

Depression and Anxiety in Adults with Congenital Heart Disease Using the Validated Filipino Version of the Hospital Anxiety and Depression Score (HADS-P)

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Abstract

Background: Congenital heart diseases (CHD) pose a major global concern due to its increasing survival trend in the adult stage; but data in our country is lacking. Despite improvement in management, formal assessment for *anxiety* and *depression* in patients with adult CHD is not routinely done. The Hospital Anxiety and Depression Scale (HADS) is a popular and simple self-administered instrument highly reliable for detecting states of anxiety and depression for use in medical practice. Identifying the prevalence of anxiety and depression through a simple screening tool that may lead to a proper psychiatric referral may help health-care providers consider the contribution of these components of the disease and identify additional points of holistic care for our patients.

Objectives: We aim to determine the prevalence of anxiety and depression in adult CHD Filipino patients using the HADS-P questionnaire (validated *Tagalog* version of the HADS). We also aim to determine association between depression & anxiety and disease characteristics.

Methods: This is a cross-sectional study using non-probability sampling of adult Filipinos with CHD in the Philippine General Hospital (UP-PGH). The HADS-P is a 14-item, self-administered rating scale with independent subscales for anxiety and depression (seven items each) was administered to both the study and control groups after securing consent.

A cut-off score of > 8.0 points on either of the depression and anxiety subscale of the HADS was used to determine their respective prevalence. Logistic regression analysis was used to determine the association of clinical variables with anxiety or depression.

Results: A total of 92 patients with CHD with a mean age of 33 years old were recruited. The prevalence of anxiety and depression was higher among those with CHD compared to local literature (61% and 34% respectively). Majority had an atrial septal defect, ventricular septal defect, and patent ductus arteriosus. On the basis of a HADS-P score of >8.0 per category, 56 patients had anxiety and 31 patients had depression. Simple logistic regression identified employment status, a higher NYFC, low distance six-minute walk test, uncorrected defects, and heart failure as predictors of anxiety; whereas lower educational achievement, higher functional class, right-to-left shunt or Eisenmenger physiology, low distance six-minute walk test, and heart failure were predictors of depression. Multiple logistic regression identified only employment status (ie. being unemployed) as a significant predictor of anxiety (OR 4.54, 95% CI 1.38 – 14.28, p 0.012); while having a right-to-left shunt or Eisenmenger physiology was a significant predictor of depression (OR 6.44, 95% CI 1.82-22.76, p 0.004).

Conclusion: This cohort of adult Filipinos with CHD has higher HADS-P scores, suggestive of a higher prevalence of anxiety and depression compared to available data. Factors associated with anxiety and/or depression were related to their underlying CHD and sociodemographic profile. Screening for emotional disorders is of paramount importance to provide holistic care for this vulnerable population. Health care professionals should be alert for the possible need for psychological intervention for adult survivors of CHD, even among those that are seemingly emotionally well-adjusted.

Keywords: Congenital heart disease, HADS, depression, anxiety

Introduction

Congenital heart diseases comprise twenty eight percent of the entire congenital anomalies. It poses a major global problem due to its increasing survival trend in the adult stage due to the improvement in detection, medical and surgical management.¹ The eight per 1,000 live births is generally an accepted approximation and four per 1,000

adults.² Based on geographical differences, Asia has the highest CHD prevalence of 9.3 per 1,000 live births which is statistically significant when compared with all other continents. Data on adult congenital heart disease is limited in the Philippines. At the outpatient clinics of the Section of Cardiology, Philippine General Hospital, a total of 96 patients with CHD were seen in a span of six months.

Formal assessment for anxiety and depression in patients with congenital heart disease is not routinely done. Whether these are independent illnesses or reactions to the somatic disease these may be overlooked as many physicians inadvertently concentrate on somatic manifestations.⁴ Accurate *anxiety* and *depression* status still have yet to be

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established in diagnosed cases using a screening tool read and answered in Filipino.

