



Workplace Harassment in Patients with Congenital Heart Disease

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Abstract

Descriptive and observational study carried out consecutively between adult outpatients with congenital heart disease (CHD) and a control population to determine workplace harassment. Demographic and clinical parameters were determined, and two surveys were carried out: the EuroQol-5D (EQ-5D) to evaluate the quality of life and the NAQ-R (Negative Acts Questionnaire-Revised) to assess workplace bullying. Seventy patients with CHD (37 ± 10 years old and 38 (54%) male) and 243 age- and sex-matched controls were studied. Twenty-two patients had mild, 37 moderate, and 11 severe CHD defects. In relation to the educational level, patients with CHD showed a statistically significant higher percentage of vocational training ($p = 0.003$) while in the control group, there was a higher percentage of patients with secondary education ($p = 0.010$). No differences were observed in relation with university studies ($p = 0.466$). Similarly, no statistical significant differences were obtained in the EQ-5D questionnaire between both groups. Regarding the NAQ-R survey, patients with CHD scored significantly higher in the three dimensions of the test (physically intimidating bullying, work-related bullying, and person-related bullying) independently of the educational level. Also, patients with CHD self-reported significantly more workplace bullying than controls (15 (21%) vs. 26 (10%), $p = 0.007$). Meanwhile, in the whole series, those who reported workplace harassment referred more anxiety and depression (29% vs. 17%, $p = 0.049$) in the quality of life survey but not of psychiatric illnesses.

Keywords Congenital heart disease · Workplace · Harassment · Mobbing · Bullying

Introduction

Workplace harassment, also known as mobbing, refers to the act of offending, excluding, or negatively affecting the work environment of an individual in a systematic and regular way for a period of at least 6 months (Park et al., 2017; Romero Starke et al., 2020; Baran Tatar & Yuket, 2019; Grzesiuk et al., 2022). However, it was not until the mid-1900s when

Heinz Leymann (Leymann, 1996) established the term mobbing for the first time, later defined by the International Labour Organization as actions or behaviors that attack, harm, degrade, or injure an individual or groups of employees. Moreover, this organization adopted recently global standards aimed at ending violence and harassment in the world of work (International Labour Organization, 2019).

There are multiple risk factors related to workplace harassment such as effort-reward imbalance, low procedural fairness of the organization, job insecurity, temporary employment, atypical working hours, precariousness, or stress. Furthermore, recent studies affirm that women, a low educational level, and an introverted or emotionally unstable personality are more likely to suffer mobbing (Feijó et al., 2019; Rajalingam et al., 2019, 2021).

Also, stressful factors in the workplace may lead to a greater risk of negative health effects due to emotional and social distress (Ares Camerino & Ortega Marlaska, 2018; Limm et al., 2010). In fact, exposure to mobbing increases the risk of sleep disorders, tiredness, and exhaustion (Niedhammer et al., 2009). In this context,

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different authors have described not only a raise in anxiety and insomnia (Gray et al., 2019), depressive symptoms or suicide (Becker & Correll, 2020; Theorell et al., 2015), but also a lower performance, greater absenteeism from work and an increased cardiovascular risk (Jacob & Kostev, 2017).

Patients with congenital heart disease, the commonest birth defect, may show associated difficulties (Sable et al., 2011) such as limitations in physical exercise, speech or language disorders, concentration difficulties, poor social relationships, and an increased prevalence of attention deficit disorders, anxiety, or depression (Shillingford et al., 2008). Some of these problems may lead to lower educational levels and worse job conditions. In fact, congenital heart disease patients are less likely employed than the normal population (Sluman et al., 2019). Therefore, starting in adolescence, choices about education and job preferences should be made based on the use of specific medications and the possibilities to perform heavy exercise or work night shifts (Baumgartner et al., 2021).

As worse working conditions are associated with a higher risk of work bullying and due to the intrinsic characteristics of the congenital heart disease population, it can be hypothesized a relationship between congenital heart defects and workplace harassment.

The objectives of the study are to determine, through a face-to-face survey, if adult patients with congenital heart disease present a higher risk of workplace harassment than an age- and sex-matched control population and if there are differences in the prevalence of workplace harassment between patients with congenital heart disease depending on the complexity of their heart defect.

Methodology

Study Design

Descriptive and observational study carried out consecutively among patients who attended outpatient consultation, between October 2021 and May 2022, at the outpatient department of an adolescent and adult congenital heart disease unit. Controls were also collected at health centers in the same geographical area and during the same period after explaining the reason of the survey and requesting the informed consent. The inclusion criteria were being over 18 years old, to be working at the time of the survey, being able to understand and answer the test questions, and signing the informed consent. In patients with congenital heart disease, the diagnosis was established with an imaging test. All patients gave their informed consent to participate, and the study was approved by the Ethics Committee of our hospital.

