49 - CARDIAC RISK IN THE AGRO INDUSTRY WORKERS AND RURAL WORKERS: PROFILE OF MUNICIPALITIES IN SOUTHERN BRAZIL

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INTRODUCTION

Studies on cardiovascular risks among workers are scarce even though this study is particularly important for the adoption of preventive measures. Especially when the various transformations occurred in the last decades in lifestyle and in the health of the population and the consequent risk of diseases and non-communicable diseases (NCD), which correspond to 46% of the diseases affecting the world population are considered. In Brazil the NCDs show similar behavior representing the major cause of deaths in 2007, mainly due to cardiovascular diseases (31.9%), also cause of 31.2% of deaths occurred in the South in the same year (MINISTRY OF HEALTH, 2010).

In this sense, in the context of public health diagnose the risk factors and reduce them is of great importance, for the high rates of mortality the cardiovascular diseases present. When considering that this scenario results from a few modifiable risk factors and therefore associated to behaviors and lifestyle (MUNIZ et al., 2012).

Among the various possibilities for risk identification, the Cardiac Risk Index (RISKO) is an assessment tool based on lifestyle variables such as total cholesterol, weight, work and sports activities, smoking and blood pressure at rest, in addition to gender and heredity (FOSS, KETEYIAN and FOX, 2000).

The present study aims to characterize workers of the agribusiness and rural workers the presence and the level of cardiac risk, establishing differences among gender, age and place of residence of the subjects.

METHOD

Through an observational descriptive study, 73 workers were evaluated in four municipalities (Santa Cruz do Sul, Vale Verde, Passo do Sobrado and Candelária), which integrate the project "Triage of risk factors related to overweight in workers of agribusiness using new analytical and health information technologies", approved by the Ethics in research Committee of the University of Santa Cruz do Sul (UNISC), number 2509/10.

For this purpose a questionnaire about lifestyle was applied and it was previously validated in the pilot project (POHL et al., 2010), consisting of the following items: a) identification and socioeconomic indicators; b) daily life organization; c) sports and physical activities; d) health indicators; e) anthropometric standards and food intake. Subsequently, anthropometric evaluations were conducted (weight and height, assessing the body mass index), cardiorespiratory (blood pressure at rest) and biochemical been fasting for 12 hours (total cholesterol).

To obtain the Cardiac Risk Index (RISKO) were considered the modifiable parameters, directly related to lifestyle – total cholesterol, body weight, work and sports activities, smoking and blood pressure at rest – and the non modifiable parameters – gender and heredity (FOSS; KETEYIAN, 2000). In the scoring of RISKO the variables were scored generating a sum and subsequent classification, arranged in ascending order in: remote risk, below average, medium, moderate and high.

Statistical analysis was performed using the Statistical Package for Social Sciences program for Windows (SPSS, version 20.0), using descriptive statistics of frequency and percentage, analyzing per gender, age range and place of residence.

RESULTS

In general the average age was 50.76 (DP 11.78) years, from which 64.9% were women. For both genders the predominant risk score was "medium" (69.9%), being 76.9% for men and 66.0% for women. The most positive rating regarding health (remote risk) was verified in only one woman (1.4%).The classification of RISKO of the 73 subjects of the sample is described in table 1.

Table 1. RISKO score of rural workerss, Rio Pardo Valley, 20012/13.

RISKO	n (%)
Remote	1(1.4)
Below average	8(11.0)
Medium	51(69.9)
Moderate	13(17.8)
High	-

-: Representation of value zero;

The characterization of workers of the agribusiness and rural workers for the level of cardiac risk can be viewed in the tables that follow, establishing differences among genders, age range and place of residence of the subjects. Table 2 presents the scores of RISKO of the municipalities studied, in which it is observed that in Santa Cruz do Sul the majority of the subjects evaluated show a risk "medium" (68.4%) for both genders (70.0% and 66.7%, respectively female and male). Regarding Vale Verde the classification "medium" also stands for the majority of the subjects (75.0%), for both genders (female – 70.0% and male – 83.3%). In the municipality of Passo do Sobrado it can be identified 68.8% of the subjects with a risk "medium", being the females at a greater risk as 22.2% present "moderate" risk. Also in the municipality of Candelária 68.1% of the workers presented "medium" risk, being the female gender with increased cardiac risk when compared to males, as 22,2% have "moderate" risk (women) and there are no men in this category for the municipality.

Table 2. Stratification of RISKO scores for rural workers by gender, Rio Pardo Valley, 20012/13.