The HADS Questionnaire

The Hospital Anxiety and Depression Scale, or HADS, is a popular and simple self-administered instrument highly reliable for detecting states of anxiety and depression for use in medical practice in different settings.⁵ Validated in more than 50 languages, it can assess anxiety and depression in almost all kinds of patients and even in the general population, and is sensitive to change both during the course of disease and in response to medical and psychological interventions.⁶ It excludes somatic symptoms, therefore avoiding potential confounding of somatic symptoms.

HADS is a 14-item, self-administered rating scale with independent subscales for anxiety and depression. Each item was answered on a four point (0–3) response category and possible scores ranges from 0 to 21 for anxiety and 0 to 21 for depression. Scores on each scale can be interpreted in ranges: normal (0–7 points), suggestive of presence of either anxiety or depression (8–10 points), and probable presence of the mood disorder (>11 points).^{7,8} Foreign data with the HADS revealed varying results. With a HADS score of 8.0+, the sensitivity and specificity of the HADS were most often found to be in the range of 70% to 90%.⁹ The variation was probably a result of differences in “gold standard” instruments and HADS translations used. Compared to Beck inventories, which give good measurement of severity of depressive symptoms, HADS has been found to be valid for *screening* purposes, at least in patients with Parkinson’s disease.¹⁰ HADS also appears to currently be the best available self-report scale in HIV-infected patients.¹¹

The HADS-P Questionnaire

HADS-P (“P” for Filipino, or the national language in the Philippines) is the validated Filipino language version of HADS. De Guzman¹² validated the HADS for Filipinos among 710 medically ill in-patients at the University of the Philippines – Philippine General Hospital, with the objective of determining the prevalence of anxiety & depression and to determine an optimal cut-off score for Filipinos using the receiver operative characteristic curve. The validity of the HADS screening test was assessed through consideration of its sensitivity and specificity compared to a formal psychiatric interview. This interview was conducted by a physician who used the Clinical Interview Schedule,¹³ utilizing the standardized psychiatric diagnostic criteria.

In their study, the prevalence of depression and/or anxiety is higher among those who are younger, married, with lower educational levels, and those with a medical diagnosis. The HADS cut-off score associated with a high sensitivity was recommended to be used. A HADS score >8.0 had a sensitivity of 91%, specificity of 59%, and a PPV of 61% for detecting anxiety or depression; while a HADS-P of >11 had a sensitivity of 75%, specificity of 70%, and PPV of 75%. She concluded that this tool could serve as a guide for

clinicians towards the diagnosis of depression and anxiety.

Establishing the presence of these manifestations is important because patient education and advocacy have been found to be mitigating factors. Identifying the prevalence of both overt and subclinical anxiety and depression through a simple screening tool that may lead to a proper psychiatric referral may help health-care providers consider the contribution of these components of the disease and identify additional points of care for our patients.

Objectives

General objective:

1. To determine the prevalence of anxiety and depression in Filipino patients with adult congenital heart disease seen at the University of the Philippines – Philippine General Hospital (UP-PGH) out patient clinics.

Specific objective:

1. To determine the prevalence of depression and anxiety in Filipino patients with adult congenital heart disease using the HADS-P.
2. To describe the clinical profile of included patients with adult congenital heart disease
3. Under the assumption that the HADS-P score >8.0 points has a sensitivity and specificity of 91% and 59%, respectively, we aim to determine association between depression & anxiety and variables listed below among patients with adult CHD.
 - a. Sociodemographics (age, sex, civil status, educational attainment, employment status, monthly income
 - b. Duration of illness
 - c. New York functional class
 - d. Presence of Eisenmenger physiology or right to left shunt
 - e. Uncorrected defect
 - f. Left ventricular (LV) or right ventricular (RV) systolic dysfunction
 - g. Six-minute walk test

Methodology

Study Design

This is a cross-sectional study using non-probability sampling of Filipino patients aged 19 years and above diagnosed with any adult CHD based in the UP-PGH. Cardiology out-patient clinic. Written informed consent from each patient was obtained. Participants were allowed to withdraw anytime during the data collection, as explained in the informed consent. Exclusion criteria included:

- Patients with difficulty to comprehend
- Patients who do not consent
- Patients who are very symptomatic (ie. on oxygen support, wheelchair-bound, or with handicaps) will be excluded as well.