Clinical Data

Age, sex, type of congenital heart disease, the existence of cardiovascular risk factors (arterial hypertension, diabetes mellitus, dyslipidemia, and smoking), alcohol and drug abuse, associated genetic syndrome, and previous psychiatric illness were determined. Congenital heart disease was classified as mild, moderate, or severe according to the guidelines developed by the European Society of Cardiology (Baumgartner et al., 2020). On the other hand, the functional class, according to the New York Heart Association (NYHA), divided patients into four classes related to their limitation to physical exercise (class I: no limitation; II: mild limitation; III: marked limitation; and IV: inability to perform any physical activity). Educational level was also determined (reading and writing, primary, secondary, vocational training, and university education) as well as whether the patients had pacemakers, implantable cardioverter-defibrillators, or metal valve prostheses. The job was labeled as unskilled (work that requires no specific abilities or education), semi-skilled (having some skills and expertise without being a specialist in their profession), or qualified if academic and professional training was necessary. Finally, those who worked as health workers (clinical assistant, caretaker, nurse, or doctor) were determined.

Quality of Life and Workplace Harassment Surveys

The EuroQol-5D (EQ-5D) quality of life survey was carried out, which is a generic questionnaire for measuring quality of life that can be used both in relatively healthy individuals (general population) and in groups of patients with different pathologies. The individual himself assesses his state of health, first in levels of severity by dimensions (descriptive system) and then on a more general visual analogue assessment scale. The descriptive system contains five health dimensions (mobility, self-care, daily activities, pain/discomfort, and anxiety/depression) and each of them has three levels of severity (no problems, some problems, or moderate/severe problems). The visual scale records the patient's self-rated health on a vertical visual analogue scale, where the endpoints are labeled "The best health you can imagine" and "The worst health you can imagine." It asks patients to rate their general health from 0 to 100. Higher numeric scores represent better patient function (Herdman et al., 2001).

Meanwhile, the NAQ-R (Negative Acts Questionnaire-Revised) (Einarsen et al., 2009) consists of 23 items that measure the exposure to bullying in the workplace; all of them described in behavioral terms that do not include the term workplace harassment, after which an additional question is included (23 + 1) in which perceived

harassment is directly questioned, representing a valid and reliable measure of exposure to harassment at work (Gonzalez Trijueque & Graña, 2013).

The questionnaire covers three underlying factors: physically intimidating forms of bullying, work-related bullying, and personal bullying at the workplace within the last 6 months. Physically intimidating bullying comprises 4 questions among which are being shouted at or being the target of spontaneous anger, intimidating behaviors such as finger-pointing, invasion of personal space, shoving or blocking the way, threats of violence or physical abuse, and sexual harassment at the workplace. Work-related bullying includes 8 questions such as withholding information which affects his/her performance, being ordered to do work below the level of competence, having his/her opinions ignored, being given tasks with unreasonable deadlines, excessive monitoring of the work, pressure not to claim something to which by right the person is entitled (e.g., sick leave, holiday entitlement, travel expenses), or being exposed to an unmanageable workload. Finally, person-related bullying covers 11 questions that include being humiliated or ridiculed in connection with the work, having key areas of responsibility removed or replaced with more trivial or unpleasant tasks, spreading of gossip and rumors about the patient, being ignored or excluded, having insulting or offensive remarks made about the person, attitudes or his/her private life, hints or signals from others that he/she should quit his/her job, repeated reminders of the errors or mistakes, being ignored or facing a hostile reaction when the person approaches, persistent criticism of the errors or mistakes, practical jokes carried out by people the person does not get along with, having allegations made against him/her, or being the subject of excessive teasing and sarcasm. The possible answers are scored from 1 to 5 where 1 is never, 2 sometimes, 3 monthly, 4 weekly, and 5 daily. The response to all items is averaged. The NAQ-R has an adapted version in Spanish (Saez et al., 2003).

Statistical Analysis

Qualitative variables were determined in percentages. Quantitative variables were expressed as mean and standard deviation. The Kolmogorov–Smirnov or the Shapiro–Wilks tests were used to verify the normality of the data. Possible associations between categorical variables were evaluated using Pearson’s chi-square test (X^2) or Fisher’s test. Continuous data were compared by Student’s *t*-test. Cronbach’s alpha was calculated for the three underlying factors of the NAQ-R questionnaire together (physically intimidating forms of bullying, work-related bullying, and personal bullying) in patients with CHD and the control group. Subsequently, a linear regression analysis was performed to predict the three underlying factors using cases

and controls and the education level as predictor variables. As a linear regression was carried out, educational level categories were combined: reading and writing with primary education and secondary education with vocational training. In addition, the university education was set as a reference category. With the intention of verifying that the factorial structure of the scale is invariable between the case and the control groups, three CFAs (confirmatory factor analysis) were carried out using the case–control variable as a group and the “WLSMV” estimator. In the first model, the configuration was done. In the second model, the factor loadings were assumed to be equal (loadings) and in the third model, the factor loadings and constants were assumed to be equal (loadings and intercepts). A principal component analysis was done for individuals, in the CHD and the control group, using the scores given to the NAQ-R questionnaire. A *p* value less than 0.05 was considered statistically significant. The statistical program used was the R Core Team (2022), version 4.2.2.

