

Hugo Carlos Pedroso¹
Cláudia Giglio de Oliveira
Gonçalves²

Primary care health professionals' perception and knowledge on notification of noise-induced hearing loss in Curitiba - Paraná

Percepção e conhecimento dos profissionais da saúde da atenção primária sobre notificação da perda auditiva induzida pelo ruído em Curitiba - Paraná

Keywords

Noise-induced Hearing Loss
Hearing
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Descritores

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ABSTRACT

Objective: The article aims to analyze the perception and knowledge of health professionals working in primary health care networks in the Municipality of Curitiba – Paraná, regarding the compulsory notification of Induced Hearing Loss Noise (NIHL) in the National Notifiable Diseases Information System (SINAN). **Methods:** We performed a transversal cohort study in Curitiba, analyzing perception and knowledge of health professionals working in the primary health care networks in the Municipality of Curitiba, regarding the compulsory notification of NIHL in SINAN, from 2007 to 2014, featuring the reported cases and exploring the situational analysis of the NIHL notification, through a questionnaire and a structured news conference. **Results:** The primary care professionals' survey showed that 50% were doctors and the predominant age group was 26-30 years, with 56.2% reported as being able to identify health problems related to work, but only 43.7% feel able to identify cases of NIHL. **Conclusion:** It was found that health professionals know the features and feel able to identify cases of NIHL, but still do not report suspected NIHL cases and do not consider occupational health an institutionalized program that is part of the service.

RESUMO

Objetivo: Analisar a percepção e o conhecimento dos profissionais de saúde que atuam na rede de Atenção Primária à Saúde do Município de Curitiba - Paraná sobre a notificação compulsória da Perda Auditiva Induzida pelo Ruído (PAIR) no, Sistema de Informação de Agravos de Notificação (SINAN). **Método:** Utilizando como método o estudo transversal na cidade de Curitiba, analisando a percepção e o conhecimento dos profissionais de saúde que atuam na rede de Atenção Primária à Saúde do Município de Curitiba sobre a notificação compulsória da PAIR no SINAN. Aplicou-se ainda um questionário semiaberto em profissionais de saúde da atenção básica sobre conhecimento sobre a PAIR e sua notificação. **Resultados:** Dos profissionais da atenção básica, 50% eram médicos com faixa etária de 26 a 30 anos. Dentre os profissionais, 56,2% relataram estarem preparados para identificar problemas de saúde relacionados ao trabalho, porém apenas 43,7% sentem-se aptos a identificar casos de PAIR. Entre as facilidades na notificação, relataram descentralização da assistência à saúde próxima à residência do usuário, encaminhamento para referência em medicina do trabalho e prontuário eletrônico na UBS; como dificuldades, relataram a não formação específica em saúde do trabalhador e falta de capacitação, tempo reduzido para consultas e receio. **Conclusão:** os profissionais de saúde conhecem as características e sentem-se aptos para identificar os casos de PAIR, mas ainda não notificam os casos suspeitos de PAIR e não percebem a Saúde do Trabalhador como um programa institucionalizado fazendo parte do serviço.

Correspondence address:

Hugo Carlos Pedroso
Curitiba Municipal Health Department
Rua Francisco Torres, 830, Centro,
Curitiba (PR), Brazil, CEP: 80060-130.
E-mail: hugopedroso@hotmail.com

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¹ Vigilância Epidemiológica, Centro de Referência em Saúde do Trabalhador – CEREST - Curitiba (PR), Brazil.

² Universidade Tuiuti do Paraná - Curitiba (PR), Brazil.

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INTRODUCTION

Noise Induced Hearing Loss (NIHL) is one of the mandatory notifiable diseases published in Ordinance Ministerial Office/Health of Ministry (GM/MS) n°. 104 from January 25, 2011, and updated in the Ordinance GM/MS n° 1984 from September 12, 2014. Nevertheless, studies show that NIHL is not properly notified. According to the Surveillance Bulletin on Health-related Injury at Work⁽¹⁾, in an NIHL survey carried out in Brazil between 2007 and 2012, 1,872 cases were reported in SINAN (the notifiable diseases information system).

