

# Risk Factors Psychology Workers Sena (Center for the Petrochemical Industry) Regional Bolívar, Colombia

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# Research Article Volume 5 Issue 2 Received Date: August 27, 2022 Published Date: September 05, 2022 DOI: 10.23880/ijnmrs-16000149

# Abstract

Determining factors in Psychology workers SENA (Center for Petrochemical Industry) Regional Bolívar. Descriptive study, with a population under 111 workers, information was collected using the instrument Dr. Bocanument, survey for the Evaluation of psychosocial risk factors, which was validated by Quintin J, Contreras H, instrument that allowed as measure psychosocial risk factors in four areas: content of the task, human relations, organization of working time and personnel management. A descriptive analysis of the variables investigated was conducted, tabulated in Microsoft Excel 2007, psychosocial risk factors to which workers are exposed SENA (Center for Petrochemical Industry) Regional Bolivar were obtained. Of the 111 employees surveyed, a predominance of male gender with 66% found the average age is between 35 and 40 years, the level of more frequent training is professional with 76%, 88% is contract defined by provision of services, seniority is between 11 and 16 years with 49%.was found that the most prevalent risk factor was the personnel management. The presence of psychosocial risk factors, mainly in personnel management, area under the responsibility of the directives, and to lesser extent in the organization of working time, the content of the task and human relations are determined.

Keywords: Job Stress; Occupational Health; Psychosocial Risk Factor; Source (MeSH)

**Abbreviations:** EU-OSHA: European Agency for Safety and Health at Work; ESENER: European Survey of Enterprises on New and Emerging Risks; ILO: International Labor Organization; WHO: World Organization Health; FP: Protection Factor; RF: Risk Factor; PI: Program Intervention.

# Introduction

Psychosocial risk factors at work refer to the conditions that are present in a work situation and are directly related

to the environmental conditions (physical, chemical and biological agents), with the organization, procedures and working methods, with relationships between workers with job content and the tasks, and can affect through psychological and physiological, both worker health and the performance of its work mechanisms [1].

For the ILO WHO, report [2], the psychosocial risk factors at work include interactions between the work environment, the characteristics of working conditions, relations among workers, organization, worker characteristics, your culture, your needs and your personal situation outside of work OIT-OMS (1984).

The most representative occupational disease today is the occupational stress. Job stress has become one of the leading causes of disability in North America and Europe. The psychosocial risks such as stress, violence or harassment increasingly concerned companies, as appears from the first findings of the largest survey conducted in Europe on health and safety in the workplace. the European Agency for Safety and Health at Work (EU-OSHA) has released data on June 3, 2010, at the European Conference contribution in to the evaluation of the Community Strategy for Health and Safety at Work (2007-2012), held in Barcelona [3]. Psychosocial risks concern most European companies 4of 5 European businesses express concern about job stress, as revealed the European Survey of Enterprises on New and Emerging Risks (ESENER), which puts this factor at the same level important for companies that accidents in the workplace (79%). Work stress is very acute in the field of health and social assistance (91% of companies consider cause for concern, to greater or lesser extent) and education (84%) [4].

It according to Euro found (2012) surveyed the conditions of work in 2005 to more than 200 million workers, with reference to risk factor Psychology concluded: Than 44% of working over 48 hours week percentage declared unsatisfied in this regard, 78% of Europeans working under a permanent contract or indefinite. More than 60% of workers can choose or change the order in which they perform tasks, speed or working methods, where the public sector likely to offer training to employees almost double those in the private sector ( 41% and 21% respectively) also show that the most common risks, both men and women, are the repetitive movements of hands / arms and the need to take strenuous or painful positions: more than 62% performs repetitive hand movements or arms during a quarter of the working time or more, while 46% work in tiring or painful positions [5]. Also the part-time workers and temporary workers have fewer opportunities to receive training than their colleagues full time and permanent, being 25% of part-time workers and 23% of temporary workers are trained, compared to about 30% of workers fulltime and permanent Katala, et al.