Results

The sample of this study included a total of 70 patients older than 18 years with congenital heart disease and 243 control patients matched for age and sex. All congenital patients

Table 1 Types of congenital heart diseases and degree of complexity

Type of CHD	CHD complexity			Total
	Mild	Moderate	Severe	
ASD, <i>n</i>	5	0	0	5
VSD, <i>n</i>	10	0	0	10
Ductus, <i>n</i>	1	0	0	1
AVSD, <i>n</i>	0	3	0	3
APVD, <i>n</i>	0	2	0	2
Coarctation of the aorta, <i>n</i>	0	8	0	8
Pulmonary valve disease, <i>n</i>	3	9	0	12
Aortic valve disease, <i>n</i>	2	1	0	3
Tetralogy of Fallot, <i>n</i>	0	13	0	13
D-TGA, <i>n</i>	0	0	6	6
L-TGA, <i>n</i>	0	0	2	2
Pulmonary atresia, <i>n</i>	0	0	2	2
Single ventricle, <i>n</i>	0	0	1	1
Aortopulmonary window, <i>n</i>	0	1	0	1
Others, <i>n</i>	1	0	0	1
Total, <i>n</i>	22	37	11	70

n number of patients, CHD congenital heart disease, ASD atrial septal defect, VSD ventricular septal defect, AVSD atrioventricular septal defect, APVD anomalous pulmonary venous drainage, D-TGA dextro-transposition of the great arteries, L-TGA levo-transposition of the great arteries

who were asked to participate in the study agreed to do so. Within the group of patients with congenital heart disease, one had a pacemaker and other had a metal valve prosthesis in the aortic position. No patient had an implantable cardioverter-defibrillator or an associated genetic syndrome.

Table 1 specifies the type of congenital heart disease and the degree of complexity classified as mild, moderate, and severe. Table 2 shows the demographic and clinical data in patients with congenital heart disease and controls. From the table, it can be seen how patients with congenital heart disease had a significantly worse functional class and were less likely to be smokers than controls. In relation to the educational level, patients with congenital heart disease showed a statistically significant higher percentage of vocational training education ($p=0.003$) while in the control group, there was a significant higher percentage of patients with

secondary education ($p=0.010$). However, no significant differences were observed in relation to the university studies ($p=0.466$). Regarding the quality of life test (EQ-5D), no significant differences were obtained in any of the parameters of the survey between cases and controls or in the visual analog scale between both groups of patients.

When scores were aggregated and compared according to the three underlying factors of the NAQ-R questionnaire, significant differences were seen between control and cases in all of them showing patients with congenital heart disease significant higher scores: physically intimidating forms of bullying (1.1 ± 0.3 vs. 1.3 ± 0.4 , $p=0.004$), work-related bullying (1.3 ± 0.6 vs. 1.7 ± 0.7 , $p=0.003$), and personal bullying (1.2 ± 0.4 vs. 1.5 ± 0.6 , $p=0.001$) in the workplace.

Table 3 shows a linear regression analysis to predict the value of the three underlying factors of the NAQ-R

Table 2 Clinical, demographic, and quality of life survey data in the control population (controls) and in patients with congenital heart disease (cases)

	Controls	Cases	<i>p</i>
Number of patients	243	70	
Age, years	38 ± 11	37 ± 10	0.651
Gender (male), <i>n</i>	102 (42)	38 (54)	0.068
NYHA functional class (grades 2 and 3), <i>n</i>	0 (0)	6 (8)	<0.001
Arterial hypertension, <i>n</i>	21 (9)	7 (10)	0.726
Diabetes mellitus, <i>n</i>	4 (2)	2 (3)	0.515
Dyslipidemia, <i>n</i>	10 (4)	3 (4)	0.955
Smoker, <i>n</i>	27 (11)	7 (10)	0.004
Alcohol abuse, <i>n</i>	1 (0.4)	0 (0)	0.748
Drug abuse, <i>n</i>	3 (1)	0 (0)	0.350
Psychiatric diseases, <i>n</i>	13 (5)	4 (6)	0.906
Education, <i>n</i>			0.031
Reading and writing			
Primary	5 (2)	2 (3)	
Secondary	16 (7)	6 (9)	
Vocational training	89 (37)	14 (20)	
University	55 (23)	29 (41)	
Job qualification, <i>n</i>	78 (32)	19 (27)	0.813
Low qualified			
Semi qualified	131 (54)	34 (49)	
Qualified	73 (30)	24 (34)	
Health workers [‡] , <i>n</i>	39 (16)	12 (19)	0.479
43 (17)		15 (21)	
Quality of life, survey (EuroQol-5D), <i>n</i> *			
Mobility problems	7 (3)	1 (1)	0.498
Personal care problems	2 (1)	0 (0)	0.446
Daily activities problems	7 (3)	4 (6)	0.257
Pain or discomfort	40 (16)	14 (20)	0.490
Anxiety or depression	35 (14)	14 (20)	0.256
Visual analogue scale, %	76.9 ± 16.3	76.6 ± 18.4	0.878

n number of patients, NYHA New York Heart Association. [‡]Health workers include clinical assistant, caretaker, nurse, or doctor. *Patients who referred having some problems or moderate/severe problems in the descriptive system of the five health dimensions. Qualitative variables are determined in number of patients and percentages in brackets and quantitative variables are expressed as mean and standard deviation

questionnaire (physically intimidating bullying, work-related bullying, and person-related bullying) based on cases and controls and the educational level. Cronbach's alphas were calculated for the three variables together in both groups resulting 0.89 (95% CI=0.87–0.91) in controls and 0.89 (95% CI=0.84–0.93) in cases. As can be seen from the table, patients with congenital heart disease scored 0.23 points higher in “physically intimidating bullying” ($p < 0.001$), 0.32 points higher in “work-related bullying” ($p < 0.001$), and 0.28 points higher in “person-related bullying” ($p < 0.001$) when compared with the control group. Meanwhile, when the three factors were determined as a whole, patients with CHD scored 0.27 points higher than controls (< 0.001) without significant

differences according to their educational level. Finally, the principal component analysis, that allows to visualize and analyze the information content more easily, showed that the ellipses did not completely overlap but shared a large surface area between patients with congenital heart disease and the control group (Fig. 1).