The HADS-P Questionnaire

HADS-P is a 14-item, self-administered rating scale with independent subscales for anxiety and depression was administered to both the study and control groups (Appendix for the HADS and HADS-P). A cut-off of >8.0 points on either of the depression and anxiety subscale of the HADS-P was employed as an indicator of possible depressive or anxious pathology, respectively.^(8,9,10,13) In the case of illiteracy, or poor vision, the wording of the items and possible responses were read to the respondent.

Data Collection

Participants were asked to enter a cubicle at the outpatient department by any one of the investigators. The objectives of the study were explained and informed consent was secured. Clinical, socioeconomic, and laboratory profile was gathered from chart review and interview (see data collection sheet). The investigator(s) facilitated the HADS-P questionnaire to the patient group (adults with CHD) after ensuring their ability to read and understand the questionnaire. The questionnaires were then individually analyzed and scored accordingly. Total interview and answering time was around 15-30 minutes.

Outcomes:

Anxiety is defined as an unpleasant state of inner turmoil, often accompanied by nervous behavior. Depression is defined as a state of low mood and aversion to activity. In this study, the presence of anxiety and depression was determined by a HADS-P score of >8.0 points for each arm (ie. >8.0 points for questions pertaining to anxiety, and >8.0 points for questions pertaining to depression). The factors associated with anxiety and depression were determined. Age, sex, duration of illness, civil status, educational attainment, employment status, monthly income, functional class, complexity of heart disease, presence of Eisenmenger physiology, uncorrected defect, LV / RV systolic dysfunction, and the six-minute walk test were included as independent variables (Table I).

Statistical Analysis:

Descriptive statistics including mean, standard deviation, median, lower and upper quartiles were calculated for the examined variables. The prevalence of anxiety and depression was determined by calculating the percentage of patients with a score of 8.0 points or higher on the HADS-P. The relationship between the clinical variables and anxiety and depression was assessed by performing logistic regression analysis (univariate and multivariate analysis).

Ethical Considerations:

This study was conducted upon the approval from the UP Manila Research Ethics Board. No other information was obtained aside from what is stated in the protocol. Objectives of the study were explained and confidentiality was ensured. A consent form to participate in the study was

given for the participants to sign (Appendix). The primary investigator shouldered cost of this research. The result of the HADS-P was relayed to the participant. Should the results reveal findings suggestive of anxiety and/or depression, a psychiatry referral was suggested to the patient's attending physician by the investigator.

Results

Part 1: Prevalence of Anxiety and Depression among Patients with CHD

A total of 92 patients with congenital heart disease with a mean age of 33 years old were recruited. Majority of the patients recruited were single females with generally high educational attainment (college level, at least). Most patients were unemployed with a monthly family income of less than P50,000.00. Only a small proportion were smokers and alcohol beverage drinkers (Table II). Of note, anxiety and depression was prevalent among those with CHD (Table III).

Part 2: Factors Related to Anxiety and Depression

Of the 92 patients with congenital heart disease, the most common single defects included atrial septal defect, ventricular septal defect, and patent ductus arteriosus (Table IV). Complex heart diseases (more than one cardiac defect) were seen in a significant proportion (30%) and included tetralogy of Fallot, double outlet right ventricle, atrial septum aneurysms, and the like. Among patients with congenital heart disease (N=92), there were 56 patients with anxiety and 31 patients with depression on the basis of a HADS-P score of >8.0 points per category. Among those with anxiety (compared to those without anxiety), there were significantly more patients with LV/RV failure, high functional class (NYHA III-IV), and uncorrected defects. Among those with depression (compared to those without depression), there were significantly more patients with complex heart diseases, LV/RV failure, pulmonary hypertension, Eisenmenger physiology, and poor functional capacity.

