

ORIGINAL ARTICLE

Anaphylaxis Quality of Life Scale for adults: the validation on the Italian allergic patients

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Summary

Background. The aim of this study is to translate and validate the Italian Version of the Anaphylaxis Quality of Life Scale for Adults (A-QoL-Adults), made up of the three subscales Social impact (SQoL), Emotional impact (EQoL) and Limitations on Life (LoL) to measure the impact of the risk of anaphylaxis from any cause on patients' quality of life (QoL).

Methods. The study involves 30 patients with a history of anaphylaxis who were prescribed epinephrine self-injectable, who compiled the Italian translation of A-QoL-Adults, World Health Organization Quality of life (WHOQoL)-Brief edition, Hospital Anxiety and Depression Scales (HADS-A, HADS-D) and Perceived Stress Scale (PSS) questionnaires to validate the Italian version.

Results. The A-QoL-Adults administered in the Italian version had good internal structural validity and internal consistency reliability: Cronbach alpha levels of 0.972 for AQoL, 0.942 for SQoL, 0.939 for EQoL and 0.910 for LoL, and a strong correlation with other generic QoL and psychological scales. A large significant correlation ($p < 0.005$) was found with PSS ($r = 0.722$), HADS-A ($r = 0.685$) and Environmental QoL ($r = -0.528$). A medium significant correlation ($p < 0.05$) was found with HADS-D ($r = 0.455$), Physical QoL ($r = -0.376$) and Psychological QoL ($r = -0.425$). Anxiety, depression, and stress levels in participants were accurately predicted by anaphylaxis-related QoL scores ($p < 0.001$).

Conclusions. The Italian version of A-QoL-Adults is a trusted instrument for evaluating the QoL of adults with anaphylaxis at any trigger. It may be used in research and clinical practice. The Italian version values match the original version and accurately predict anxiety, depression, and stress levels.

Key words

Adults; anaphylaxis; Italian validation; quality of life; scale.

Impact statement: The Italian version of A-QoL-Adults is a trusted instrument for evaluating the QoL of adults with anaphylaxis at any trigger and it may be used in research and clinical practice.

Introduction

Anaphylaxis is a severe allergic reaction triggered by Hymenoptera, medications or foods, which can lead to death if not treated quickly. Adrenaline (epinephrine) is the first-line treatment for anaphylaxis, and its prompt administration is vital to reducing mortality. Individuals with a history of anaphylaxis are prescribed adrenaline autoinjectors (AAI), designed to administer adrenaline intramuscularly, for use in emergencies in anaphylactic reactions until medical help arrives (1-5). An anaphylactic shock is a traumatic condition where the patient may experience fear and strong emotional stress and have the feeling of being about to die. A study showed that food-allergic young adults with an anaphylactic reaction described their disease as more severe and worrying and rated their parents as more overprotective than food-allergic young adults who had never experienced anaphylaxis (6). Some

studies show a high prevalence of post-traumatic stress disorder (PTSD) in patients with anaphylaxis, and the way they manage the anaphylactic shock is affected by the severity of these symptoms. These emotional experiences can be exacerbated by respiratory and/or skin physical symptoms, intense states of anxiety and hyper-alert, linked to the fear of not being able to breathe and the continuous vigilance necessary to prevent exposure to the trigger. This condition can have a significant impact on patients' quality of life (QoL), greatly affecting their physical and mental health (7-12). People who have experienced anaphylactic shock could develop psychiatric comorbidities, such as anxiety and depression, so physicians ought to be aware of the potential for psychological distress in anaphylactic patients and consider psychological evaluation (13-18). Most recent data in the literature suggest that a better assessment of QoL and characterization of patients' mental status may improve the efficacy of the therapeutic strategies that should also include psychological support (19). Clinicians draw on instructional approaches when training patients with anaphylaxis to use adrenaline autoinjectors, but often, patient use is poor. Patients and clinicians report treatment-related, psychological, and organizational barriers to AAI adherence (such as time pressures, limited clinic space, and lack of confidence), and poor adherence negatively affects the success of therapy. In fact, many studies suggest a multidisciplinary approach to enhance adherence to treatment and to improve patients' QoL (20-24). Recently, a validated psychometric scale has been developed to measure the impact of the risk of anaphylaxis from any cause on patients' QoL (25) but, to the best of knowledge, there is not yet the Italian version.