In relation to the CHD complexity, no significant differences were obtained in the NAQ-R questionnaire between mild, moderate, and severe congenital heart disease defects, except in the question related to “the concealment of information that affects performance” where patients with great complexity heart defects scored significantly higher than patients with mild or moderate defects ($p = 0.046$).

Table 3 Linear regression analysis to predict “physically intimidating bullying,” “work-related bullying,” and “person-related bullying” based on cases and controls and the education level

Variables	Multivariate analysis					
	N	b	EE	B	CI (95%)	p
Physically intimidating bullying						
Intercept	-	1.26	0.04	-	1.18 - 1.35	<000.1
Group: cases	313	0.23	0.06	0.23	0.12 - 0.34	<000.1
Education level						
University	313	-	-	-	-	-
Read-Primary	313	-0.2	0.09	-0.14	-0.37 - -0.03	0.02
Secondary-vocational	313	-0.16	0.05	-0.18	-0.26 - -0.06	0.002
Work-related bullying						
Intercept	-	1.49	0.06	-	1.36 - 1.61	<000.1
Group: cases	313	0.32	0.08	0.22	0.16 - 0.48	<000.1
Education level						
University	-	-	-	-	-	-
Read-Primary	313	-0.24	0.13	-0.11	-0.49 - 0.02	0.067
Secondary-vocational	313	-0.2	0.08	-0.16	-0.35 - -0.05	0.01
Person-related bullying						
Intercept	-	1.27	0.05	-	1.16 - 1.37	<000.1
Group: cases	313	0.28	0.07	0.23	0.15 - 0.42	<000.1
Education level						
University	-	-	-	-	-	-
Read-Primary	313	-0.06	0.11	-0.04	-0.27 - 0.15	0.551
Secondary-vocational	313	-0.06	0.06	-0.06	-0.18 - 0.06	0.316
PIB + WRB + PRB Total score						
Intercept	-	1.33	0.05	-	1.23 - 1.42	<000.1
Group: cases	313	0.27	0.06	0.24	0.15 - 0.4	<000.1
Education level						
University	-	-	-	-	-	-
Read-Primary	313	-0.14	0.1	-0.08	-0.34 - 0.07	0.188
Secondary-vocational	313	-0.12	0.06	-0.12	-0.23 - 0	0.053

Cases: patients with congenital heart disease, read-primary: reading and writing with primary education, secondary-vocational: secondary education with vocational training, *PIB* physically intimidating bullying, *WRB* work-related bullying, *PRB* person-related bullying, *N* number of patients, *EE* effect estimates, *CI* confidence interval, $p = p$ value

