

“The teaching of occupational medicine in Brazil”

Leandro Müller de Arruda¹, Eliane de Medeiros Kawakami¹, Felipe Campoi Borguetti², Juliana Midori Hayashide¹, Lígia Carvalho Albuquerque¹, Mariana Queiroz Florindo Soeiro Souza², Renata Suguimoto Vido¹, Luiz Carlos Morrone³.

Study made by the Work Medicine of the Social Medicine Department of the Faculty of Medical Sciences of Santa Casa of São Paulo with support of the Occupational Medicine Residences Programs of Irmandade of Santa Casa de Misericórdia de São Paulo (ISCMSP) e of Public Worker of State of São Paulo Hospital. (HSPE-FMO).

1 Occupational Health Resident Physicians of ISCMSP.

2 Occupational Health Physicians of Public Worker of State of São Paulo Hospital

3 Adjunct Teacher of the Social Medicine Department of ISCMSP

Address of the author: Departamento de Medicina Social da Faculdade de Ciências Médicas da Santa Casa de São Paulo – Rua Cesário Motta Jr, 61, 6º A – Vila Buarque – São Paulo (SP) – CEP 01221-020.

E-mail: morronelc@uol.com.br

Introduction: The 155 and the 161 Conventions of ILO and the 1988 Brazilian Constitution justify the country necessity of prepare professionals that actuate on area of workers health. It was evaluated similar studies in other countries for had comparative information.

Objectives: To study the national situation of the learning of occupational medicine in the under graduated courses of medicine. It found answer to these questions:

- 1- proportion of schools that had included the discipline in his curricula;
- 2- the characteristic or the teaching staff;
- 3- how the discipline are learned;
- 4- the matters discussed;
- 5- the references that are offered for students; 6- the main difficulties.

Methods: 1- Official register of the Education Ministry indicate that are authorized 179 schools of medicine in the country. It was possible contact with 159. Answer that had the discipline of occupational medicine 48. A questionnaire was send to these schools. It was received 39 answers.

The questionnaire include questions about: 1- Name of school; 2 - if the learning was did in 2009; 3 - if the discipline is independent; 3- if the evaluation of the student is present in the scholar historic of the student; 4- the name and the summary of the curriculum of the teacher responsible; 7 how the discipline is ministered; 8 - how are the practical activities 9 –10 – Rate Teacher / Number students. 11- The matters containing in the program; 12- Methods of evaluation of the students; 13 0 Referenced used: 14 – Difficulties found for ministering the discipline; 15 – how the students evaluate the discipline.

Results:

- 1- The Table 1 shows the distribution of the vacancies in school medicine courses, according the regions of the country. The industrialized regions are that in which the vacancies are bigger.
- 2- Table 2 show that it was possible contact with 48 Medical Schools (48), between that created until 2008 (159). The way that the contact was tried was by phone and/or by E-mail. These schools informed that that they had the Discipline of Occupational Medicine in its Curricular Grade.
- 3- Table 3 mentions the distribution of Schools that ministered the discipline during 2009 by regions of the country. The more industrialized regions had the higher number.
- 4- Table 4 shows that the discipline is obligatory in more than 90%, Also that the evaluation of students is independent of other disciplines in (64%), there is one teacher at least contracted (79,5%) like coordinator or the discipline and that it is, at least, an specialist in occupational medicine.
- 5- Table 5 shows that the average of class hours of the discipline is near 60 and great part of then has practical classes besides the theoretical classes.
- 6- Table 6 shows that the rate number of teachers / number of students is not good in great part of the schools. More than 60% had one teacher for more than 30 students for theoretical activities. This situation is worst with the practical activities.
- 7- Table 7 shows that individual text is the main method. Group work also exists in great proportion.
- 8- Table 8 shows that large number of school use text books like references for the students. The total number of Basic Bibliography recommended by the schools was 52. We report below in decreasing order of frequency the five more frequently mentioned.
 - Mendes, R (org.) Patologia do Trabalho – Atualizada e Ampliada. 2ºed. São Paulo: Editora Atheneu; 2003. Volumes 1 e 2 - 1923 p.
 - Doenças Relacionadas ao Trabalho – Manual de Procedimentos para os Serviços de Saúde / Ministério da Saúde do Brasil, Representação no Brasil da OPAS/OMS; organizado por Elizabeth Costa Dias; colaboradores Idelberto Muniz Almeida et al. – Brasília: Ministério da Saúde do Brasil; 2001.
 - Manuais de Legislação ATLAS: Segurança e Medicina do Trabalho/ Equipe Atlas, 47ª edição, - São Paulo: Atlas; 2000.
 - Encyclopedia of Occupational Health and Safety. 4º ed. Genève, International Labor Office, 1998. 4V.
 - Junior, MF. Saúde no trabalho: temas básicos para o profissional que cuida da saúde dos trabalhadores. São Paulo: Roca; 2000.

- 9- Table 8 shows, in the opinion of the teachers, that the proportion of schools that the students evaluate the discipline Excellent or Good are only 65%. This is not good because is low.

Discussion

It is presented in Card 1 a summary of the results of similar studies realized in others countries.

We see that

About the frequency of the answers obtained.

This card shows that the frequency obtained in this study was very low. It was claire that without the involvement of government institutions, including stimulus and or obligatory answers will be very difficult we have proportion of participation of the schools similar to studies did in other countries.

Obligatoriness of the Discipline.

In this study the obligatoriness of the discipline in the Medical Schools that ministered the discipline was high though part of them includes also the obligatoriness of the independence in the evaluation of the students.

Practical activities

In this study an expressive number of schools include like practical activities visits to work places and discussion of clinical cases. These activities increase the motivation of the student for the discipline.