Predictors of Anxiety on Logistic Regression

Being unemployed, a higher NYHA functional class, low distance six-minute walk test, an uncorrected defect, and LV/RV failure were correlated with anxiety on simple logistic regression. The presence of depression was also correlated with anxiety. Multiple logistic regression identified only employment status (being unemployed) as a significant predictor of anxiety. The odds of having anxiety among those who are unemployed is 4.54 more likely compared to those who are self-supporting (OR 4.54, 95% CI 1.38 – 14.28, p 0.012).

Predictors of Depression on Logistic Regression

Lower educational achievement, higher NYHA functional class, right-to-left shunt or Eisenmenger physiology, low distance six-minute walk, and LV/RV failure were correlated with depression on simple logistic regression.

Similarly, the presence of anxiety was also correlated with depression (Table V). On multiple logistic regression, the presence of a right to left shunt or Eisenmenger physiology was the only significant predictor of depression. The odds of having depression among those with right-to-left shunts or Eisenmenger physiology is 6.44 more likely compared to those who do not have right-to-left shunts/Eisenmenger physiology (OR 6.44, 95% CI 1.82-22.76, p 0.004).

Discussion

Prevalence Studies

According to the data of the Department of Health, the incidence of depressive disorders in the Philippines is 5.3% each year. One in four women is likely to experience depression in her lifetime, with a 10-20% lifetime prevalence, compared to 5.0-10% for men. The average onset of first depressive episode occurs in the mid 20's. Another study done by Perlas et al found that the overall prevalence of psychiatric disorders among medically ill patients in the Philippines is higher (48%) compared to foreign literature. Most common of which was depression, followed by anxiety disorders

Several studies have found a higher risk for depression in adult congenital heart disease, but all are limited to foreign data. Bromberg et al.,¹⁵ in a study including 22 adult congenital heart disease patients using the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) diagnostic criteria for depression and anxiety, found that 36% were experiencing prominent anxiety or depressive symptoms. Kovacs¹⁶ studied adults with congenital heart disease who develop heart failure and found that these patients are a particularly vulnerable group with regard to psychosocial functioning and quality of life. Findings in our study were consistent with the data of Perlas et al.¹⁴ — the prevalence of anxiety and/or depression in the Philippines is higher compared to the figures in foreign and local literature.

Psychiatric and Congenital Heart Diseases

There are several disease models to link adult congenital heart disease with increased risk for anxiety and/or depression¹⁷. First is the psychoanalytical model (Freud), wherein the risk of depression is increased due to psychological trauma during the "oral phase" due to illness, hospitalizations, and separation from parents. Second is the biological model, wherein the risk is increased due to neurotransmitter imbalance brought about by the high stress during a vulnerable phase of development which permanently alters physiological stress response. Third is the learning theory, wherein there is "learned helplessness" due to a chain of adverse life-events, perceived or real lack of control during illness, and socio-economic disadvantages.

Risk Factors for Anxiety and/or Depression

Foreign studies have determined the factors associated with the development of anxiety or depression. Van Rijen

et al¹⁸, in a study of 362 adult congenital heart disease who underwent surgery for congenital heart disease, found that certain sub-groups have a higher risk for emotional disorders — including, female sex, lower exercise capacity, worse perception of scars, and number of operations. In a review by Pauliks et al, factors associated with increased risk of depression in adults with CHD include those who have cyanotic heart diseases, ventricular septal defect, or transposition of the great arteries. However, the reviewed studies were relatively small. Our local study found that several sociodemographic and clinical factors are predictors of anxiety and/or depression in our subset of patients.