The aim of this study was to translate and validate the Italian Version of the Anaphylaxis Quality of Life Scale for Adults (A-QoL-Adults) (25). It is a specific, reliable measure of QoL in adults with anaphylaxis to drugs, food, venom, or spontaneous anaphylaxis and shows good construct validity. It was developed by Knibb et al. in 2022, and its validation was based on the use of "World Health Organization Quality of Life Scale" - Brief Version (WHOQoL BREF) (26), "Hospital Anxiety and Depression Scale" (HADS) (27), and "Perceived Stress Scale" (PSS) (28). A-QoL-Adults has three subscales: Emotional Impact (EQoL), Social Impact (SQoL), and Limitations on Life (LoL) (25). The questionnaire is a 28-item prototype scale of questions that could be answered by an adult with anaphylaxis from any cause. A further eight questions were added that were specifically related to particular causes: food, insect venom, drugs, and spontaneous anaphylaxis. The response scale was from 1 to 5, with 1= never, 2= rarely, 3= sometimes, 4= most of the time, and 5= always. Higher scores signify worse A-QoL-Adults.

We conducted a pilot study with the aim to produce a version of A-QOL-Adults translated, tested and validated for Italy.

Materials and Methods

Methodology

The study involves 30 patients with a history of anaphylaxis who were prescribed epinephrine self-injectable between September 2022 and April 2023 at the Division of Allergy and Clinical Immunology of the Department of Internal Medicine, "Santa Maria della Speranza" Hospital, Salerno Local Health Authority.

All participants were recruited from allergy and psychology specialists. The diagnosis of anaphylaxis to food, drugs, venom, latex or spontaneous anaphylaxis was confirmed, and psychiatric pathologies were excluded.

Patients completed A-QoL-Adults, WHOQoL-Brief edition, HADS-A, HADS-D and PSS questionnaires to validate the Italian version.

In addition, patients were given a qualitative interview structured ad hoc, based on 6 questions related to concern about using an epinephrine auto-injector to assess anaphylaxis management and disease awareness, including whether they feel safer with a 500 mg vial or the 300 mg vial they usually use (Table I). One of those questions asked the patients to subjectively rate the severity of their anaphylaxis, using a numeric scale from 1 (minimal discomfort) to 10 (maximal discomfort).

One patient partially participated in the study as he refuses to fill in the qualitative interview and questionnaire A-QOL-Adults.

Translation

Translation and cross-cultural adaptation of A-QoL-Adults to the Italian language was performed according to the standards for translation and cultural adaptation for Patient-Reported Outcomes (PROs) tools (29-30) after obtaining permission from the original authors to translate the questionnaire into Italian. The translated Italian version was administered to the participants, and the scales used to validate the questionnaire were WHOQOL -Brief edition; PSS; HADS (26-28).

To translate the instrument, we used the forward-backwards translation method.

The forward translation phase involved two local translators (Italian native speakers, familiar with the specific terminology and knowledgeable of the English culture), an Italian Psychologist expert in QoL and an Italian Allergist, and included the following steps: • Independent production of 2 forward versions of the questionnaire (original items, instructions and response choices), by each translator (Version 0a and Version 0b); • Production of a single reconciled version by both translators and researchers, after discussion of the two forward versions (Version 1).

In the backward translation phase, the first reconciled forward version of the questionnaire (Version 1) was translated back into the source language by a local translator (native speaker of the target language and bilingual in the source language) without access to the original source version of the questionnaire. This back translation matched the original source text in its underlying meaning, the language was unambiguous and there weren't any discrepancies, inconsistencies or errors in the forward translation. Therefore, a second version of the Italian-translated questionnaire was obtained (Version 2). No change was made from the first to the second version.

The second version was tested on a panel of 30 adult patients through face-to-face interviews conducted by the same interviewers who translated the questionnaire (Psychologist and Allergist) to determine if the translated questionnaire was understood and the language was simple and appropriate. Patients were asked about difficulty understanding the questionnaire, and their interpretation of all items was checked. This pre-test phase showed that the questions were easily understandable and did not require explanation. As a result of this phase, a third and final version of the translated questionnaire was produced (Appendix A).