Municipality	Gender	RISKO n (%)				
		Remote	Bel. Aver.	Medium	Moderate	High
Santa Cruz do Sul	Male	-	1 (11.1)	6 (66.7)	2 (22.2)	-
	Female	-	2 (20.0)	7 (70.0)	1 (10.0)	-
	Total	-	3 (15.8)	13 (68.4)	3 (15.8)	-
Vale Verde	Male	-	-	5 (83.3)	1 (16.7)	-
	Female	-	1 (10.0)	7 (70.0)	2 (20.0)	-
	Total	-	1 (6.2)	12 (75.0)	3 (18.8)	-
Passo Sobrado	Male	-	1 (14.3)	5 (71.4)	1 (14.3)	-
	Female	-	1 (11.1)	6 (66.7)	2 (22.2)	-
	Total	-	2 (12.5)	11 (68.8)	3 (18.8)	-
Candelária	Male	-	-	4 (100.0)	-	-
	Female	1 (5,6)	2 (11.1)	11 (61.1)	4 (22.2)	-
	Total	1 (4,5)	2 (9.1)	15 (68.1)	4 (18.2)	-

-: Representation of value zero; Bel.Aver.: Below Average.

Concerning cardiovascular risk in different age groups (Table 3) it is observed that from the age of 50 the majority of workers in Santa Cruz do Sul presented a medium risk (76.9%), however, this classification is evident in most of the subjects (87.5%) in the age range " below 50" in the municipality of Vale Verde. For the workers of Passo do Sobrado the majority presented the risk "medium" (62.5%) and "moderate" (37.5%) for the age range "below 50" (37.5%). In the municipality of Candelária the older age group (≥ 50 years) showed 75.0% and 25.0% risk classification "medium" and "moderate" respectively.

The municipality of Vale Verde presented 93.8% of workers classified in a negative way regarding health (index "medium" and "moderate"), followed by Passo do Sobrado (87.6%), Candelária (86.3%) and Santa Cruz do Sul (84.2%).

Table 3. Stratification of RISKO score for rural workers per age group, Rio Pardo Valley, 20012/13.

Localidade	Age Group (years)	RISKO n(%)				
		Remote	Bel. Aver.	Medium	Moderate	High
Santa Cruz do Sul	**< 50**	-	3 (50.0)	3 (50.0)	-	-
	≥ 50	-	-	10 (76.9)	3 (23.1)	-
Vale Verde	**< 50**	-	1 (12.5)	7 (87.5)	-	-
	≥ 50	-	-	5 (62.5)	3 (37.5)	-
Passo Sobrado	**< 50**	-	2 (25.0)	6 (75.0)	-	-
	≥ 50	-	-	5 (62.5)	3 (37.5)	-
Candelária	**< 50**	1 (16.5)	2 (33.3)	3 (50.0)	-	-
	≥ 50	-	-	12 (75.0)	4 (25.0)	-

-: Representation of value zero; Bel.Aver.: Below Average.

Concerning age range, for those ≤ 50 years it was verified a dominance of classifications "below average" (27.6%) and "medium" (65.5%), whilst for those ≥ 50 years the prevalent classes were "medium" (71.1%) and "moderate" (28.9%), not having for this age range the occurrence of risk "below average" or "remote". The unique and extreme case (remote) occurred in a subject < 40 years.

DISCUSSION

The results found in this study were corroborated by a study done with workers of different economic sectors in Spain (CHAPARRO et al., 2011), indicating the high prevalence of cardiovascular risks present in 7.6% of the men and 1.7% of the women. These authors, after adjusting the results per age and gender, verified the prevalence of greater high cardiovascular risks in workers of agriculture and construction when compared to the sectors of industry and services.

However, based on the result presented, some aspects must be considered since they can justify the findings. The working hours of rural workers and agribusiness workers in are intense and exhausting, because of the participation of most of them in all stages of the processing of the product and because there is no appreciation of their production which demands a bigger workload when compared to other workers to have a similar financial compensation (MENEGAT; FONTANA, 2010).

Current studies indicate that individuals in unfavorable financial conditions are more susceptible to cardiovascular diseases as they tend to ingest hypercaloric food because they are more affordable. According to Menegat and Fontana (2010), rural workers basically consume what they produce, such as meat, dairy, bread, jams, honey, eggs, grains, fruits and vegetables. Many of these foods consumed are considered healthy but others have high levels of fat such as lard and sausage, these, which are consumed indiscriminately, can trigger cardiovascular diseases.

On the other hand, besides the food issues, the demand of time required by the productive processes makes it difficult for workers to find time or willingness to exercise. As these exercises, besides a healthier diet, would bring numerous health benefits. In a way, the difficulty to access appropriate information and to the networks of health assistance may be hampered by the distance and isolation of the rural properties (NUNES, FIGUEIROA, ALVES; 2007 apud SCHERR, RIBEIRO; 2009).