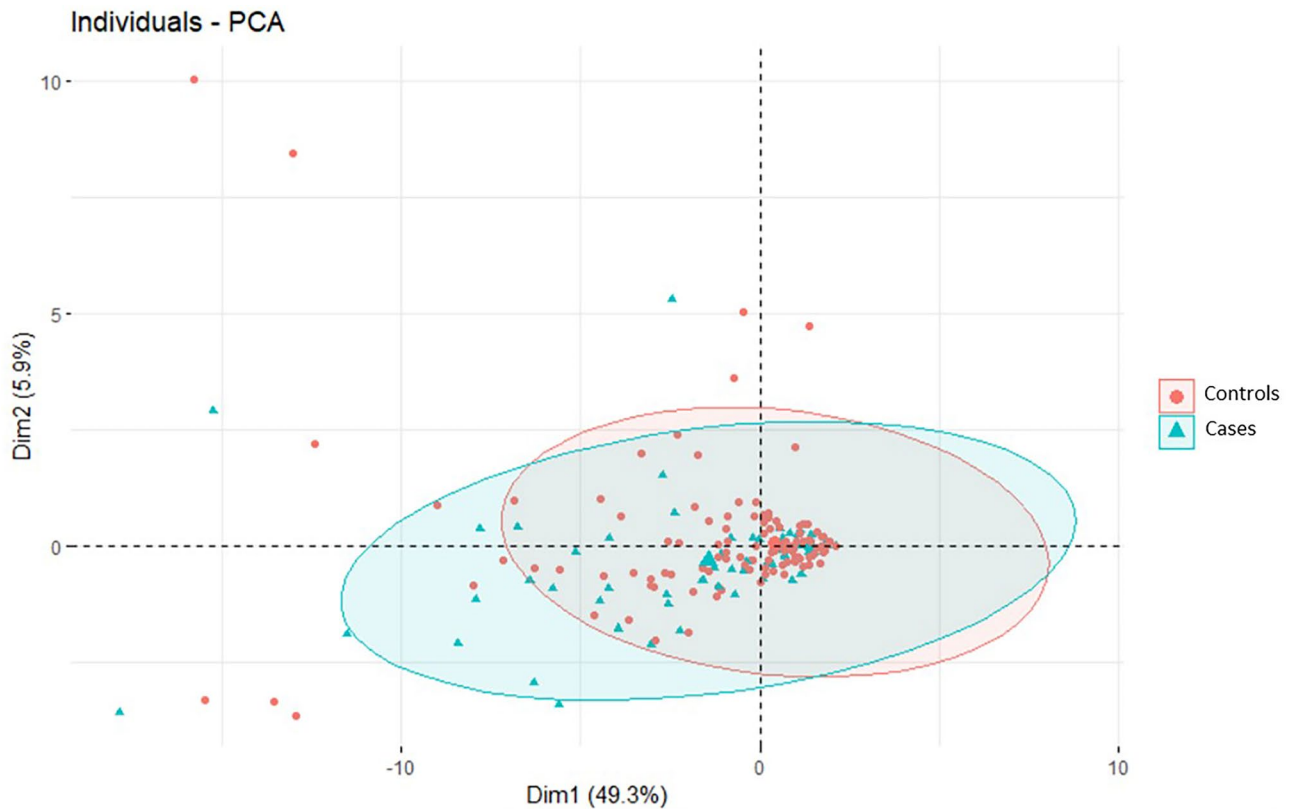


Fig. 1 Principal component analysis showing the ellipses obtained with the scores to the NAQ-R questionnaire in patients with congenital heart disease (cases) and the control population (controls)

With respect to the last question of the survey, where reference is made directly to the workplace bullying, patients with congenital heart disease self-reported significantly more bullying during the last 6 months than patients in the control group (15 (21%) vs. 26 (10%), $p=0.007$). However, no significant differences were observed in age, sex, functional class, cardiovascular risk factors, quality of life, job qualification, or educational level between patients with congenital heart disease who reported bullying behavior and those who did not. On the other hand, when the whole of our series was studied, including cases and controls, those who reported workplace bullying had marginally significant higher levels of anxiety and depression in the quality of life test (29% vs 17%, $p=0.049$) than those who did not but did not suffer more from psychiatric illnesses (12% vs. 5% $p=0.067$).

Discussion

Currently, workplace harassment is considered one of the main psychosocial stressors in a person's working life. However, we must bear in mind that the victim of workplace harassment is usually, contrary to what one might think, professionally competent, creative, well valued by his

colleagues, responsible, honest, with a high sense of justice, although naive and with situations of vulnerability (Davenport et al., 1999).

8.7% of the Spanish population, according to a previous study (González Trijueque & Graña Gomez, 2007), has suffered situations of psychological harassment in the workplace in the last half year. These figures are compatible with those obtained in our study, where 11% of the control population self-reported having workplace harassment. Similarly, other authors in projects carried out in our country have established a prevalence of workplace harassment between 9 and 16% (Piñuel, 2001; Piñuel & Oñate, 2006) existing a gender predisposition towards women, those over 45 years of age, and public sector workers, the latter reaching a prevalence of workplace bullying of 22.5% (Di Marco et al., 2018). However, and despite the striking data, these results may be underestimated since victims prefer to remain anonymous and report no work harassment to avoid workplace stigmatization.

In our series, patients with congenital heart disease scored significantly higher than controls in the three underlying dimensions of the NAQ-R questionnaire which includes physically intimidating bullying, work-related bullying, and person-related bullying independently of the educational level when the three variables were combined. This may be because

patients with chronic diseases, such as those with repaired or unrepaired congenital heart disease, may experience situations of vulnerability that affect their work such as family overprotection, restriction in sports activity, fear of intense physical exercise, delayed independence, employment discrimination, or the feeling of being different from others (Daliento et al., 2005; Nakou, 2001; McMurray et al., 2001; Lee & Kim, 2010; Martinez-Quintana et al., 2020). Moreover, patients with congenital heart disease use to have lower educational levels in addition to being less likely employed than healthy controls (Crossland et al., 2005; Sluman et al., 2019; Cocomello et al., 2021, Olsen et al., 2011) which may also be a contributing factor to mobbing. Therefore, as a higher educational level generally leads to jobs with less physical work, more internal and external recovery possibilities, and, often, better job conditions which is beneficial for patients with congenital heart defects (Zomer et al., 2012) efforts should be undertaken to maximize academic fulfillment in this population as many of them fail to enter or to remain in the labor market because of a lack of studies, skills, or due to skills mismatches (Enomoto et al., 2020; Karsenty et al., 2015).

In relation to the psychiatric pathology, those who self-reported harassment showed a significantly higher frequency of anxious and depressive symptoms, which is not surprising given the negative health consequences that these behaviors entail (Medina-Gómez, 2016). In fact, the situation of continued harassment can produce in the victims not only a deterioration in working conditions but also an increase in conflict with their own family and the abandonment of social relations with one's family and friends due to the lack of understanding of their problems and social stigmatization in their professional sector (Duffy & Sperry, 2007).