An ILO study published in its press release of October 10, 2010, on policies and programs affecting workers in Germany, the United States, Finland, Poland and the United Kingdom shows mental health that the incidence of the mental health problems is increasing, to the point that one in ten workers suffering depression, anxiety, stress or fatigue, which in some cases lead to unemployment and hospitalization, also showing that the countries of the European Union, between a 3 and 4% of GDP is spent on mental health issues. In US, the

national spending associated with treatment of depression ranges between 30,000 and 44,000 million dollars a year. In many country early retirement due to mental problems, to the extent they becoming the most common for allocating disability pensions reason. In this report the alarm is also highlighted by the magnitude they are purchasing costs of these disturbing trends as those where employees suffer discouragement, fatigue, anxiety, stress, loss of income and even unemployment, aggravated in some cases, the inevitable stigma associated mental illness. For employers, the costs are felt in terms of low productivity, declining profits, high rates of staff turnover and increased costs of recruiting and training replacement staff. For governments, the costs include health care costs, insurance payments and loss of income at national level [6].

Among the main findings of the report, which warns about how costs are increasing mental incapacity, a pattern of increasing personal and psychiatric problems suffered by people of working age in all countries studied progresses [7]?.

In US, clinical depression has become one of the most common diseases, which can affect each year to one tenth of adults of working age, resulting in a loss of approximately 200 million working days per year [8].

In USA, more than 50% of workers suffer some form of stress related, such as anxiety, depressive feelings, physical pain, social exclusion and sleep disorders symptoms; 7% of Finnish workers suffer from severe burnout, leading to exhaustion, cynicism and a drastic reduction of professional capacity, and mental health disorders are the leading cause of disability pensions in Finland [9].

In China , depressive disorders account for almost 7% of premature retirement and work incapacity related to depression lasts two and half times longer than incapacity due to other illnesses, the total amount of production lost because of absenteeism related to disorders of mental health is estimated at more than 5,000 million marks annually [10] in the UK, nearly 3of 10 employees annually suffer mental health problems and numerous studies indicate that are common stress from work and diseases that cause, depression in particular is an so widespread that for any time deemed one of every 20 British working age is experiencing major depression issue date [11].

The Public health statistics in Poland indicate a growing number of people who are receiving mental health care, especially individuals suffering from depressive disorders: a trend that may be related to socioeconomic transformation of the country and the consequent increase in unemployment, job insecurity and declining living standards [12].

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In Mexico there have been studies trying determine the incidence and prevalence of burnout syndrome. The study conducted in 2009 with 450 health professionals, 10% had exhaustion. Emotional, 19.6% depersonalization, and 74.9% low personal accomplishment [13].

In studies in US indicate an explosive increase levels of occupational stress and depression in the active population in Latin America, although occupational diseases are under it is recognized that 70% of the active population by exposure to ergonomic and psychosocial risks of work. As part of this complex social and occupational economic reality developed in the 90s in Argentina, the phenomenon of occupation and recovery of companies for their workers; today work mostly in Buenos Aires, about 180 cooperatives with more than 10,000 workers [14].

Interest in the study of psychosocial factors and their relationship to the health of the working population, is taking a major boom, since 1984, when the Joint Committee of the International Labor Organization and the World Organization health (ILO / WHO) systematically reviewed the progress in the study of these factors [15]. Likewise, in a report by this committee in 2010 on emerging risks in a New World of Work and Transformation, it included the Psychology risks, particularly stress related to work, such as factors that can affect health worker, While psychosocial risks appear in any production sector, there a greater chance that occur in the services sector; as these companies have become major generators of new employment, new hiring and outsourcing, which limit the hierarchy and increase the complexity of labor relations becoming market relations where the common goal is ensure quality of service to business users [16].