Insufficient physical activity is directly related to a high rate of overweight as evidenced by the studies done with urban workers in São Paulo, Rio de Janeiro and Rio Grande do Sul (CALAMITA; SILVA FILHO; CAPPUTTI, 2010; MINAYO; ASSIS; OLIVEIRA, 2011; BARBOSA; SILVA, 2013),which confirms the need of intervention in this area with this population. To the extent that excessive body weight is related to the presence of hypertension and cardiovascular problems (SARNO, MONTEIRO; 2007cited in MARTINS et. al. 2010).

CONCLUSION

The results indicate that a considerable number of workers had unfavorable health ratings pointing out the need for preventive health information to be developed with this population, especially because the RISKO score considers lifestyle factors which are modifiable.

Finally, it is worth adding that studies that lead to the identification and understanding of cardiovascular diseases among rural workers can certainly support public policies besides serving as basis for prevention strategies and health promotion.

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ABSTRACT

Studies on cardiovascular risks among workers are scarce even though this study is particularly important for the adoption of preventive measures. Assessment tool based on lifestyle variables, the Cardiac Risk Index (RISKO) focus on the following factors: total cholesterol, body weight, work and sports activities, smoking and blood pressure at rest, in addition to gender and heredity. The present study aims to characterize in workers of the agribusiness and rural workers the level of present cardiac risks, establishing associations among gender, age and place of residence of the subjects. This is an observational, descriptive study with 73 workers of four cities in the South of Brazil, using questionnaires about lifestyle, anthropometric, cardiorespiratory and biochemical evaluations. In RISKO the variables scored generate a sum and a risk classification: remote, below average, medium, moderate and high. Statistical analysis was performed using the SPSS software, using descriptive statistics of frequency and percentage. The subjects of the study were 64.4% female with average age of 50.76 (DP 11.78). For both genders the predominant risk score was “medium” (69.9%), with 76.9% for men and 66.0% for women. The municipality of Vale Verde had 93.8% of workers classified in a negative way regarding the health (index “medium” and “moderate”), followed by Passo do Sobrado (87.6%), Candelária (86.3%) and Santa Cruz do Sul (84.2%). It is possible to observe a considerable number of subjects with unfavorable health ratings, suggesting the need of preventive actions for health information to be developed with this population, especially because the score RISKO considers the lifestyle factors which are modifiable.

KEYWORDS: cardiac risk; worker health; rural worker.

RISQUE CARDIAQUE CHEZ LES TRAVAILLEURS DE L'AGRO-INDUSTRIE ET DES PRODUCTEURS RURAUX: PROFIL DES MUNICIPALITÉS DANS LA RÉGION SUD DU BRÉSIL

RÉSUMÉ

Les études sur les risques cardiovasculaires chez les travailleurs sont rares, même si cette étude est particulièrement importante pour l' adoption de mesures préventives. L'outil d'évaluation basé sur les variables de style de vie , l'Indice de Risque Cardiaque (Risko) se concentre sur les facteurs suivants: le cholestérol total , le poids corporel , les activités de travail et de sport , le tabagisme et l'hypertension artérielle , en plus du sexe et l'hérédité. La présente étude vise à caractériser chez les travailleurs de l'agro-industrie et des producteurs ruraux les niveaux de risque cardiovasculaires présents, établissant des associations entre le sexe , l'âge et les lieux de résidence des sujets. Il s'agit d'une étude d'observation, descriptive, avec 73 travailleurs provenant de quatre villes du sud du Brésil, en utilisant des questionnaires sur le mode de vie, anthropométriques, cardiorespiratoires et biochimiques. Les points obtenus des variables dans le RISKO, génèrent une addition et classification à risque: bas, au-dessous de la moyenne, moyen , modéré et élevé . L'analyse statistique a été réalisée à l'aide du logiciel SPSS, utilisant des statistiques descriptives de la fréquence et du pourcentage . Les sujets de l'étude étaient de 64,4 % chez les femmes , avec un âge moyen de 50,76 (SD 11.78) ans. Dans les deux sexes a prédominé le score de risque " moyen " (69,9%), avec 76,9% pour les hommes et 66,0% pour les femmes. La ville de Vale Verde a présenté 93,8 % des travailleurs classifiés de façon négative par rapport à la santé (indice «moyen» et «modéré») , suivie par Passo do Sobrado (87,6%) , Candelária (86,3%) et Santa Cruz do Sul (84,2%) . On peut observer un nombre considérable de sujets ayant des cotes néfastes sur la santé , ce qui suggère le besoin d'information de santé préventifs qui doivent être développés avec cette population , d'autant plus que le score Risko tient compte des facteurs de style de vie qui sont modifiables.