Limitation Section

Our study has limitations such as the lack of knowledge of the number of people where our patients work, since it has been observed that those places with more than 100 workers have a higher risk of harassment or the employment type since job insecurity and temporary contracts seem to be more associated with workplace harassment (Moreno Jiménez et al., 2005). However, other authors disagree in this regard and believe that the workers most exposed to workplace harassment are those over 45 years old and therefore with greater job stability (Gil-Monte et al., 2006). Also, the heterogeneity of the congenital heart diseases may influence the results, although we believe that the sample adequately reflects the type of patients who are evaluated in most adult congenital heart disease units in our country (Oliver Ruiz et al., 2020).

In conclusion, our study shows for the first time the high frequency of workplace mobbing among patients with congenital heart disease, scoring significantly higher than controls in a test that measures the exposure to bullying in the workplace

independently of their educational level. This shows that work must continue to prevent this phenomenon and improve job prospects in this group of patients. It is important to act against workplace harassment with a zero-tolerance policy, assessing the risk and helping health prevention and the promotion of the most appropriate type of work for each type of patient.

Author Contribution All authors have contributed to the statistical analysis, writing, interpretation, and discussion of data, have read the manuscript, and attest to the validity and legitimacy of the data and their interpretation.

Declarations

Ethics Approval The authors of this manuscript have also certified that they comply with the Ethical Publishing Principles.

Conflict of Interest The authors declare no competing interests. Recognition. None.

References

- Ares Camerino, A., & Ortega Marlasca, M. M. (2018). *Mobbing in Health Workplace. Med Clin (barc)*, 150(5), 198–201. <https://doi.org/10.1016/j.medcli.2017.06.034>
- Baran Tatar, Z., & Yuksel, S. (2019). Mobbing at workplace - Psychological trauma and documentation of psychiatric symptoms. *Noro Psikiyatrs Ars*, 56(1), 57–62. <https://doi.org/10.29399/npa.22924>
- Baumgartner, H., De Backer, J., Babu-Narayan, S. V., Budts, W., Chessa, M., et al. (2021). 2020 ESC Guidelines for the management of adult congenital heart disease. *European Heart Journal*, 42(6), 563–645. <https://doi.org/10.1093/eurheartj/ehaa554>
- Becker, M., & Correll, C. U. (2020). Suicidality in childhood and adolescence. *DtschArztebl Int*, 117(15), 261–267. <https://doi.org/10.3238/arztebl.2020.0261>
- Cocomello, L., Dimagli, A., Biglino, G., Cornish, R., Caputo, M., & Lawlor, D. A. (2021). Educational attainment in patients with congenital heart disease: A comprehensive systematic review and meta-analysis. *BMC Cardiovascular Disorders*, 21(1), 549. <https://doi.org/10.1186/s12872-021-02349-z>
- Crossland, D. S., Jackson, S. P., Lyall, R., Burn, J., & O'Sullivan, J. J. (2005). Employment and advice regarding careers for adults with congenital heart disease. *Cardiology in the Young*, 15, 391–395.
- Daliento, L., Mapelli, D., & Volpe, B. (2005). Measurement of cognitive outcome and quality of life in congenital heart disease. *Heart*, 92(4), 569–74. <https://doi.org/10.1136/hrt.2004.057273>
- Davenport, N., Schwartz, R. D., & Elliott, G. P. (1999). Mobbing: Emotional abuse in the American workplace. Civil Society Publishing. Chapter 2. Why mobbing occurs and persists. *Psychology, Personality and Circumstances of the Mobbee*, 70–73.
- Di Marco, D., Martínez-Corts, I., Arenas, A., & Gamero, N. (2018). Spanish validation of the shorter version of the Workplace Incivility Scale: An employment status invariant measure. *Frontiers in Psychology*, 9, 959. <https://doi.org/10.3389/fpsyg.2018.00959>
- Duffy, M., & Sperry, L. (2007). Workplace mobbing: Individual and family health consequences. *The Family Journal*, 15(4), 398–404. <https://doi.org/10.1177/1066480707305069>
- Einarsen, S., Hoel, H., & Notelaers, G. (2009). Measuring exposure to bullying and harassment at work: Validity, factor structure and psychometric properties of the Negative Acts