Statistical analysis

Categorical data were indicated as counts and percentages. Mean and Standard deviation for each item of the Italian-A-QoL-Adults were calculated, and the data were checked for floor and ceiling effect. Factor analysis using a principal component analysis with a varimax rotation, including the Kaiser-Meier-Olkin (KMO) Measure of sampling adequacy and Bartlett's test of sphericity, was conducted to ensure the internal structural validity of the Italian version of the A-QoL-Adults and to check for the existence of subscales and compare them to the subscales of the original version. The KMO measure was satisfied for values greater than 0.6. Cronbach α coefficient was performed to evaluate the internal reliability of the questionnaire: values greater than 0.90 indicate the strongest reliability. Pearson bivariate correlation was conducted between the Italian-A-QoL-Adults and WHOQoL, HADS-A, HADS-D and PSS questionnaires to examine the cross-sectional construct validity: a value greater than 0.5 indicates a large correlation; from 0.3 to 0.49 a medium correlation; less than 0.29 a small correlation. Simple linear regression was performed using Italian-AQoL-Adults as independent and the other questionnaires as dependent variables. All tests were two-tailed, and a p-value less than 0.05 was considered statistically significant. The statistical analysis was conducted using SPSS.

Results

Study population

The questionnaire was correctly administered to 29 out of 30 patients prescribed self-injectable epinephrine: 13 males (44.8%) and 16 females (55.2%), with a mean age of 38.66 ± 15.92 years. One patient did not complete the qualitative interview and questionnaire A-QoL-Adults.

In 20 cases, the time elapsed from the epinephrine prescription to the time of completing the questionnaire was known, with a mean of 17.90 ± 12.59 months. The main cause of anaphylaxis was food (13 patients, 44.83%), followed by Hymenoptera (6 patients, 20.69%), latex (3 cases, 10.34%) and drugs (2 cases, 6.90%). In 5 patients (17.24%), the allergens were unknown. Of the 25 patients who graded the severity of their anaphylaxis from 1 to 10, 12 chose the maximum value (48%): they had a

mean score of the A-QoL-Adults Italian version significantly worse than the others (3.04 ± 1.27 vs 1.81 ± 0.74 , $p = 0.013$). Furthermore, 4 out of 29 people (13.79%) had already used the epinephrine auto-injector at the time of the interview. 22 patients (75.9%) confirmed that they always carry epinephrine with them, 11 that they are always exposed to the implicated allergens (37.9%). Still, in any case, the majority (23 people, 79.31%) believed they were enough, very or totally able to avoid the allergens responsible for their anaphylaxis effectively. The demographic and anaphylaxis characteristics of the studied population are summarized in Table I.

Internal structural validity of the Italian version of A-QoL-Adults

The mean score of the 29 A-QoL-Adults questionnaires administered in their Italian version was 2.50 ± 1.17 , with a minimum score of 1.14 and a maximum of 4.81. The average of every single item of the questionnaire (table II) was evaluated; for all, it was between 1.9 and 3.6. It was, therefore, possible to demonstrate the absence of floor and ceiling effects. A principal components analysis with varimax rotation was then performed to confirm the validity of the internal structure of the questionnaire in its Italian translation. KMO measure of sampling adequacy was 0.775 and demonstrated that the sample size was sufficient for the factor analysis (being higher than the recommended value of 0.6); Bartlett's test of sphericity was 671.433 (df 210, $p < 0.0001$) and indicated that factor analysis would show significant factors. The analysis showed 3 factors which explained 78% of the total variance in the data, which allowed us to divide the questionnaire into three subclasses, just like in the original version: Social Quality of Life, Emotional Quality of Life and Limitation of Life. However, according to the factor analysis, the subdivision of the items into the three subclasses was slightly different in the Italian version than in the original one (table III). The reference structure matrix after rotation that shows the correlation between the item and the factor is indicated in Table IV.

Internal reliability

The internal consistency of the Italian version of A-QoL-Adults was very high, both for the complete 21-item questionnaire and the three subscales subdivided according to the original version: in fact, they showed Cronbach alpha levels of 0.972 for AQoL, 0.942 for SQoL, 0.939 for EQoL and 0.910 for LoL (where values above 0.90 are considered excellent).