MOTS-CLÉS: risque cardiaque; la santé des travailleurs; travailleur rural.

RIESGO CARDIACO EN TRABAJADORES DE LA AGROINDUSTRIA Y PRODUCTORES RURALES: PERFIL DE MUNICIPIOS DE LA REGIÓN SUR DE BRASIL

RESUMEN

Estudios sobre riesgos cardiovasculares entre trabajadores son escasos, aunque sea este un estudio de particular importancia para la adopción de medidas preventivas. Herramienta de evaluación basada en variables de estilo de vida, el Índice de Riesgo Cardiaco (RISKO) enfoca los factores: colesterol total, peso corporal, actividades laborales y deportivas, tabaquismo y presión arterial, además de sexo y hereditariedad. Este estudio objetiva caracterizar en trabajadores de la agroindustria y productores rurales los niveles de riesgo cardiovascular presentes, estableciendo asociaciones entre sexo, faja de edad y localidades de domicilio de los sujetos. Se trata de un estudio observacional, descriptivo, con 73 trabajadores de cuatro municipios del Sur de Brasil, utilizando cuestionarios de estilo de vida, evaluaciones antropométricas, cardiorrespiratorias y bioquímicas. En el RISKO las variables puntuadas generan un sumatorio y clasificación en riesgo: remoto, por debajo de mediano, mediano, moderado y elevado. Para análisis estadístico, fue utilizado el programa SPSS, a través de estadística descriptiva de frecuencia y porcentaje. De los sujetos del estudio el 64,4% eran del sexo femenino, con promedio de edad de 50,76 (DP 11,78) años. En ambos sexos predominó el riesgo “mediano” (el 69,9%), con el 76,9% para hombres y el 66,0% para mujeres. El municipio de Vale Verde presentó el 93,8% de los trabajadores clasificados de forma negativa en relación con la salud (índice “mediano” y “moderado”), seguido de Passo do Sobrado (el 87,6%), Candelária (el 86,3%) y Santa Cruz do Sul (el 84,2%). Se puede observar un número considerable de sujetos con clasificaciones desfavorables a la salud, apuntando hacia la necesidad de acciones preventivas de información en salud a desarrollarse junto a esta población, especialmente porque el índice RISKO considera factores del estilo de vida, que son modificables.

PALABRAS-CLAVE: riesgo cardíaco; salud del trabajador; trabajador rural.

RISCO CARDÍACO EM TRABALHADORES DA AGROINDÚSTRIA E PRODUTORES RURAIS: PERFIL DE MUNICÍPIOS DA REGIÃO SUL DO BRASIL

RESUMO

Estudos sobre riscos cardiovasculares entre trabalhadores são escassos, mesmo sendo este um estudo de particular importância para a adoção de medidas preventivas. Ferramenta de avaliação baseada em variáveis de estilo de vida, o Índice de Risco Cardíaco (RISKO) enfoca os fatores: colesterol total, peso corporal, atividades laborais e esportivas, tabagismo e pressão arterial, além de sexo e hereditariedade. O presente estudo objetiva caracterizar em trabalhadores da agroindústria e produtores rurais os níveis de risco cardiovascular presentes, estabelecendo associações entre sexo, faixa etária e localidades de domicílio dos sujeitos. Trata-se de um estudo observacional, descritivo, com 73 trabalhadores de quatro municípios do sul do Brasil, utilizando questionários de estilo de vida, avaliações antropométricas, cardiorrespiratórias e bioquímicas. No RISKO as variáveis pontuadas, geram um somatório e classificação em risco: remoto, abaixo da média, médio, moderado e elevado. Para análise estatística, foi utilizado o programa SPSS, utilizando-se estatística descritiva de frequência e percentual. Dos sujeitos do estudo 64,4% do eram do sexo feminino, com média de idade de 50,76 (DP 11,78) anos. Em ambos os sexos predominou o escore de risco “médio” (69,9%), com 76,9% para homens e 66,0% para mulheres. O município de Vale Verde apresentou 93,8% dos trabalhadores classificados de forma negativa em relação à saúde (índice “médio” e “moderado”), seguido de Passo do Sobrado (87,6%), Candelária (86,3%) e Santa Cruz do Sul (84,2%). Pode-se observar um número considerável de sujeitos com classificações desfavoráveis à saúde, apontando a necessidade de ações preventivas de informações em saúde a serem desenvolvidas junto a esta população, especialmente porque o escore RISKO considera fatores do estilo de vida, que são modificáveis.

PALAVRAS-CHAVE: risco cardíaco; saúde do trabalhador; trabalhador rural.