- Questionnaire-Revised. *Work Stress*, 23(1), 24–44. <https://doi.org/10.1080/02678370902815673>
- Enomoto, J., Mizuno, Y., Okajima, Y., Kawasoe, Y., Morishima, H., & Tateno, S. (2020). Employment status and contributing factors among adults with congenital heart disease in Japan. *Pediatrics International*, 62(3), 390–398. <https://doi.org/10.1111/ped.14152>
- Feijó, F. R., Gräf, D. D., Pearce, N., & Fassa, A. G. (2019). Risk factors for workplace bullying: A systematic review. *International Journal of Environmental Research and Public Health*, 16(11), 1945. <https://doi.org/10.3390/ijerph16111945>
- Gil-Monte, P., Carretero, N., & Luciano, J. V. (2006). Prevalencia del mobbing en trabajadores de centros de asistencia a personas con discapacidad. *Revista Del Trabajo y De Las Organizaciones*, 22(3), 275–292.
- González Trijueque, D., & Graña Gómez, J. L. (2007). El acoso psicológico en el lugar de trabajo: Análisis descriptivo en una muestra de trabajadores. *Psicopatología Clínica Legal y Forense*, 7, 63–76.
- González Trijueque, D., & Graña, J. L. (2013). Psicopatología Clínica. *Legal y Forense. Dialnet*, 13, 7–28.
- Gray, P., Senabe, S., Naicker, N., Kgalamono, S., Yassi, A., & Spiegel, J. M. (2019). Workplace-based organizational interventions promoting mental health and happiness among healthcare workers: A realist review. *International Journal of Environmental Research and Public Health*, 16(22), 4396. <https://doi.org/10.3390/ijerph16224396>
- Grzesiuk, L., Szymańska, A., Jastrzębska, J., & Rutkowska, M. (2022). The relationship between the manifestations of mobbing and reactions of mobbing victims. *Med Pr*, 73(1), 1–12. <https://doi.org/10.13075/mp.5893.01002>
- Herdman, M., Badia, X., & Berra, S. (2001). EuroQol-5D: A simple alternative for measuring health-related quality of life in primary care. *Atencion Primaria*, 28(6), 425–30. [https://doi.org/10.1016/s0212-6567\(01\)70406-4](https://doi.org/10.1016/s0212-6567(01)70406-4)
- International Labour Organization. (2019). Eliminating violence and harassment in the world of work. Convention No. 190, Recommendation No. 206, and the accompanying Resolution. ISBN: 978–92–2–133886–4.
- Jacob, L., & Kostev, K. (2017). Conflicts at work are associated with a higher risk of cardiovascular disease. *German Medical Science*, 15, Doc08. <https://doi.org/10.3205/000249>
- Karsenty, C., Maury, P., Blot-Souletie, N., Ladouceur, M., Leobon, B., Senac, V., Mondoly, P., Elbaz, M., Galinier, M., Dulac, Y., Carrié, D., Acar, P., & Hascoet, S. (2015). The medical history of adults with complex congenital heart disease affects their social development and professional activity. *Archives of Cardiovascular Diseases*, 108(11), 589–597. <https://doi.org/10.1016/j.acvd.2015.06.004>
- Lee, S., & Kim, S. S. (2010). The life of adolescent patients with complex congenital heart disease. *Journal of Korean Academy of Nursing*, 40(3), 411–22. <https://doi.org/10.4040/jkan.2010.40.3.411>
- Leymann, H. (1996). The content and development of mobbing at work. *Eur J Work Org Psychol*, 2, 165–184.
- Limm, H., Angerer, P., Heinmueller, M., Marten-Mittag, B., Nater, U. M., & Guendel, H. (2010). Self-perceived stress reactivity is an indicator of psychosocial impairment at the workplace. *BMC Public Health*, 10(1), 252. <https://doi.org/10.1186/1471-2458-10-252>
- Martínez-Quintana, E., Girolimetti, A., Jiménez-Rodríguez, S., Fraguera-Medina, C., Rodríguez-González, F., & Tugores, A. (2020). Prevalence and predictors of psychological distress in congenital heart disease patients. *Journal of Clinical Psychology*, 76(9), 1705–1718. <https://doi.org/10.1002/jclp.22948>
- McMurray, R., Kendall, L., Parsons, J. M., Quirk, J., Veldtman, G. R., & Lewin, R. J. P. (2001). A life less ordinary: Growing up and coping with congenital heart disease. *Coron Health Care*, 5(1), 51–7. <https://doi.org/10.1054/chech.2001.0112>
- Medina-Gómez, O. S. (2016). Prevalence of mobbing in workers and factor risk associates. *GacMed Mex*, 152(4), 452–456.
- Moreno-Jiménez, B., Rodríguez, A., Garrosa, E., & Morante, M. E. (2005). Antecedentes organizacionales del acoso psicológico en el trabajo: Un estudio exploratorio. *Psicothema*, 17(4), 627–632.
- Nakou, S. (2001). Measurement of quality of life in the health care field. Applications in childbirth. *Archives of Hellenic Medicine*, 18(3), 254–266. <https://www.mednet.gr/archives/2001-3/254abs.html>
- Niedhammer, I., David, S., Degioanni, S., Drummond, A., Philip, P., Acquarone, D., et al. (2009). Workplace bullying and sleep disturbances: Findings from a large scale cross-sectional survey in the french working population. *Sleep*, 32(9), 1211–1219. <https://doi.org/10.1093/sleep/32.9.1211>
- Oliver Ruiz, J. M., Dos Subirá, L., González García, A., Rueda Soriano, J., Ávila Alonso, P., & Gallego, P. (2020). Adult congenital heart disease in Spain: Health care structure and activity, and clinical characteristics. *Rev Esp Cardiol (engl Ed)*, 73(10), 804–811. <https://doi.org/10.1016/j.rec.2019.09.032>
- Olsen, M., Hjortdal, V. E., Mortensen, L. H., Christensen, T. D., Sørensen, H. T., & Pedersen, L. (2011). Educational achievement among long-term survivors of congenital heart defects: A Danish population-based follow up study. *Cardiology in the Young*, 21, 197–203.
- Park, E. J., Lee, M., & Park, M. (2017). Instruments and taxonomy of workplace bullying in health care organizations. *Asian Nurs Res (korean Soc Nurs Sci)*, 11(4), 237–245. <https://doi.org/10.1016/j.anr.2017.10.001>
- Piñuel, I. (2001). *Mobbing. Cómo sobrevivir al acoso psicológico en el trabajo*. Sal Terrae.
- Piñuel, I., & Oñate, A. (2006). La evaluación y diagnóstico del mobbing o acoso psicológico en la organización: El barómetro Cisneros. *Revista De Psicología Del Trabajo y De Las Organizaciones*, 3, 309–332.
- R Core Team. (2022). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing, Vienna, Austria. <https://www.R-project.org/>
- Rajalingam, D., Jacobsen, D. P., Nielsen, M. B., Einarsen, S. V., & Gjerstad, J. (2019). Exposure to workplace bullying, distress, and insomnia: The moderating role of the miR-146a genotype. *Frontiers in Psychology*, 10, 1294. <https://doi.org/10.3389/fpsyg.2019.0120>
- Rajalingam, D., Nymoen, I., Nyberg, H., Nielsen, M. B., Einarsen, S. V., & Gjerstad, J. (2021). Workplace bullying increases the risk of anxiety through a stress-induced β 2-adrenergic receptor mechanism: A multisource study employing an animal model, cell culture experiments and human data. *International Archives of Occupational Environmental Health*, 94(8), 1905–15. <https://doi.org/10.1007/s00420-021-01718-7>
- Romero Starke, K., Hegewald, J., Schulz, A., Garthus-Niegel, S., Nübling, M., Wild, P.S., et al. (2020). Cardiovascular health outcomes of mobbing at work: Results of the population-based, five-year follow-up of the Gutenberg health study. *Journal of Occupational Medicine Toxicology*, 15(1), 15. <https://doi.org/10.1186/s12995-020-00266-z>
- Sable, C., Foster, E., Uzark, K., Bjornsen, K., Canobbio, M. M., Connolly, H. M., Graham, T. P., Gurvitz, M. Z., Kovacs, A., Meadows, A. K., Reid, G. J., Reiss, J. G., Rosenbaum, K. N., Sagerman, P. J., Saidu, A., Schonberg, R., Shah, S., Tong, E., & Williams, R. G. (2011). Best practices in managing transition to adulthood for adolescents with congenital heart disease: The transition process and medical and psychosocial issues: A scientific statement from the American Heart Association. *Circulation*, 123(13), 1454–1485. <https://doi.org/10.1161/CIR.0b013e3182107c56>
- Sáez, M. C., García-Izquierdo, M., & LLor, B. (2003). Validación de la escala NAQ de Einarsen y Raknes (1997) sobre acoso psicológico en el trabajo (mobbing). Communication presented at the VIII