Kourkoveili¹⁹, in a study of 60 adolescent and adult patients, concluded that the incidence of depressive symptoms in patients with congenital heart disease is high and is associated with poorer prognosis. This would highlight the importance of detecting psychiatric symptoms, as these may be associated with adverse outcomes.

Applicability of Data for the General Cardiologist

To our knowledge, our study is the first in the local setting to explore the psychiatric aspect of adult congenital heart disease. Our data showed that compared to the healthy controls, the presence of anxiety and depression is more prevalent in patients with congenital heart disease. Although a cut-off of >8.0 points used in this study only "suggests" the possibility of the anxiety or depression, this was used due to its higher sensitivity (>90%). This allows the general cardiologist to screen patients with adult congenital heart disease, as to institute proper and prompt psychiatric referrals for holistic care. With regards to the factors associated with the development of anxiety and depression, we found that employment status was associated with anxiety and right-to-left physiology was associated with depression.

Among the 92 patients with CHD recruited, the prevalence of anxiety and depression was higher among those with CHD compared to local literature (61% and 34% respectively). Majority had an atrial septal defect, ventricular septal defect, and patent ductus arteriosus. On the basis of a HADS-P score of >8.0 per category, 56 patients had anxiety and 31 patients had depression.

Limitations of the Study

Limitations related to the HADS-P questionnaire.

As with any self-administered questionnaire, caution must be observed regarding the patient's literacy and ability to read. It should also be remembered that the gold standard for a definitive diagnosis of any psychiatric illness is still a structured clinical interview based on DSM criteria. Identifying the prevalence of both overt and subclinical anxiety and depression through a simple screening tool that may lead to a proper psychiatric referral may help health-care providers consider the contribution of these

components of the disease and identify additional points of care for our patients.

Limitations related to study design.

Another limitation of this study is the lack of long-term follow-up. We suggest development of prospective studies so that these patients may be followed up over time to determine the association of anxiety and/or depression with adverse outcomes.

Conclusion

This cohort of adult Filipinos with congenital heart disease has higher HADS-P scores suggestive of a higher prevalence of depression and anxiety, compared to healthy subjects. This figure is also higher when compared to the same subset of patients (adults with congenital heart disease) from published foreign data. Factors associated with anxiety and/or depression were related to their underlying congenital heart disease and sociodemographic profile. Screening for emotional disorders is of paramount importance to provide holistic care for this vulnerable population. Health care professionals should be alert for the possible need for psychological intervention for adult survivors of congenital heart disease, even among those that are seemingly emotionally well-adjusted.

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TABLES

Table I: Definition of Terms

VARIABLE	DESCRIPTION
Age	Age will be expressed in years. This study will compare the presence of the outcomes using a cut-off age of 45 years (above 45 versus below 45).
Civil status	Civil status would be expressed in terms of having a partner (spouse, boyfriend / girlfriend, live-in partner) versus not having a partner (single, widower / widow, separated, divorced)
Educational attainment	Higher educational attainment is defined in this study as those who are more than high school graduates. Lower educational attainment is defined in this study as those who are, at the most, high school graduates.
Employment status	Employment status would be described as those who are self-sustaining (ie. employed) versus those who are not self-sustaining (ie. dependent on family members)
Duration of Illness	Duration will be expressed in years. A duration of illness > 10 years (from the time of diagnosis to present) is considered "long".
Monthly income	Annual income will be expressed in terms of having an income of > P50,000.00 per month versus < P50,000.00 per month. The income of the entire household was included.
Functional class	Functional class will be based on the New York Functional Class classification. This study will compare patients with a NYFC of III-IV versus a NYFC I-II.
Eisenmenger physiology	Eisenmenger physiology pertains to the eventual reversal of a left to right shunt (to a right to left shunt). The following should be present to be considered "Eisenmengerized": cyanosis, moderate-to-severe pulmonary hypertension, reversal of shunt into a right to left shunt, and a QP:QS < 1.
Uncorrected defect	Uncorrected defects would refer to those patients who have not undergone any intervention to correct the congenital defect. Corrected defects would include patients who have undergone surgery, percutaneous closure, or any palliative procedure to alleviate manifestations of the CHD.
LV or RV systolic dysfunction	LV systolic dysfunction is present if the LV ejection fraction is < 50%. RV systolic dysfunction is present if the TAPSE is < 17mm
Six-Minute walk test	A 6 minute walk test is done to provide an objective assessment of functional capacity. It is done by measuring the distance reached in a span of 6-minutes. A normal 6-minute walk test is > 350 meters.