The notification of accidents and injuries related to work is important to guiding policies and programs aimed at occupational health, as greater attention to this problem is required by public health services⁽²⁾.

Occupational health is considered to be the responsibility of the Unified Health System (SUS) according to the 1989 Brazilian Constitution, having an intra-sectoral nature covering primary, secondary and tertiary health as well as different levels of government, in areas such as: Social Security, labor, trade unions, the environment, and social welfare, among others, addressing interdisciplinarity and worker participation⁽³⁻⁵⁾.

SUS was instrumental in the process of restructuring the public service network to match, qualify and meet the demand of diseases and work-related accidents, as well as to assist the worker in an integrated manner, aiming to provide improvements in the quality of life at work, as well as personal and social relationships⁽⁶⁾.

As a health surveillance component aimed at comprehensive care, Worker Health Surveillance (VISAT) should be part of the process of construction of the Health Care Network (HCN), coordinated by Primary Health Care (PHC)⁽⁷⁾. For attention to workers' health, Ordinance MS/GM No. 1679/2002⁽⁸⁾ created the National Network of Integral Attention to Worker Health (RENAST). As a consequence, an integrated care model, was established that should consider all occupational health/disease issues with programs, assistance, and supervision involving primary health care. It should also articulate all devices, SUS equipment and services in a nationwide network, with connections arranged at different levels of management, production information, and the implementation of Worker Health Centers (CEREST)⁽⁹⁾. However, this integration of occupational health in PHC is still incipient and discontinuous, since professionals and primary care services are not prepared to establish the relationship between the injury and the job, and then to adopt the appropriate procedures in these situations. This situation makes the data on health of workers in PHC still scarce, and even worse relative to NIHL^(2,10).

The incorporation of PHC workers' health is not possible without considering health-care workers and their function, enabling them to look at workers' complaints and focusing their attention on possible occupational hearing loss, for example, as an elementary aspect of health management⁽¹¹⁾ in the occupational health field.

In this sense, it is the occupational health surveillance worker who organizes the promotion of health and reduction

of disease and death in the working population (Ordinance GM/MS n°. 3.252/09).

Occupational health surveillance uses different structural components in an interdisciplinary approach to the relationship between work and health: technological components, used in production processes; epidemiological components for risk assessment; and social components, such as economic conditions and the organization of workers – thus seeking knowledge for action/ intervention^(9,12). And as part of the network of attention to worker health, the CEREST network was created, and considered to be radiating poles of knowledge about the relationship between work process/ health-disease process, with a responsibility to provide technical and scientific support to the other units of SUS, especially the primary care providers' responsibility to report, investigate and provide answers to sensitive diseases related to work, in order to control and improve working conditions^(2,13,14).

A study was done on how CEREST contributed to increases in work-accident notifications in SINAN by having CEREST deploying infrastructure, training a number of personnel, and providing service to external demands⁽¹⁵⁾.

In the state of Paraná, there are eight regional centers and one in the city of Curitiba within the aforementioned strategy of having an National Occupational Health Network (RENAST)⁽¹⁶⁾. The CEREST in Curitiba was enabled in RENAST with municipal management in 2009, which promotes actions to improve working conditions and worker's quality of life through prevention and surveillance. It searches and explores health information, performing inspections in the workplace; promoting professional training for implementing occupational health actions in the SUS⁽¹³⁾.

The Curitiba Center, since its licensing, has been negotiating with management for a partnership and supports the suggestion in the effort to structure an information system that portrays disease profiles and work accidents that reflect the reality of the city's working population⁽¹⁶⁾. In the state of Paraná, there were 13 reported cases from 2007 to 2009 and 33 cases from 2010 to 2012⁽¹⁾.

The aim of this study was to analyze the perception and knowledge of health professionals working in Curitiba's primary care health network regarding the compulsory notification of NIHL in SINAN.

METHODS

This is a transversal cohort study conducted in the city of Curitiba - PR.

The research was approved by the Research Ethics Committee under No. 382,270.