- National Congress of Social Psychology, in the Symposium of Mobbing: una perspectiva psicosocial. Torremolinos. *Málaga, (Spain)*.
- Shillingford, A. J., Glanzman, M. M., Ittenbach, R. F., Clancy, R. R., Gaynor, J. W., & Wernovsky, G. (2008). Inattention, hyperactivity, and school performance in a population of school-age children with complex congenital heart disease. *Pediatrics*, *121*(4), e759–e767. <https://doi.org/10.1542/peds.2007-1066>
- Sluman, M.A., Apers, S., Sluiter J.K., Nieuwenhuijsen, K., Moons, P., Luyckx, K., Kovacs, A.H., Thomet, C., Budts, W., Enomoto, J., Yang, H.L., Jackson, J.L., Khairy, P., Cook, S.C., Subramanian, R., Alday, L., Eriksen, K., Dellborg, M., Berghammer, M., Mattsson, E., Mackie, A.S., Menahem, S., Caruana, M., Gosney, K., Soufi, A., Fernandes, S.M., White, K.S., Callus, E., Kutty, S., Bouma, B.J., Mulder, B.J.M.; APPROACH-IS consortium, the International Society for Adult Congenital Heart Disease (ISACHD). (2019). Education as important predictor for successful employment in adults with congenital heart disease worldwide. *Congenital Heart Disease*, *14*(3), 362–371. <https://doi.org/10.1111/chd.12747>
- Theorell, T., Hammarström, A., Aronsson, G., Träskman Bendz, L., Grape, T., Hogstedt, C., Marteinsdottir, I., Skoog, I., & Hall, C. (2015). A systematic review including meta-analysis of work environment and depressive symptoms. *BMC Public Health*, *15*(1), 738. <https://doi.org/10.1186/s12889-015-1954-4>
- Zomer, A. C., Vaartjes, I., Uiterwaal, C. S., van der Velde, E. T., Sieswerda, G. J., Wajon, E. M., Plomp, K., van Bergen, P. F., Verheugt, C. L., Krivka, E., de Vries, C. J., Lok, D. J., Grobbee, D. E., & Mulder, B. J. (2012). Social burden and lifestyle in adults with congenital heart disease. *American Journal of Cardiology*, *109*(11), 1657–1663. <https://doi.org/10.1016/j.amjcard.2012.01.397>

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