Concurrent validity

The cross-sectional construct validity of the Italian version of A-QoL-Adults was achieved by evaluating the correlation between the questionnaire and the WHOQoL BREF (Physical QoL, Psychological QoL, Social QoL, Environmental QoL), the PSS, the HADS-A and the HADS-D. A large correlation was found with PSS ($r = 0.722$), HADS-A ($r = 0.685$) and Environmental QoL ($r = -0.528$) in a very high statistically significant way ($p < 0.005$). Furthermore, a medium correlation was found with HADS-D ($r = 0.455$), Physical QoL ($r = -0.376$) and Psychological QoL ($r = -0.425$) in a statistically significant way ($p < 0.05$). These data showed that a low quality of life caused by anaphylaxis was related to low general QoL, higher anxiety, depression and stress. These results were similar to the original version of A-QoL-Adults. Analyzing the 3 subclasses SQoL, EQoL and LoL, there was a large correlation with PSS and HADS-A for all of them ($p < 0.001$). All the correlations are shown in Table V. Finally, simple linear regression was performed to evaluate the Italian version of A-QoL-Adults ability to predict PSS, HADS-A, and HADS-D outcomes. The results showed that anaphylaxis-related QoL values were able to predict extremely well the subject's levels of anxiety, depression and stress ($p < 0.001$). Those results, again, match those of the original questionnaire. The regression analysis is detailed in Table VI.

Epinephrine Auto-Injector using

The qualitative interview structured ad hoc based on 6 questions related to the concern about anaphylaxis management and the awareness of the disease (Table I) shows that most patients always carry an epinephrine auto-injector (75.9%) and only 13.3% of patients used it after a prescription. 37.9% of patients report always being exposed to allergens causing their anaphylaxis, and only 17.3% feel

capable of effectively avoiding these allergens. 10.3% don't feel or rarely have someone to rely on (doctor, family, friend) in case of anaphylactic shock; 24.2% feel it sometimes and most of the time; 31% always. Finally, just under half of the sample (41.45%) would feel safe with a 500 mg vial instead of the 300 mg usually used vial.

Discussion

Anaphylaxis is a severe allergic reaction that negatively affects patients' quality of life and psychological burden (6-18). Considering the QoL in patients with a prescription of self-injectable epinephrine due to a history of anaphylaxis or severe allergy to any trigger is very important to support health care professionals in allergy management and to increase patients' adherence to treatment (19-24).

Our qualitative interview about using an epinephrine auto-injector noted that many patients always feel exposed to allergens causing their anaphylaxis, and only half of them feel totally capable of effectively avoiding these allergens. In fact, most patients always carry an epinephrine auto-injector, and a substantial part of the sample would feel safe with a 500 mg vial instead of the 300 mg usually used vial. Moreover, only 31% of patients feel they have someone they can rely on (doctor, family, friend) in case of anaphylactic shock.

Recently, a psychometric scale has been developed to measure the impact of the risk of anaphylaxis from any cause (25). Still, no questionnaire currently assesses the quality of life in patients with anaphylaxis in Italian. Our pilot study demonstrates that the Italian version of the A-QoL-Adults can be used for Italian patients prescribed self-injectable epinephrine. It is a culturally and psychometrically validated instrument in Italian and is ready for clinical practice.

The Italian version of the A-QoL-Adults has excellent psychometric properties, including good internal structural validity and internal consistency reliability and a strong correlation with other generic QoL and psychological scales.

From the factorial analysis, it is possible to notice how the subdivision of the items in the three subclasses is slightly different in the Italian-translated version compared to the original English one. In particular, as many as 3 items that in the English version were in the LoL group (items 3, 11, 19), in the Italian version, they are among the EoL; one item that was in the LoL group in the English version (item 16), in the Italian version is now put in SoL group; one item of SoL (item 12) now is in LoL; one item of SoL (item 21) is now in EoL. It is interesting to observe how, in the Italian version of the questionnaire, the items of LoL have been halved (6 vs 3) and that 3/6 (50%) items in LoL in the English version came in EoL in the Italian version. So, the section "emotional" becomes more substantial, to the detriment of the "limitation on life" that remains of only 3 items. Items such as "I feel that my anaphylaxis is a nuisance" and "I am less confident about doing things because of my anaphylaxis" in the Italian version seem to be more fitting in the "emotional" section than the "limitation" and also "I feel a burden to my family and friends because of my anaphylaxis" seems to belong to "emotional" rather than to "social". Although the average age and gender difference are similar in our sample and the one used in the validation of the original questionnaire, a possible explanation of these differences can certainly be the different socio-cultural backgrounds; it should be considered that the limited number of our sample does not allow certainty in this regard.