In Colombia this sector is one of the most demand and requirement according Ministry of Commerce of 2010. Therefore, in seeking to ensure compliance the provision of customer service all the steps in the intervention of the risks from occupationally point have focused on the mission staff and administrative staff neglected; who must cope high workload under pressure, perform multiple tasks and deal with the issue of market competition and renewal of policies [17].

According the Ombudsman's Office of Colombia studies on mental health in the country point to depression as one of the most prevalent problems in Colombia (19.6%); other issues are prevalent sleep disorders (15%), the psychoactive substance dependence (12%), attention deficit (12%), posttraumatic stress (6%) and panic (3%). Anxiety is a cause or important component of several of these issues, this study also notes that "the disorders most frequently reported ever in life were anxiety (19.3%), followed by mood disorder (15.0%) and substance use disorders (10.6%), 4.9% of the study population has attempted suicide once in life" [18].

According to data obtained from the National Survey of Health and Working Conditions in Colombia and taking into account the perspective of workers, we can determine the 3 major risk factors present for more than half of the day:

- 1. Repetitive movement's hands and arms: 51%.
- 2. Monotonous and repetitive work: 49%.
- 3. Position held: 43.4%.

Unlike the perspective taken by companies which identify the 4 major risk factors in the following order:

- 1. Repetitive movements of hands and arms: 84.5%.
- 2. Crafts the same position for all or most of the day: 80.2%.
- 3. Positions which can cause fatigue or pain: 72.5%.
- 4. Monotonous and repetitive work: 63.5% [19].

In a study of factors Psychology risk carried in the SENA Regional Tolima, according to surveys they showed the following data: 58.3% of respondents responded that sometimes have difficulty handling stressful situations in which they are immersed. 35.3% expressed difficulty in certain opportunities to manage anxiety and stressful situations at work; 76.3% of individuals stated that no work goals that allow them outdo others are imposed. Regarding the presence of Psychosocial Risk: hierarchical levels that must intervene priority are instructors, and possessing average level with 27% in the items evaluated internal working conditions and 39%; in relation to the conditions of the individual presenting this risk level is followed by professional levels and official worker. To highlight is important to progressively intervention in order to achieve coverage of the total working population [20].

#### **Materials and Methods**

#### **Type of Study**

Descriptive cross-sectional study applied to a population composed of 111 contractors and plant SENA (Center for Petrochemical Industry) living in the city of Cartagena workers. I was considered as an inclusion criterion that the personnel involved labor at the Center for Petrochemical Industry with a link equal or greater than 2 (two) years. They were excluded from the study those who have no direct link with the SENA, Center for Petrochemical Industry.

The information was collected through an initial survey to determine the sociodemographic and occupational profile of the sample; it is related to characteristics such as age, gender, education level, marital status, type of position, type of contract, working hours, seniority. In the study by Quintin J, H Contreras, for psychosocial risk assessment using the instrument Dr. Bocanument, psychologist specializing in occupational health survey called for the Evaluation of psychosocial risk factors, obtaining a sensitivity of 83.7%, considering valid for evaluations.

The first part of the instrument consists of the following items: sociodemographic characteristics of the worker, characteristics of the company, working section, operational and administrative levels, position, and date, among others. The following section included questions that are classified in four areas as: Content area of the task with 7 questions, areas of human relationships with 6 questions, area Organization of working time 9 questions and management staff with 24 questions. Each question had four (4) response options: Always, the vast majority of times, sometimes and never each with a respective value, ranging from 1 to 4, depending the question is assigned a value; total of these values are added for each area and the results to the conversion tables will be; where the degree of danger is set for each area in scale of low, medium and high.

The results obtained were carried Mesh table for tabulating the data. This table each survey question appears with a number of items in columns, such as number of responses and their percentage in each option, protection factor (FP) risk factor (RF) and program intervention (PI).

