

iOSA: A Data Management System to Assist in Obstructive Sleep Apnea Diagnosis

User Guide

Version 5.3.0

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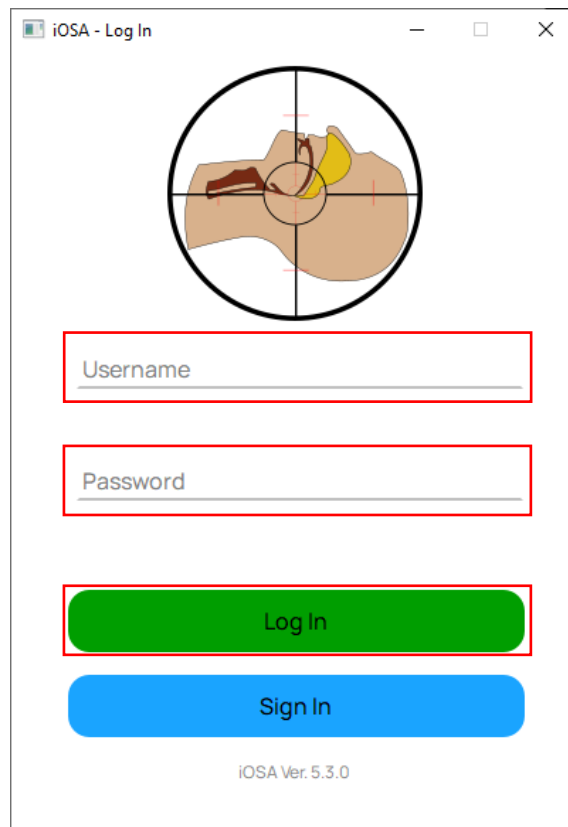
Patient Management

Default Log In Credentials

Firstly, a valid user credentials are required. If the system was installed according to the “Installing Manuel”, then the default credentials are already registered:

- Username: Admin
- Password: Admin

Therefore, enter the username and password and click on the green “Log In” button.



iOSA - Log In

Username

Password

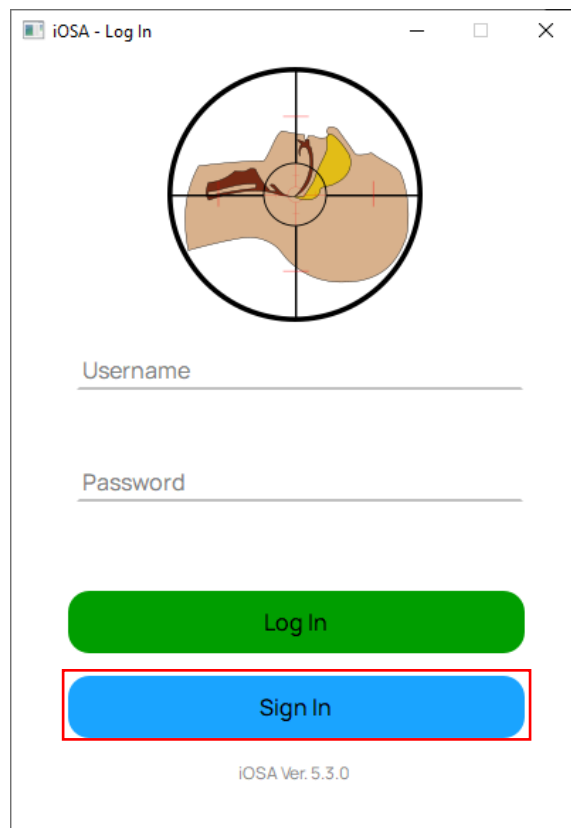
Log In

Sign In

iOSA Ver. 5.3.0

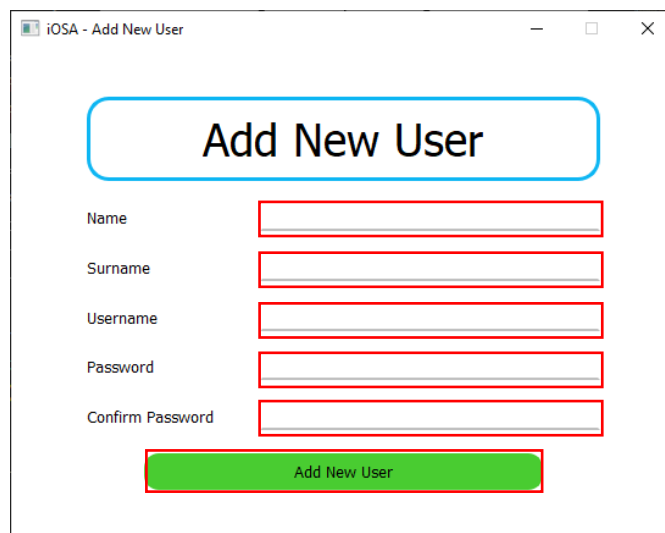
Add New Users

In case more than one medic uses the system it's possible to create more medic users. For this, click on the blue “Sign In” button.