People who are in anaphylactic shock may feel scared, under a lot of emotional stress, and close to death, which can be a painful experience for them. The quality of life of people with this illness may be significantly impacted, negatively affecting both their physical and mental health. Using questionnaires in more languages will improve the clinical approach in patients affected by anaphylaxis. At the same time, new assessments of a more numerically adequate population will be needed to verify and explain these differences.

The main limitations of this study are the small sample size and the lack of a longitudinal evaluation of the questionnaire, which does not allow, for example, to evaluate responsiveness after a potential management of anaphylaxis.

Conclusions

Our study shows that the Italian version of A-QoL-Adults is a trusted instrument for evaluating the quality of life of adults with anaphylaxis at any trigger. It may be used in research and clinical practice. It shows excellent results on a small sample evaluated, with internal structure validity, internal reliability

and cross-validity sectional of the translated questionnaire. It will provide Italian allergy specialists with a means of better understanding the impact of anaphylaxis on their patients. It could help guide and monitor appropriate interventions to enhance treatment adherence and improve patients' QoL with epinephrine auto-injector prescription.

Further studies are needed with a higher sample number to determine whether there is a possible difference in the structuring of sub-domains between the English and Italian versions.

Compliance with Ethical Standards statements

Conflict of interests

The authors have no relevant financial or non-financial interests to disclose.

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Author Contributions

PV: Validation, Writing-review & editing, Project Administration, Supervision. PL: Conceptualization, Writing-original draft, Formal Analysis, Visualization, Writing-review & editing. BE: Data Curation, Investigation. CMS: Data Curation, Investigation. FG: Conceptualization, Methodology, Supervision. LM: Data curation, Investigation. GA: Conceptualization Methodology. ZR: Conceptualization, Investigation, Writing-original draft, Writing-review & editing. All authors read and approved the submitted version.

Ethical Approval

The study was performed in line with the principles of the Declaration of Helsinki. Approval was granted by the Ethics Committee Campania 2 (Prot. ASLSA-0154183-2024). Informed consent was obtained from all individual participants included in the study.

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Table I. Demographic and anaphylaxis characteristics of the sample.

Population characteristics	n= 29
Mean age	38.66 ± 15.92
Age range, y	21-70
Male gender	14 (46.7%)
Female gender	16 (53.3%)
Cause of anaphylaxis	
Hymenoptera	6 (20.69%)
Food	13 (44.83%)
Drugs	2 (6.90%)
Latex	3 (10.34%)
Unknown	5 (17.24%)
Symptoms severity (mean)	8.48 ± 2.24
Epinephrine autoinjector use	4 (13.3%)
How often do you carry your epinephrine autoinjector?	
Never	1 (3.4%)
Rarely	0
Sometimes	4 (13.8%)
Most of the time	2 (6.9%)
Always	22 (75.9%)
How often are you exposed to allergens causing you anaphylaxis?	
Never	2 (6.9%)
Rarely	3 (10.4%)
Sometimes	9 (31%)
Most of the time	4 (13.8%)
Always	11 (37.9%)
How often are you able to effectively avoid these allergenes?	
Never	2 (6.9%)
Rarely	4 (13.8%)
Sometimes	9 (31%)
Most of the time	9 (31%)
Always	5 (17.3%)
How much do you feel you have someone you can rely on (doctor, family, friend) in case of anaphylactic shock?	
Never	3 (10.3%)
Rarely	3 (10.3%)
Sometimes	7 (24.2%)
Most of the time	7 (24.2%)
Always	9 (31%)
How safe would you feel with a 500 mg vial instead of the 300 mg vial that usually uses?	
Never	4 (13.8%)
Rarely	2 (6.9%)
Sometimes	12 (41.4%)
Most of the time	2 (6.9%)
Always	9 (31%)

Table II. Mean and standard deviation of each items of the AQoL-Adults Italian version