Whereas all values of one and two of the survey are all values FP and three and four are FR. Consequently the people who scored 1 and 2 each factor (sub columns No.) and the result is recorded in the sub frame No. FP column are added, the percentages of columns 1 and 2 are added together and this new percentage placed in the sub frame% of FP column. The same is done with all 46 factors. Then proceeds similarly with columns 3 and 4, in other words the sum of two people who scored 3 and 4 is established, a factor one, data is placed on the No. column FR, the percentages add columns 3 and 4 and that value is written to the sub frame% of FR, and also with the 46 factors. The results obtained in the FP column and PI were not analyzed, only the results column FP risk factors were taken into account, as the main objective of this research.

The process information management was done in three (3) stages: first stage of socialization with the sub address and coordination, a second step of priming entire population and a third step of collecting and tabulating information.

To collect the information, went to the offices of the workers, explained the purpose of the research were presented the survey was filled by them self, the time used to do was approximately 15 minutes, was made clear that the confidentiality of participant information will be maintained.

This work was done with the permission of the directives of SENA, Center for Petrochemical Industry, regional Bolívar, after explaining the objectives and possible scope of the study, ensuring its confidentiality, considering that is the institution that provides the population and space, therefore reserves the right information to be published; Resolution 8430 of 1993 is taken into account, which says that all research in which human study must undergo prevail criterion of respect for his dignity and the protection of their rights and welfare; It is considered safe since no any biological, psychological, physiological or social variable was modified, taking into account the non-inclusion of name in the survey [21].

A descriptive analysis of the variables investigated was performed; frequencies and percentages for qualitative variables will be established. They will be established charts and tables in the process of presenting information.

It arises as impact study implementing healthy living programs, recreation, mental health programs, and recreation, integration activities between co-workers.

#### **Results And Discussion**

The response to this work thanks to the participation of 111 workers SENA (Center for Petrochemical Industry) domiciled in the city of Cartagena and the active collaboration of consultants Occupational Health Specialization University him Cartagena. The results of data processing, analyzing and presenting these tables will be presented.

Was determined that the risk factors were found in Psychology highest percentage in Personnel Administration.

#### **Demographic Characteristics**

Surveyed workers found that 44% (49 workers) are in the aged between 35 and 40 years, 9% (10 workers) between 50 and 55 (Table 1).

Age	N°	%
25 a 30	13	12
30 a 35	26	23
35 a 40	49	44
40 a 50	13	12
50 a 55	10	9
TOTAL	111	100

**Table 1:** Sociodemographic characterization of thepopulation. Age.

Was determined that there a 34% corresponding to 38 persons of female and 66% to 73 persons of male workers (Table 2).

Gender	No.	%
Female	38	34
Male	73	66
Total	111	100
CIVIL STATE	No.	%
Single	17	15
Married	58	52
Free Union	33	30
Single	0	0
Widow	3	3
Total	111	100

**Table 2:** Characterization Sociodemographic Population.Gender and Marital Status.

In the population surveyed was determined that the largest percentage of respondents is married to 52% (58 individuals), cohabiting 30 % (33 persons), single 15% (17 people) and 3% are widows (3 persons) Table 3.

Educational level	No.	%
Bachelor	0	0
Technical	7	6
Technologist	20	18
Professional	84	76
Total	111	100

**Table 3:** Sociodemographic characterization of thepopulation. Education level.

The survey found that 76% of workers (84 people) are professionals, 18% are technologists (20 people) and the remaining 6% are technicians (7 people) (Table 4).

Type of Charge	No.	%
Operating	92	83
Administrative	19	17
Total	111	100

**Table 4:** Characterization sociodemographic population.Charge type.

According to the data obtained from the survey was determined that operating personnel equivalent to 83% (92

people) and staff 17% (19 individuals) (Table 5).

#### **Working Conditions**

Contract Type	No.	%
Term Defined	98	88
Undefined Term	13	12
Total	111	100

**Table 5:** Sociodemographic characterization of thepopulation. Education level.

It was determined that 12% (13 people) has an indefinite term contract and the other 88% (98 people) have a fixed term contract (contract for services) Table 6.