The study was conducted in two stages:

- 1) First Stage: a questionnaire was applied with eight self-administered questions, closed and semi-open, during the II Municipal Seminar on Awareness on Noise in 2014 for medical professionals, clinical nurses, and speech therapists working in the Curitiba municipal health primary care network.

There were a total of 48 individuals, a sample representing 2.4% of professional nurses, physicians and audiologists in primary care (from a total of 2001 professionals) in the city. The questionnaire was given as the subjects arrived at the seminar, before the presentations were given, and contained data on the identification and knowledge of occupational diseases, as well as care and diagnosis, the facilities and any difficulties in meet patient needs at the health facility, and finally notification of NIHL. 48 questionnaires (10 nurses, 14 audiologists and 24 doctors) were used for this study.

- 2) Second Stage: a survey was conducted of NIHL cases reported from 2007 to June 2014 in the city of Curitiba, in the SINAN database in order to characterize the cases and understand the process of notification. From these data, the following variables were analyzed: age, gender, education, occupation, employment contract, and notifying source of the cases.

Quantitative data were organized descriptively in tabular form for analysis. The responses of the semi-open questions have been organized into categories and presented in tables.

RESULTS

Table 1 shows the relationship of questionnaire respondents on knowledge and notification of NIHL. It was observed that 50% of individuals were physicians, the predominant age group was from 26 to 30 years, and were mostly technical-level professionals specializing in occupational health in primary care.

Among the 48 health professionals, 56.2% reported that they feel able to identify health problems related to the worker. However, only 21 (43.7%) feel able to identify cases of NIHL (Table 2), of these, 11 (68.7%) were speech therapists and 5 (31.3%) doctors.

In the semi-open question to report on the facilities and factors that hinder the development of a routine in the workplace, responses were categorized and shown in Chart 1.

Health service in close proximity to the population, as well as the availability of services for testing and referrals to specialists, is reported to be a facilitator in the access of service to the worker. Other supporting factors are monthly management meetings about protective actions for worker health, the creation of a multidisciplinary team, worker health training, as well as electronic medical records available for reporting work-related diseases.

Difficulty was reported in professional health training for not having knowledge or having a lack of training in specific occupational health areas, and not knowing the needs of the worker. Another factor was the number of professionals in service and reduced service time, the bureaucracy of the notification process or to request some tests, and lack of management support. The surveyed health professionals also voiced dissatisfaction with the lack of policies geared toward workers' health, and also noted their uncertainty as to the legal compliance in notifications.

Table 2 shows the perception of professionals about NIHL, noting that the subjects knows the characteristics (56.2% of the sample), and feel able to identify cases of NIHL (43.7%).

Table 1. Profile of individuals who attended the second stage of research on NIHL notification (n=48)

Profile	n	%
Profession:		
Nurse	10	20.8
Audiologist	14	29.2
Physician	24	50
Age group (years):		
26-35	19	39.6
36-45	13	27.1
46-55	12	25
56 +	4	8.3
Job/ position:		
Technical	42	87.5
Management	6	12.5
Workplace:		
Municipal Health Center	3	6.3
Sanitation District	7	14.5
Clinic	25	52.1
Other municipal bodies	3	6.3
Specialist:		
Yes	40	83.3
No	8	16.7
Masters Degree:		
Yes	3	6.3
No	45	93.7

Table 2. Perception of health professionals in relation to NIHL in primary health care network - Curitiba city (n=48)

Question	n	%
Do you know the characteristics for NIHL?		
Yes	27	56.2
No	9	18.8
Not always	11	22.9
Ignored	1	2.1
Are you able to identify cases of NIHL?		
Yes	21	43.7
No	11	22.9
Not always	15	31.2
Ignored	1	2.1
In cases with suspected NIHL do you complete the notification in SINAN?		
Yes	18	37.5
No	25	52.1
Ignored	5	10.4

The statements from the health professionals about the reasons for failure to notify regarding NIHL cases are shown in Chart 2. It was observed that the health professional does not know about notification, or doesn't know how to notify regarding NIHL, for lack of guidance on how to do it, understanding of the notification process based on the worker's employment status, not realizing the health of workers as an attribute to the service, having difficulty in characterizing NIHL without diagnosis support, and lacking information on the work environment. The computerized system was described as being a source of difficulty in NIHL notification due to the bureaucracy of completion and an unestablished process. Another reported issue was that their NIHL notification was rejected by the employer as the diagnosis had been made through the public health service.

