically significant reduction in the absenteeism index of the worker under work accommodation/rehabilitation.

The total numbers of medical certificates as well as the data associated to the calculation of the index as total number of hours and days of sick leave also showed a significant decrease after comparing the data between 2017 and 2018. There was a significant reduction in the number of days of leave by medical attestations, and sick leave benefits related to rehabilitated employees.

The PHSITWHC program has contributed for improving workers' health care, health promotion and their social and human needs in a comprehensive way. It can be concluded that the inclusion of the PHSITWHC program was associated with a reduction in the rate of absenteeism and the total numbers of medical attestations, hours and days of sick leave of job-rehabilitated workers.

It was observed that the integration of health and safety in the work environment with the use of the TWH concepts led to a reduction of absenteeism and the number of work-related absences or sick leaves.

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