Working Time	No.	%
Day	51	46
Vespertina	42	38
Night shade	18	16
Total	111	100

**Table 6:** Characterization sociodemographic population.Workday.

The survey revealed that most workers work on daytime hours with 46% (51 individuals), 38% (42 people) in the afternoon session and 16% (18 individuals) remaining on the night shift (Table 7).

Seniority	No.	%
2 to 5 years	20	18
5 to 11	37	33
11 to 16	54	49
TOTAL	111	100

**Table 7:** Sociodemographic characterization of thepopulation. Labor Old.

In the surveyed population was found that 18% of respondents (20 people) has an average of 2 to 5 years old labor, 33% (37 individuals) is between 5 and 11 years and 49% remaining (54 persons) it is between 11 and 16 years.

#### **Risk Factors Psychology**

**Risk Factors Psychology Related to the Content of the Task:** It can be stated that there no risk factors prevalent in this dimension (Table 8).

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Val.		1		2		3	4 FP.		4 FP.		I	R.
Fac.	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	72	64,9	23	20,7	14	12,6	2	1,8	95	85,6	16	14,4
2	66	59,5	28	25,2	17	15,3	0	0	94	84,7	17	15,3
3	27	24,3	57	51,4	19	17,1	8	7,2	84	75,7	27	24,3
4	90	81,1	14	12,6	5	4,5	2	1,8	104	93,7	7	6,3
5	97	87,4	10	9	3	2,7	1	0,9	107	96,4	4	3,6
6	91	82	14	12,6	6	5,4	0	0	105	94,6	6	5,4
7	47	42,3	31	27,9	25	22,5	8	7,2	78	70,3	33	29,7
8	78	70,3	21	18,9	9	8,1	3	2,7	99	89,2	12	10,8
9	82	73,9	18	16,2	10	9	1	0,9	100	90,1	11	9,9
10	70	63,1	17	15,3	13	11,7	11	9,9	87	78,4	24	21,6
11	74	66,7	20	18	13	11,7	4	3,6	94	84,7	17	15,3
12	76	68,5	28	25,2	6	5,4	1	0,9	104	93,7	7	6,3
13	89	80,2	17	15,3	5	4,5	0	0	106	95,5	5	4,5
14	19	17,1	45	40,5	31	27,9	16	14,4	64	57,7	47	42,3
15	61	55	21	18,9	11	9,9	18	16,2	82	73,9	29	26,1
16	50	45	42	37,8	12	10,8	7	6,3	92	82,9	19	17,1
17	60	54,1	38	34,2	8	7,2	5	4,5	98	88,3	13	11,7
18	49	44,1	17	15,3	34	30,6	11	9,9	66	59,5	45	40,5
19	52	46,8	12	10,8	37	33,3	10	9	64	57,7	47	42,3
20	95	85,6	12	10,8	2	1,8	2	1,8	107	96,4	4	3,6
21	68	61,3	17	15,3	24	21,6	2	1,8	85	76,6	26	23,4
22	21	18,9	51	45,9	24	21,6	15	13,5	72	64,9	39	35,1
23	61	55	15	13,5	27	24,3	8	7,2	76	68,5	35	31,5
24	22	19,8	19	17,1	48	43,2	22	19,8	41	36,9	70	63,1
25	52	46,8	30	27	23	20,7	6	5,4	82	73,9	29	26,1
26	41	36,9	22	19,8	34	30,6	14	12,6	63	56,8	48	43,2
27	32	28,8	19	17,1	41	36,9	19	17,1	51	45,9	60	54,1
28	14	12,6	13	11,7	40	36	44	39,6	27	24,3	84	75,7
29	60	54,1	17	15,3	17	15,3	17	15,3	77	69,4	34	30,6
30	7	6,3	7	6,3	31	27,9	66	59,5	14	12,6	97	87,4
31	20	18	10	9	44	39,6	37	33,3	30	27	81	73
32	38	34,2	30	27	31	27,9	12	10,8	68	61,3	43	38,7
33	37	33,3	27	24,3	28	25,2	19	17,1	64	57,7	47	42,3
34	25	22,5	14	12,6	32	28,8	40	36	39	35,1	72	64.9
35	12	10,8	11	9,9	17	15,3	71	64	23	20,7	88	79,3
36	13	11,7	6	5,4	8	7,2	84	75,7	19	17,1	92	82,9
37	17	15,3	4	3,6	9	8,1	81	73	21	18,9	90	81,1
38	23	20,7	4	3,6	2	1,8	82	73,9	27	24,3	84	75,7
39	29	26,1	26	23,4	37	33,3	19	17,1	55	49,5	56	50,5
40	34	30,6	6	5,4	6	5,4	65	58,6	40	36	71	64
41	30	27	3	2,7	3	2,7	75	67,6	33	29,7	78	70,3
42	76	68,5	20	18	7	6,3	8	7,2	96	86,5	15	13,5
43	19	17,1	26	23,4	20	18	46	41,4	45	40,5	66	59,5
44	58	52,3	28	25,2	8	7,2	17	15,3	86	77,5	25	22,5
45	86	77,5	17	15,3	3	2,7	5	4,5	103	92,8	8	7,2
46	19	17,1	9	8,1	35	31,5	48	43,2	28	25,2	83	74,8