The health professionals commented on the resistance and fear to notify an NIHL case.

The table below shows the reported cases of NIHL from 2007 to 2014, a total of 44 cases in SINAN in Curitiba - PR.

Table 3 shows some demographic data from reported NIHL cases.

It was observed that males accounted for a total of 40 cases (90.9%), the predominant age group being 50-64 years (41%), their most common educational level was that of having completed elementary school (25%), and their worker status was as registered workers (52.3%).

Table 4 shows economic activity and occupation for the NIHL cases, showing that the manufacturing sector represented (41%) of the cases of NIHL, and the professional activity with the highest reported number of cases was manual industrial production with 16 cases (36.4%).

Chart 1. Facilities and difficulties in worker care reported by health professionals (n=44)

Categories	Reported situation
Facilities:	
Accessibility to services	- access, proximity to the population, nearest health facility, Cidade Industrial de Curitiba (CIC)
Availability of service to workers	- periodic exams, audiometer tests, initial consultation, some complementary exams, referrals to occupational medicine specialists, orientation
Management/ technical support	- monthly meetings with the group, support the institution in injury prevention and protection of workers' health, service time, multidisciplinary health team, proximity to the Sanitary District manager, electronic medical records available for notification
Professional training	- have a doctor at the clinic who also works in other services, such as occupational medicine, skilled professionals, versatile professionals, working in a company linked to various public agencies, diagnosis and guidance are performed by me (trained)
Difficulties:	
Insufficient professional training	- physician, concerned only with the diagnosis, does not know the work environment, lack of training and knowledge, "these ideas should be better disseminated," not concerned about getting more detail on the problem as presented by the patient
Lack of management support	- number of professional and reduced time of notification bureaucracy and some tests, work organization, flow and programs, lack of interest of the board and the corporation itself, physical space, demand pressure, absenteeism, extended sick leave
Professional discontentment	- the Municipal Health Department does not care for its workers, lack of policy aimed at worker health
Uncertainty of notification	- legal requirements

Chart 2. Reasons for non-notification of NIHL on SINAN by health professionals (n=48)

Categories	Reported situation
Lack of knowledge about the notification of NIHL	- Unaware of such a notification, lack of guidance on how to do it, I do not know if it is notified, workers are sometimes not governed by the Labor Code, difficulty of some bodies to perform notification when the doctor calls (process)
Not recognizing occupational health of as part of the service	- As the health of the worker is not focused on by the Municipal Health Units, have to refer to UST/ HT, does not provide occupation care, never had a case, I do not attend workers directly, it is not my job, do not know the worker's difficulties in my work
Difficulty in characterizing NIHL (diagnosis)	- Without audiometry it is difficult to characterize NIHL, lack of data on the location of the work and noise measurement
Difficulties with the computerized reporting system	- Lack of computerized facilities, do not know if there is this system implemented at work and do not know the notification process, bureaucracy in filling out notification
Uncertainty	- difficulty in acceptance of reporting by employers, resistance and fear

Table 3. Case distribution by gender, age, education, and labor market situation in Curitiba (n=44)