Recommendations:

This type of inquiry may be repeated with periodicity at least triennial for may be possible follow its evolution in the country. Also that the ANAMT (National Association of Occupational Physicians) find the involvement of the Education Ministry in this study for be obtained more effective participation of the Brazilian Medical Schools.

GRATEFULNESS

Particular gratefulness of the researchers to the 61 institutions of medial learning that may be possible this study.

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- 11- Menu das Escolas - Antonio Carlos Nassif [internet]. Disponível em: <<http://www.escolasmedicas.com.br/escolas.php>>.

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Table 1. Medical schools, Number of vacancies created until 2008, and the schools in what the contact was possible by geographic regions of Brasil

Region	N° of schools	%	N° of vacancies	%	N° of schools in what the contact was possible.	%
North	17	9,7	1720	10,5	13	8,3
North East	37	21,0	2947	18,1	31	19,2
Central Oeste	12	6,8	922	5,7	11	6,4
South East	76	43,2	8028	49,2	71	45,5
South	34	19,3	2855	17,5	33	20,5
Total	176	100,0	16312	100,0	159	100,0

Table 2. Number of Medicine Schools that was possible contact.

Contact /Interviewer	A	B	C	D	E	F	G	Total	%
(1) CP – Contact possible.	2	5	8	3	14	11	5	48	30,2
(2) NC - (no contact)	19	18	17	17	11	13	16	111	69,8
% of schools contacted	10,5	21,7	32,0	15,0	56,0	45,8	23,8	30,2	100,0
Total	21	23	25	20	25	24	21	159	

Table 3. Medical schools that ministered the Discipline during 2009.

Region//interviewer	A	B	C	D	E	F	G	Total	% by regions
North	0	2	1	0	0	0	0	3	7,7
North East	2	2	0	0	2	0	0	6	15,4
Central Oeste	0	0	0	1	1	0	0	2	5,1
South East	0	0	3	1	5	9	2	20	51,3
South	0	0	2	0	1	2	3	8	20,5
Total	2	4	6	2	9	11	5	39	100,0
N° of contacts	21,0	23	25	20	25	24	21	159	
% positives answers by interviewers	9,5	17,4	24,0	10,0	36,0	45,8	23,8	24,5	

Table 4 – How the Occupational Medicine is ministered in 39 medical schools of Brasil.

Item questioned	Yes (%)	No (%)	Other answer or no answer (%)
To be obligatory	94,9	0,0	5,1
Evaluation of students is presented in the Scholar Historical	64,1	10,3	25,6
There is one teacher, at least, that is coordinator of the discipline	94,9	0,0	5,1
This teacher (is specialist, and/or Master degree, and/or PhD specialist and/or master degree and/or PhD)	94,9	0,0	5,1
There is a formal agreement of the teacher with the institution	79,5	5,1	15,4

Table 5. Total classes hours (theoretical and practice) ministered during the course, in 2009.

Classes Hours / number of schools	Theoretical Classes hours	Practical Classes Hours	Total of Classes hours
Number of schools that informed	26	10	36
Average of Class Hours informed	37,8	21,5	59,3

Table 6. The relationship of the number of teachers by number of students in activities theoretical and practical.

Rate number of teachers / number of students	N° of schools and theoretical activities	%(*)	N° of schools and practical Activities	%(*)
1 for till 10	3	7,7	11	28,2
1 for - 11 to 20	0	0	8	20,5
1 for - 21 to 30	6	15,4	6	15,4
1 for - 31 to 40	10	25,6	4	10,3
1 for - 41 and more	15	38,5	2	5,1
No answer	5	12,8	8	20,5

(*) Proportions are referred to 39 schools

Table 7. Evaluating method of the students.

Method utilized	N° (**)	%(*)
Individual Text	35	89,7
Group Work	25	64,1
Individual Work	8	20,5
Text in group	6	15,4
Not answer	5	12,8
Other method	2	5,1
With other discipline	1	2,6

(*) The proportions are referred to 39 schools.

(**) More than one method was referred for more than one school.

Table 8. References used for learning program.

Type of reference	N°(**)	%(*)
Text Book	34	87,2
Internet	27	69,2
Reviews	23	59,0
Encyclopedia OIT	19	48,7
Apostil	10	25,6
Not answer	4	10,3
Others	3	7,7

(*) The proportions are referred to 39 schools.

(**) More than one type of reference was referred for more than one school.

Table 9. Evaluating the discipline by the students.

Evaluation	N°	%
Excellent	5	12,8
Good	21	53,8
Regular	3	7,7
Bad	0	0
Worst	1	2,6
Not evaluated or not	9	23,1

Card I – Comparison of the finds of this study with others realized in others countries

Item / Author	Felton	Sanchez	Higa	This study
Year of study	1960	2009	1990	2010
Country	EUA e Canada	México	Brasil	Brasil
Schools contacted	96	75	80	159
Schools that answer	79 (82,3%)	73 (97,3%)	42 (52,5%)	48 (30,2%)
Schools that had the discipline	70 (88,6%)	39 (52%)	26 (61,9%)	39 (81,2%)
Discipline is obligatory	62 (88,5%)	39 (52%)	No reference	37 (94,9%)
Qualification of the teachers	Besides physicians others specialists.	15 (20,5%) are specialists	19 (73,1%) Specialists 9 (34,6%) Master degree and 4 (15,4%) PHD	26 (66,6%) Specialists 15 (38,5%) Master degree and 9 (23,1%) PHD
Visiting work places	33 (41,7%)	No reference	Not inquired	30 (76,9%)
Discussion of cases	8 (10,1%)	No reference	Not inquired	24 (61,5%)
Classes hours	12,8h	No reference	Since 4h until 100 h	59,3h