 Table 8: Tabulation survey results in Table mesh.

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87.4% of respondents say that their tasks or functions always agree with their skills and 9% say that the vast majority of times. 82% of respondents say they always feel satisfied with the functions of their work and 12.6% say that the vast majority of times. 81.1% of respondents believe that their functions are always sufficiently clear and 12.6% perceive that the vast majority of times are clear.

#### Psychology Risk Factors Associated With Human **Relations:**

No risk factors found in human relations (Table 9).

80.2% of respondents said that in general always

understood well with coworkers and 15.3% say that the vast majority of times.

73.9% of respondents assumed that their leaders are always friendly and cordial to talk to them and 16.2% believe that the vast majority of times are friendly.

70.3% of respondents believe that they can always talk without difficulty with their bosses and 18.9% say that the vast majority of times and 8.1% say that sometimes.

**Risk Factors Psychology Related to the Organization of** Working Time: No risk factors were found in this item.

Factors	Always	%	The majority of times	%	Some times	%	Never	%	FP	%	FR	%
The working day is prolonged?	19	17,1	45	40,5	31	27,9	16	14,4	64	57,7	47	42,3
Is there rotation work shifts?	61	55	21	18,9	11	9,9	18	16,2	82	73,9	29	26,1
Do you have to work overtime?	50	45	42	37,8	12	10,8	7	6,3	92	82,9	19	17,1
Do you have to work on night shift?	60	54,1	38	34,2	8	7,2	5	4,5	98	88,3	13	11,7
During the working day there are at least two breaks or regulatory breaks?	49	44,1	17	15,3	34	30,6	11	9,9	66	59,5	45	40,5
During the turn can make short breaks and are not regulated?	52	46,8	12	10,8	37	33,3	10	9	64	57,7	47	42,3
Do you have to double shift?	95	85,6	12	10,8	2	1,8	2	1,8	107	96,4	4	3,6
Can rest on weekends?	68	61,3	17	15,3	24	21,6	2	1,8	85	76,6	26	23,4
Do you have to work at a very fast pace?	21	18,9	51	45,9	24	21,6	15	13,5	72	64,9	39	35,1

Table 9: Risk Psychosocial Working Time Organization.

61.3% of respondents say they can always rest on weekends and 15.3% believe that the vast majority of times can. 55% of respondents said that there always rotating work shifts and 18.9% perceive that the vast majority of times if rotation. 54.1% of respondents believe that should always work at night and 34.2% said they should do the vast majority of times.