Variable/ Year	2007	2008	2009	2010	2011	2012	2013	2014	Total	%
Gender:										
Male	3	1	9	5	2	18	0	2	40	90.9
Female	0	0	0	0	2	2	0	0	4	9.1
Age group (years):										
20-34	0	0	2	1	0	1	0	0	4	9.1
35-49	1	1	6	4	0	2	0	0	14	31.8
50-64	2	0	1	0	2	11	0	2	18	41
65-79	0	0	0	0	2	5	0	0	7	15.9
80 e +	0	0	0	0	0	1	0	0	1	2.2
Education level:										
Left Blank	3	1	1	0	1	5	0	0	11	25
Primary incomplete	0	0	0	0	0	5	0	0	5	11.4
Primary complete	0	0	0	0	1	1	0	0	2	4.6
Middle school incomplete	0	0	0	0	2	4	0	2	8	18.1
Middle school complete	0	0	6	5	0	0	0	0	11	25
High school incomplete	0	0	0	0	0	2	0	0	2	4.6
High school complete	0	0	2	0	0	2	0	0	4	9.1
College complete	0	0	0	0	0	1	0	0	1	2.2
Job Registration:										
Left Blank	0	0	0	0	0	1	0	0	1	2.2
Registered	3	1	9	5	1	4	0	0	23	52.3
Independent contractor	0	0	0	0	0	5	0	2	7	15.9
Public servant	0	0	0	0	0	1	0	0	1	2.2
Retired	0	0	0	0	3	8	0	0	11	25
Other	0	0	0	0	0	1	0	0	1	2.2
Notification source:										
CEREST	3	1	9	5	0	0	0	0	18	41
Hospital de Clinicas	0	0	0	0	4	20	0	0	24	54.5
University Clinic	0	0	0	0	0	0	0	2	2	4.5

Table 4. List of economic activity and Brazilian Occupation Classification from 2007 to 2014 with notified NIHL in Curitiba (n=44)

CNAE 2.1	n	%
Manufacturing	18	40.90
Other Service Activities	9	20.44
Extractive Industries	6	13.64
Transport	4	9.10
Fishery	2	4.54
Trade	2	4.54
Real Estate activities	1	2.28
Human Health and Social Services	1	2.28
Public administration	1	2.28
LARGE BRAZILIAN OCCUPATION GROUP:		
Production of industrial goods and services (manual)	16	36.36
Repair and maintenance services	14	31.82
Production of industrial goods and services	8	18.18
Agricultural, forestry and fishery	4	9.10
Administrative services	2	4.54
TOTAL	44	100

DISCUSSION

Among the 48 health workers surveyed, 50% were physicians, predominantly in the age group 26-35 years working as specialists in occupational medicine in primary care (Table 1). Among the individuals, 27 (56.2%) reported knowing the characteristics of NIHL. Among these, 21 (43.7%) felt able to identify cases of NIHL, and most were audiologists (10), which is consistent with the knowledge of such professionals. However, even with the need for reporting suspected NIHL cases, 25 (52.1%), do not record the notification in SINAN (Table 2). The identification by health professionals of health problems related to the employee may be hindered by factors such as lack of academic preparation, which would prevent the notification of NIHL⁽¹⁷⁾.

Regarding the facilities and the factors that hinder the development of routines in the workplace, the responses of health professionals were related to: the accessibility to service, i.e., patients live nearby, in the territory of coverage of the health unit, facilitating access; the performance of health teams and availability of services to the workers, i.e., facilitating referrals to occupational health specialists and audiometric tests; the support

of management and technical support, namely technical and expert support in strengthening the practices that CEREST has been developing for inclusion of workers' health activities in PHC; and vocational education and training available to professionals, namely promoting training and technical meetings with the health districts. Access to service for the population was the criteria most reported by health professionals⁽¹⁴⁾. The provision of health services in the neighborhood facilitates access for workers, identifying the demands and health problems related to local jobs, while establishing links and strengthening relationships of trust with the health team and the population^(3,6,18).

Both WHO⁽¹⁹⁾ and PAHO⁽¹⁹⁾ consider primary health care to have the function of bringing health care to where people live and work. This is also reported by the professionals who emphasize the availability of services to workers and the possibility of referrals to occupational medicine specialists in the Workers' Hospital that attends to those living in the city and the metropolitan region of Curitiba.

A well-structured organization of health care networks (HCN) should be the main proposed strategy to overcome fragmented care and management⁽²⁰⁾.