Table II. Sociodemographics Comparing CHD Patients with Healthy Controls

CHD GROUP (n = 92)	
Age, mean (SD)	32.53 ± 13.58
Sex	
Male	22 (23.91)
Female	70 (76.09)
Civil Status	
Single / Separated	54 (58.70)
Married	38 (41.30)
Educational Attainment	
HS Level, at the most	51 (55.43)
College Level, at least	41 (44.57)
Employment status	
Self Supporting	32 (34.78)
Unemployed	60 (65.22)
Monthly Family Income	
< P50,000.00	71 (77.17)
> P50,000.00	21 (22.83)
Current / Former Smoker	12 (13.04)
Current / Former Alcohol Drinker	11 (11.96)
HADS-P Score for Anxiety	8.14 ± 3.57
HADS-P Score for Depression	5.68 ± 3.83

Table III. Comparison of HADS-P Result between CHD Patients and Healthy Controls

CHD (%) (n=92)	
HADS-P for Anxiety	
Normal (0-7)	36 (39.13)
Suggestive (8-10)	36 (39.13)
Probable (>11)	20 (21.74)
HADS-P for Depression	
Normal (0-7)	61 (66.30)
Suggestive (8-10)	19 (20.65)
Probable (>11)	12 (13.04)

Table IV. Baseline Characteristics of the CHD Group by Presence of Anxiety or Depression (N=92 with CHD)

VARIABLE	TOTAL (N=92)	ANXIETY			DEPRESSION		
		With Anxiety (n=56)	Without Anxiety (n=36)	P-Value	With Depression (n=31)	Without Depression (n=61)	P-Value
Age Mean +/- SD < 45 Years	32.53 ± 13 75 (81.52)	34.39 ± 13 43 (76.79)	29.64 ± 12 32 (88.89)	0.1015 0.1444	35.58 ± 14 22 (70.97)	30.98 ± 12 53 (86.89)	0.1255 0.0630
Female Sex	70 (76.09)	44 (78.57)	26 (72.22)	0.4859	21 (67.74)	49 (80.33)	0.1810
Diagnosis							
Atrial Septal Defect	26 (28.26)	16 (28.57)	10 (27.78)	0.9342	10 (32.26)	16 (26.23)	0.5438
Ventricular Septal Defect	20 (21.74)	12 (21.43)	8 (22.22)	0.9282	3 (9.68)	17 (27.87)	0.0456*
Patent Ductus Arteriosus	18 (19.57)	13 (23.21)	5 (13.89)	0.2712	4 (12.90)	14 (22.95)	0.2509
Valvular Lesions (BAV, PS)	6 (6.52)	3 (5.36)	3 (8.33)	0.5726	4 (12.90)	2 (3.28)	0.0772
Congenital Arrhythmias	6 (6.52)	3 (5.36)	3 (8.33)	0.5726	2 (6.45)	4 (6.56)	0.9845
Complex Heart Disease +	28 (30.43)	20 (35.71)	8 (22.22)	0.1699	18 (58.06)	10 (16.39)	<0.0001*
Clinical Features							
Duration of Illness > 10 years	63 (68.48)	39 (69.64)	24 (66.67)	0.7643	23 (74.19)	40 (65.57)	0.4003
LV / RV Failure	16 (17.39)	14 (25.00)	2 (5.56)	0.0163*	11 (35.48)	5 (8.20)	0.0011*
PAP > 40mmHg	24 (26.09)	17 (30.36)	7 (19.44)	0.2447	13 (41.94)	11 (18.03)	0.0136*
Right to Left Shunt / Eisenmenger	22 (23.91)	17 (30.36)	5 (13.89)	0.0707	14 (45.16)	8 (13.11)	0.0007*
6MW < 350 m	68 (73.91)	47 (83.93)	21 (58.33)	0.0064*	30 (96.77)	38 (62.30)	0.0004*
NYFC III-IV	20 (21.74)	19 (33.93)	1 (2.78)	0.0004*	16 (51.61)	4 (6.56)	<0.0001*
Uncorrected Defect	75 (81.52)	50 (89.29)	25 (69.44)	0.0167*	28 (90.32)	47 (77.05)	0.1210