Item	Mean $\pm$ SD
ITEM 1	3.07 $\pm$ 1.16
ITEM 2	3.31 $\pm$ 1.44
ITEM 3	2.76 $\pm$ 1.50
ITEM 4	2.45 $\pm$ 1.53
ITEM 5	2.48 $\pm$ 1.62
ITEM 6	3.59 $\pm$ 1.35
ITEM 7	3.00 $\pm$ 1.58
ITEM 8	2.24 $\pm$ 1.35
ITEM 9	2.48 $\pm$ 1.50
ITEM 10	2.21 $\pm$ 1.35
ITEM 11	2.76 $\pm$ 1.55
ITEM 12	2.07 $\pm$ 1.49
ITEM 13	1.93 $\pm$ 1.33
ITEM 14	1.93 $\pm$ 1.46
ITEM 15	2.00 $\pm$ 1.58
ITEM 16	2.48 $\pm$ 1.59
ITEM 17	2.17 $\pm$ 1.51
ITEM 18	2.76 $\pm$ 1.60
ITEM 19	2.79 $\pm$ 1.57
ITEM 20	2.00 $\pm$ 1.25
ITEM 21	2.17 $\pm$ 1.36

Table III. Differences between the 3 subscales in original and in Italian version according to factor analysis (numbers indicate the items).

Subscales	Original Version	Italian Translation
SQoL	4, 5, 10, 12, 13, 14, 15, 20, 21	4, 5, 10, 13, 14, 15, 16, 20
EQoL	2, 6, 7, 8, 9, 18	2, 3, 6, 7, 8, 9, 11, 18, 19, 21
LoL	1, 3, 11, 16, 17, 19	1, 12, 17

Table IV. Factor analysis of the AQoL-Adults Italian version: the reference structure matrix after rotation.

Items	Factor 1	Factor 2	Factor 3
ITEM 9	0,834	0,190	0,392
ITEM 21	0,781	0,185	0,288
ITEM 11	0,764	0,312	0,260
ITEM 19	0,731	0,183	0,589
ITEM 8	0,727	0,421	0,176
ITEM 6	0,726	0,382	0,262
ITEM 7	0,719	0,431	0,224

ITEM 2	0,685	0,512	0,146
ITEM 18	0,676	0,264	0,584
ITEM 3	0,591	0,523	0,219
ITEM 14	0,117	0,853	0,293
ITEM 15	0,238	0,839	0,321
ITEM 13	0,300	0,787	0,295
ITEM 10	0,453	0,767	0,050
ITEM 5	0,259	0,742	0,248
ITEM 16	0,405	0,706	0,232
ITEM 4	0,512	0,692	0,194
ITEM 20	0,355	0,671	0,534
ITEM 12	0,232	0,331	0,787
ITEM 17	0,367	0,296	0,720
ITEM 1	0,445	0,391	0,617

Table V. Correlations between A-QoL-Adults Italian version and the others questionnaires (WHOQoL-BRIEF, PSS, HADS-A, HADS-D).

Scale		AQoL	SQoL	EQoL	LoL
Physical QoL	r	-0,376	-0,440	-0,297	-0,303
	p	0,049	0,019	0,125	0,117
Psychological QoL	r	-0,425	-0,481	-0,345	-0,356
	p	0,024	0,010	0,073	0,063
Social QoL	r	-0,201	-0,318	-0,102	-0,104
	p	0,305	0,100	0,606	0,600
Environmental QoL	r	-0,528	-0,578	-0,424	-0,476
	p	0,004	0,001	0,025	0,010
HADS-A	r	0,685	0,711	0,600	0,622
	p	<0,001	<0,001	0,001	<0,001
HADS-D	r	0,455	0,521	0,338	0,407
	p	0,015	0,005	0,079	0,032
PSS	r	0,722	0,768	0,624	0,636
	p	<0,001	<0,001	<0,001	<0,001

Table VI. Linear regression analysis using A-QoL-Adults Italian version as an independent variable.

Outcome Variable	Unst. beta	St. beta	R2 (adj R2)	F	p-value
Stress (PSS)	4,420	0,722	0,521 (0,503)	28,286	< 0,001
Anxiety (HADS-A)	2,728	0,685	0,469 (0,449)	23,009	< 0,001
Depression (HADS-D)	1,446	0,455	0,207 (0,177)	6,799	0,015

Appendix A: Anaphylaxis QoL Scale for Adults - Italian Version (A-QoL-Adults-I).