Regarding the question about the support of management and technical support, this is a way to ensure public access and create welcoming places that bring in and connect professionals and patients, effectively and efficiently ensuring programs and services. Management support is defined as "organizational arrangements" actions and health services. The importance of having a doctor at the clinic trained in occupational medicine facilitates the basic care given by the health worker and multidisciplinary team⁽¹⁴⁾.

The aforementioned difficulties in the notification of NIHL reported by health professionals (Chart 1) were stated as: lack of training, lack of management support, professional discontent, and uncertainty of notification. There is also a gap in the training of professionals in their daily work practices. Often, the training has a restricted view regarding occupational health⁽¹⁸⁾. For many health professionals involved in the diagnosis, registration or notification, health-related work is not important and therefore the work-related need not be registered or they lack the proper training to perform the task^(21,22).

For health workers in primary care, occupational health is a new field of action that encompasses VISAT, which has the challenge of intervening in basic health units in the territory by working together⁽⁶⁾.

Another factor reported in research by health professionals was the lack of support from management, even though management appears in the statements of some subjects as a facilitator. This lack of support is expressed by some professionals as being related to workload, a limited number of health care professionals, and insufficient time to meet demand. As seen in the mention of the bureaucracy of notification, which requires a longer time than the routine PHC consult takes to fill the SINAN specs and the need to order tests to support the suspicion of NIHL (for audiometry).

Whereas the health problems related to work are complex and cannot be solved only in PHC, it can actually coordinate comprehensive care for workers' health, and it is essential to have the support of other parts of the SUS network⁽¹⁴⁾. For example, having the support of CEREST, which is a locus of intra- and intersectoral coordination with managers and social welfare with workers' health in mind. CEREST has an important and essential role with health professionals to train those in the health care network so these professionals can investigate the patient's complaint or health problem and verify that it is related to a current or former job, by means of collecting information on occupational history, etc⁽¹⁴⁾.

Regarding the working conditions of public health servants, despite MS Ordinance No. 2554/2011 providing that the workplace should offer safety, comfort and well-being for patients and workers, to provide infrastructure so that basic care teams can carry out their duties, the current working conditions do not favor certain actions, such as NIHL notification. This is also expressed in dissatisfaction with managers. Health professionals are concerned about having a worker's health policy with advancing comprehensive care in SUS and Public Service. Therefore, it is necessary that primary care professionals treat occupational health as a key element in understanding the population's health-disease process and its impact on the environment⁽¹⁸⁾.

In relation to the uncertainty with notifications referred to by the subjects, many believe that notification can cause difficulties or even not be necessary, disregarding the objective. Companies fear investigation by monitoring teams related to injuries or disease at work, which is triggered by a notification in SINAN. Therefore notifications are discouraged through company pressure on health professionals and workers⁽²³⁾. The non-acceptance by businesses of reports and employee clearance certificates signed by general practitioners in family health, leads to an understanding that there is also no need for notification, inhibiting such action⁽⁶⁾.

It was observed that even in health care professional who know the characteristics of NIHL (Table 2), and feel able to identify it (43.7% of individuals), more than half (52.1%) do not create a notification in SINAN. This omission brings losses to public service in the actions of effective policies for worker health⁽¹¹⁾.

Many health professionals do not know how to notify for NIHL due to lack of guidance on how to do it (Chart 2). The question that needs to be addressed to minimize non-notification is the weak capacity of identification or recognition of occupational causal relationships by health professionals^(17,24). In addition, many health professionals in primary care do not perceive occupational health as part of their assignment in public services, making it difficult to characterize NIHL as soon as possible to adopt measures aimed at ameliorating a noisy environment^(17,24).

The uncertainty stated by the subjects due to their non-involvement with the conceptual bases of worker health, disregarding that work is central to the disease process and that intervention actions in the work environment are necessary⁽²⁾.

The above aspects reinforce the resistance of primary care professionals and the need to expand the perspective on work, recognizing its impact on healthy and sick workers⁽⁷⁾.