Risk Factors Related to Psychology Personnel Management: 87.4% of respondents believe that there no rotation of positions or offices and 12.6% said the opposite. 82.9% of respondents said that there no housing loans other assistance related to housing and 17.1% said otherwise and 81.1% of respondents assumed that no aid for the education of the family other assistance in this regard u and 18.9% said the opposite.

79.3% of respondents believe that there no recreation programs for the family addition to the compensation funds and 20.7% assume otherwise. 75.7% of respondents said that no educational activities are performed Occupational Health and 24.3% say the opposite. 75.7% of respondents perceived that there no health services for the family as well as those offered the EPS and 24.3% assume otherwise.

74.8% of respondents believe that an occupational health program does not run and 25.2% said the opposite. 73% of respondents say they do not exist or are few advancement opportunities based on individual merit and 27% assume otherwise. 70.3% of respondents say that there is some fund or cooperative enterprise, which can recruit and 29.7% say the opposite. 64.9% of respondents said that there no job security and the other 35.1% said the opposite. 64% of respondents assumed that affiliation does not allow any trade union and 36% say the opposite. 63.1% of respondents felt that no activities are Reinduction and 36.9% perceive otherwise. 59.5% of respondents say that bosses are very strict in meeting the schedule and 40.5%.

54.1% of respondents believe that there no training opportunities in other areas or topics of personal interest and 45.9% assume otherwise. 50.5% of respondents perceive that their job performance or their contributions are not recognized or valued and 49.5% said the opposite.

# Conclusion

The analysis of the results produced by the study on the content of the task, human relations, the organization of working time and personnel management allowed us determine risk factors for workers Psychology SENA (Center for Petrochemical) Regional Bolívar Industry.

The information collected can draw the following conclusions: The average age is between 35 and 40 years, the predominant sex was male. A high percentage of the population surveyed is professional; half of the surveyed population is married. The predominant position is operational. The type of contract with highest percentage is defined term (services). The working day was more important daytime.

As for the most seniority it is between 11 and 16 years. Factors related to the content of the task does not represent risk factor for workers, but can highlight repeatedly stated that the working time available is not enough to reach perform all its tasks. Although respondents have stated that work without other people around this not a risk factor associated with human relationships. In the organization of working time it found that the working day is long and during the shift cannot do short breaks are not regulated and do not represent a risk factor.

In the area where most the highest number of risk factors was personnel management were presented, the most salient factors: no rotation of the office, insufficient to meet basic needs wages, lack of educational activities, lack clarity in the procedures manuals work, few opportunities for promotion; which makes an unfavorable working environment for workers present and could trigger some beneficial consequences for the company because quality work is not developed. Notably in the area of personnel management the perception workers about the occasional execution of related occupational health program activities, is important comply with legislation on occupational safety since workers exposed to accidents and health consequences associated with work, which would generate costs for the company's civil and criminal liabilities and penalties by the state.

# **Recommendations**

1. Strengthening occupational health program, in its

various subprograms, with emphasis on preventive medicine organizing educational and informational activities for workers and managers, in order that they know the risk factors and management Psychology.

- 2. SENA directives (Center for Petrochemical Industry) Regional Bolivar should work together with the program manager for Occupational Health are aware of the risk factors affecting their workers and thus take appropriate action the case. Institutional Commitment Program Policies.
- 3. Perform induction and reinduction programs for all staff.
- 4. Organize recreational activities outside the facilities or workplaces that allow leisure time.
- 5. Extend the study of risk factors Psychology other regional centers SENA Bolivar, for general identification of these and assess their impact on entire population to allow intervention actions in accordance integrally with the findings. Expand the number of members of the cooperative of workers with defined for access to housing loans, education, recreation and health services contract. Request the Ministry of Labor expand the plant workers to get a better job stability. It is recommended the administrative area provide an opportunity to train personnel in various skills order to expand its scope and not only be specialist in a particular program. It is suggested to deepen further studies to where they arrive and how these factors affect the quality of education.

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