* P-value < 0.05

+ Complex heart disease: defined as the presence of more than 1 congenital heart def

Table V. Patient Characteristics and Likelihood of Anxiety & Depression

Variable	ANXIETY		DEPRESSION	
	Odds Ratio	P-Value	Odds Ratio	P-Value
Age < 45 years	0.41 (0.12 – 1.39)	0.153	0.37 (0.13 – 1.08)	0.069
Female sex	1.41 (0.54 – 3.72)	0.487	0.51 (0.19 – 1.37)	0.185
Married or with a partner	1.18 (0.50 – 2.77)	0.706	0.85 (0.35 – 2.06)	0.719
Lower educational attainment	1.72 (0.74 – 4.00)	0.205	4.35 (1.61 – 11.11)	0.004*
Not self-sustaining / unemployed	4.54 (1.81 – 11.11)	0.001*	1.47 (0.58 – 3.70)	0.410
Duration of Illness > 10 Years	1.15 (0.47 – 2.81)	0.764	1.51 (0.58 – 3.95)	0.402
Monthly income < P50,000.00	1.22 (0.45 – 3.33)	0.691	1.85 (0.60 – 5.55)	0.280
Higher NYFC (III-IV)	17.97 (2.28–141.48)	0.006*	15.20(4.42– 52.24)	<0.001*
Right to Left Shunt / Eisenmenger	2.70 (0.90 – 8.14)	0.077	5.46 (1.96 – 15.22)	0.001*
Defect uncorrected	3.67 (1.22 – 11.07)	0.021*	2.78 (0.73 – 10.53)	0.132
LV / RV systolic dysfunction	5.67 (1.20 – 26.67)	0.028*	6.16 (1.90 – 19.93)	0.002*
6-minute walk test < 350 meters	3.73 (1.41 – 9.87)	0.008*	18.16 (2.32 – 142.26)	0.006*
With Depression	11.00 (3.02 – 40.07)	<0.001*		
With Anxiety			11.00 (3.02 – 40.07)	<0.001*

* P value < 0.05

APPENDIX

The Hospital Anxiety and Depression Scale in Filipino version (HADS-P)

Mga Direksyon sa Pagsagot:

Alam ng mga doktor na may mahahalagang papel ang damdamin natin sa maraming sakit. Kung alam ng iyong doktor ang inyong nararamdaman, mas matutulungan niya kayo. Ang palatanungang ito ay ginawa para tulungan ka ng inyong doktor na malaman ang inyong nararamdaman. Basahin ang bawat tanong at i-tsek ang kahon ang katugmang sagot na pinakamalapit sa inyong nararamdaman sa nakaraang linggo. Huwag masyadong magtagal sa pagsagot, ang inyong unang reaksiyon ay mas malamang na tama kaysa mas matagal na pinag-isipang sagot.

Isang sagot lamang ang i-tsek ☐ sa bawat tanong.