There is need for training of professionals with a clear vision of the centrality of work. And it is important for the determination of illness and to discuss the importance of its social function in this context, guided by social needs in health and in that sense, worrying about the health of the public, whether it be individuals, ethnic groups, generations, social classes and populations, allowing them greater and more effective participation in society on issues of life, health, suffering and death, in the collective and social dimension⁽¹⁸⁾.

Given these results, being a health worker in the Curitiba Health Care Network is no simple task, from a political, administrative and methodological point of view. The answers are not unique and standardized, requiring, above all, the creativity of managers and CEREST Curitiba in developing strategies to empower health professionals to improve NIHL reporting.

One of the challenges is to get the PHC professionals and SUS managers in Curitiba to incorporate in their everyday practice the understanding that work is one of the determinants of the health-disease process, which requires the involvement of the whole health system to ensure comprehensive care to workers and ensure safety without feeling threatened, to notify as to any problems.

In the survey of NIHL notifications in SINAN for the city of Curitiba there was a predominance of males (90.7%), aged 40 years (79.3%), with incomplete primary education (48.3%) and a registered employment contract (66.2%) (Table 3). The Worker Center's Information Bulletin PISAT/ISC/UFBA-MS/DSAST/CGSAT from November 2013, on notification of NIHL in Brazil, also showed a predominance of males, age, and employment contract similar to those identified in Curitiba. It was noted, however, that there was a difference in education level between Curitiba and Brazil. This is perhaps because Curitiba is known historically as a university city⁽²⁵⁾, which would facilitate the workers having completed elementary education.

Still in Table 3, with regards to the notifying source, the health service that had the most notifications was the Epidemiological Surveillance Service of HC - Clinical Hospital at the Federal University of Parana, with 24 cases (54.5%). Note that this location, at a tertiary level, is on the list of reporting sources for the Curitiba Secretary of Municipal Health, and is well known as a highly complex regional center meeting all medical specialties – a facilitating factor in NIHL cases. The second location that had the most notifications was CEREST for surveillance actions. It is clear that none of the notifications in the studied period came from primary health care, which is in accordance with the difficulties to notify referred to by the health professionals interviewed (Chart 2).

The manufacturing sector represented (41%) of the cases of NIHL and professional activity with the highest reported case was for manual industrial production workers with 16 cases (36.4%) (Table 2). Another study also found more cases in the manufacturing sector, being a predominant sector in Brazil,

which has the highest rates of hearing problems due to the work process and machinery with high noise levels⁽²⁶⁻²⁸⁾.

This study clarified claims by PHC professionals as to the difficulty in NIHL identification and notification in the city of Curitiba. The categories that demonstrate NIHL non-notification can serve as guidelines for managers to act in order to incorporate worker health as a public health problem, in particular the identification of occupational hearing loss in primary care. In this way, training would be required for professionals to identify and notify as to NIHL, and make them aware that health workers should be included in the Basic Health Unit. Proper actions would: facilitate the flow of diagnosis for NIHL in the network from primary care; provide a computer system to facilitate reporting and give the support necessary so that professionals do not feel uncertainty about the way employers of these workers would react.

Other studies involving a higher number of health professionals and other municipalities of different sizes are suggested.

This survey was conducted with a group of health care professionals in a particular municipality, therefore, the analysis with other groups may have different results.

CONCLUSION

It was found that health professionals know the characteristics of NIHL, and feel able to identify cases of occupational hearing loss. However, the health professional does not notify as to suspected cases of NIHL, and does not consider occupational health as an institutionalized program and part of the service to be provided.

The notification of NIHL would be a valuable tool for workers' health surveillance, as this information is intended to understand the epidemiological picture of NIHL, or trends and factors that influence or determine the behavior of the disease so that timely decisions can be made. Otherwise, there is a risk that the notification would become a mere statistical record, like so many others that exist in the health system.

Therefore, it is necessary that the reporting of cases be carried out in a timely manner by health facilities and there be a rapid flow of information between CEREST Curitiba and the PHC network, facilitating actions such as health surveillance workplace inspections.

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Author contributions

HCP participated in the organization of data collection and structuring of the article; CGOG participated in the design and structuring of the article.