Anaphylaxis QoL Scale for Adults - Italian Version (A-QoL-Adults-I)

Nelle seguenti domande le viene chiesto come l'anafilassi influisce sulla sua vita. Cerchi di non soffermarsi troppo a lungo su ogni domanda. Metta una X nella casella che meglio descrive la frequenza con cui si sente in un certo modo.

1=Mai; 2=Raramente; 3=A volte; 4=La maggior parte del tempo; 5=Sempre

1.Mi sento nervoso a causa della mia anafilassi.	1	2	3	4	5
2.Temo che potrei morire a causa di una reazione anafilattica.	1	2	3	4	5
3.Il rischio di avere una reazione anafilattica mi impedisce di fare le cose che vorrei fare.	1	2	3	4	5
4.Sento di non avere controllo sulla mia vita a causa del rischio di anafilassi.	1	2	3	4	5
5.Mi sento frustrato dal fatto che gli altri non prendano sul serio l'anafilassi.	1	2	3	4	5
6.Ho paura di poter avere una reazione anafilattica.	1	2	3	4	5
7.Temo di poter avere una reazione anafilattica in qualsiasi momento.	1	2	3	4	5
8.Mi sento impotente a causa della mia anafilassi.	1	2	3	4	5
9.Il pensiero di avere un'altra reazione anafilattica occupa la mia mente.	1	2	3	4	5
10.Mi sento nervoso per il fatto che le persone non sappiano cos'è l'anafilassi.	1	2	3	4	5
11.Sento che la mia anafilassi è un peso per me.	1	2	3	4	5
12.Il mio lavoro è stato influenzato dalla mia anafilassi.	1	2	3	4	5
13.Mi sento isolato a causa della mia anafilassi.	1	2	3	4	5
14.Evito le vacanze in Italia a causa della mia anafilassi.	1	2	3	4	5
15.Evito le vacanze all'estero a causa della mia anafilassi.	1	2	3	4	5
16.Devo pianificare le cose in anticipo per evitare di avere una reazione anafilattica.	1	2	3	4	5
17.Mi infastidisce dover rinunciare a qualcosa a causa della mia anafilassi.	1	2	3	4	5
18.Ho paura che la mia prossima reazione anafilattica sarà peggiore.	1	2	3	4	5
19.Mi sento meno sicuro nel fare le cose a causa della mia anafilassi.	1	2	3	4	5
20.Avere l'anafilassi mi impedisce di fare passi in avanti nella mia vita.	1	2	3	4	5

21.Sento di essere un peso per la mia famiglia e i miei amici a causa della mia anafilassi.	1	2	3	4	5
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Le seguenti 2 domande riguardano l'allergia al veleno: si prega di rispondere solo se si è allergici alle punture di api o vespe.

1. Evito di andare in posti dove potrebbero esserci vespe o api.	1	2	3	4	5
2. Evito di sedermi fuori a causa del rischio di essere punto da un'ape o da una vespa.	1	2	3	4	5

Le seguenti 2 domande riguardano l'allergia alimentare: si prega di rispondere solo se si è allergici a uno o più alimenti.

3. Devo controllare le etichette degli alimenti per evitare di avere una reazione anafilattica.	1	2	3	4	5
4. Trovo difficile mangiare fuori casa a causa della mia anafilassi.	1	2	3	4	5

Le seguenti 2 domande riguardano l'allergia ai farmaci: si prega di rispondere solo se si è allergici a un farmaco (come la penicillina o l'anestetico generale).

5. Mi preoccupa di cosa potrebbe accadere se dovessi sottopormi a un'operazione.	1	2	3	4	5
6. Mi preoccupa di quali farmaci potrei essere in grado di assumere se mi ammalo.	1	2	3	4	5

Le seguenti 2 domande riguardano le persone che non conoscono la causa della loro anafilassi: si prega di rispondere solo se NON si sa a cosa si è allergici.

7. Sono frustrato dal fatto che non so cosa abbia causato la mia anafilassi.	1	2	3	4	5
8. Non conoscere la causa della mia anafilassi mi rende nervoso all'idea di avere un'altra reazione.	1	2	3	4	5

C'è qualcos'altro che vorrebbe dirci su come l'anafilassi ha influenzato la sua vita? Se è così, per favore lo scriva qui sotto.