- | | |
|--|--|
| <p>A 1. Naliligalig at punong-puno na ako:
 ☐ 3 Mas madalas kaysa hindi
 ☐ 2 Madalas
 ☐ 1 Paminsan-minsan
 ☐ 0 Hinding-hindi</p> <p>D 2. Pakiramdam ko parang pinapabagal ako:
 ☐ 3 Halos lagi-lagi
 ☐ 2 Napakadalal
 ☐ 1 Minsan
 ☐ 0 Hinding-hindi</p> <p>D 3. Ikinasasaya ko pa rin ang mga bagay na dati ko nang ikinasasaya:
 ☐ 0 Katulad din ng dati
 ☐ 1 Konti lang
 ☐ 2 Halos hindi na
 ☐ 3 Halos hindi na</p> <p>A 4. Para akong natatakot na may nararamdamang nerbiyos:
 ☐ 0 Hinding-hindi
 ☐ 1 Paminsan-minsan
 ☐ 2 Medyo madalas
 ☐ 3 Madalas na madalas</p> <p>A 5. Para akong natatakot na may mangyayaring masama.
 ☐ 3 Lagi-lagi at medyo lang
 ☐ 2 Palagi pero di-gaanong malala
 ☐ 1 Konti, pero 'di ako nag-aalala ng nararapat
 ☐ 0 Hinding-hindi</p> <p>D 6. Nawalan na ako ng interes sa aking itsura.
 ☐ 3 Talaga
 ☐ 2 Hindi nangangalaga ng dapat
 ☐ 1 Pwedeng hindi ako mag-alaga
 ☐ 0 Pinapangalagaan ko pa rin ito katulad ng dati</p> <p>D 7. Kaya ko pang tumawa at mapansin ng nakakatuwang bahagi sa mga bagay-bagay:
 ☐ 0 Lagi-lagi tulad ng dati
 ☐ 1 Mas madalang na konti kaysa dati
 ☐ 2 Hindi na katulad ng dati</p> | <p>☐ 3 Hinding-hindi</p> <p>A 8. Hindi ako mapakali na parang gusto kong may pinagkakaabalahan:
 ☐ 3 Talagang Madalas
 ☐ 2 Medyo madalas
 ☐ 1 Di naman ganito
 ☐ 0 Hinding-hindi</p> <p>A 9. Pag-aalala ang nasa isip ko:
 ☐ 3 Madalas na madalas
 ☐ 2 Madalas
 ☐ 1 'Di gaanong madalas
 ☐ 0 Konting-konti</p> <p>D 10. Masaya akong umaasa sa bagay-bagay.
 ☐ 0 Kasingdalas ng nakagawian ko
 ☐ 1 'Di singdalas ng nakagawian ko
 ☐ 2 Mas madalang
 ☐ 3 Halos hindi na</p> <p>D 11. Masaya ang aking pakiramdam.
 ☐ 3 Hindi kailanman
 ☐ 2 Madalang
 ☐ 1 Paminsan-minsan
 ☐ 0 Kadalasan</p> <p>A 12. Bigla ako nakakaramdam ng pagkatakot.
 ☐ 3 Madalas na madalas
 ☐ 2 Medyo madalas
 ☐ 1 'Di-gaanong madalas
 ☐ 0 Madalang na madalang</p> <p>A 13. Kaya kong umupo ng kumporTable at mag-relax.
 ☐ 0 Palagi
 ☐ 1 Madalas
 ☐ 2 Madalang
 ☐ 3 Hinding-hindi</p> <p>D 14. Kaya kong maaliw ng isang magan dang libro o programa sa radyo/TV
 ☐ 0 Madalas
 ☐ 1 Paminsan-minsan
 ☐ 2 Madalang</p> |
|--|--|

☐ 3 Hinding-hindi

Pakitiyak lang kung nasagutan ninyo ang lahat ng tanong. Maraming salamat po!

PARA SA HOSPITAL: A_____ D_____