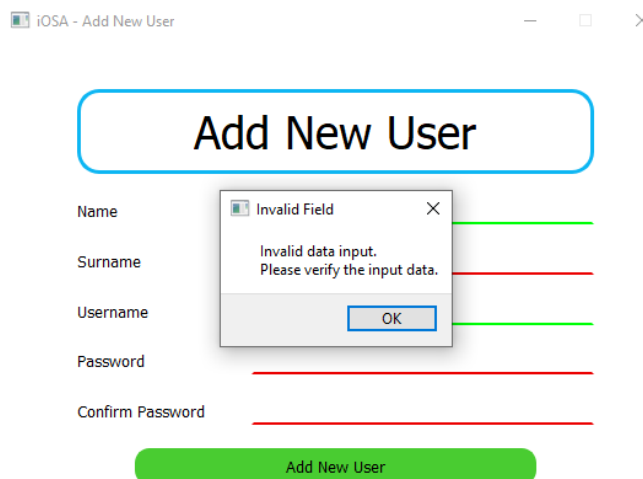
The screenshot shows the 'iOSA - Log In' window. At the top is a circular diagram of a human head in profile, with a crosshair and colored regions (yellow, red, green). Below the diagram are two text input fields labeled 'Username' and 'Password'. Under the 'Password' field is a green 'Log In' button. Below that is a blue 'Sign In' button, which is highlighted with a red rectangular border. At the bottom center, the text 'iOSA Ver. 5.3.0' is displayed.

To create a new user, the five fields are obligatory require: the name of the medic, the surname of the medic, a username to identify the medic and a password. Once the data is input, click on the green “Add New User” button.



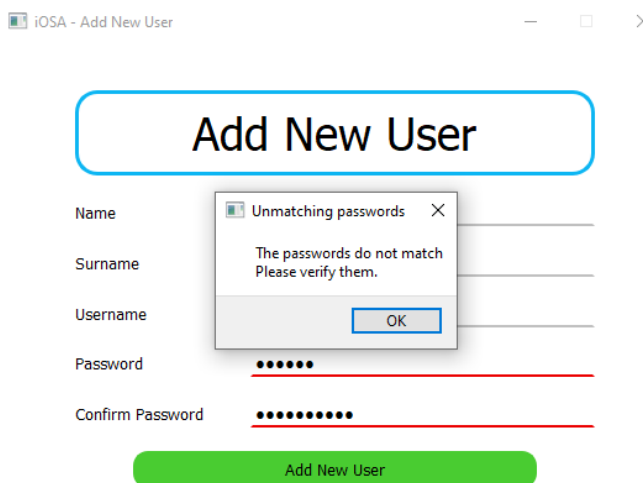
The screenshot shows the 'iOSA - Add New User' window. At the top, the title 'Add New User' is enclosed in a blue rounded rectangle. Below this are five text input fields, each with a red border, labeled 'Name', 'Surname', 'Username', 'Password', and 'Confirm Password'. At the bottom center is a green 'Add New User' button, also highlighted with a red rectangular border.

In case a field is left blank, the system will display a notification. The wrong fields will be red highlighted.



The screenshot shows a window titled "iOSA - Add New User". Inside, there is a form titled "Add New User" with five input fields: "Name", "Surname", "Username", "Password", and "Confirm Password". The "Name" field is highlighted in red. A modal dialog box titled "Invalid Field" is displayed over the form, containing the text "Invalid data input. Please verify the input data." and an "OK" button. The "Add New User" button at the bottom is green.

Another warning will appear if the password does not match.



The screenshot shows the same "iOSA - Add New User" window. The "Password" and "Confirm Password" fields are now filled with dots. The "Confirm Password" field is highlighted in red. A modal dialog box titled "Unmatching passwords" is displayed, containing the text "The passwords do not match. Please verify them." and an "OK" button. The "Add New User" button at the bottom is green.

In case the provided user already exists, the system will notify the existence.

The screenshot shows the 'iOSA - Add New User' window. It has a title bar with the text 'iOSA - Add New User' and standard window controls. The main content area has a blue rounded rectangle at the top with the text 'Add New User'. Below this are input fields for 'Name', 'Surname', 'Username', 'Password', and 'Confirm Password'. The 'Password' and 'Confirm Password' fields are masked with dots. A green 'Add New User' button is at the bottom. An 'Existing User' dialog box is overlaid on the form, displaying the message: 'The user already exist. Please choose another.' with an 'OK' button.

If all the data is correct, then the user will be created and now can be used to log in into the iOSA system.

The screenshot shows the 'iOSA - Add New User' window. It has a title bar with the text 'iOSA - Add New User' and standard window controls. The main content area has a blue rounded rectangle at the top with the text 'Add New User'. Below this are input fields for 'Name', 'Surname', 'Username', 'Password', and 'Confirm Password'. The 'Password' and 'Confirm Password' fields are masked with dots. A green 'Add New User' button is at the bottom. A 'User Added' dialog box is overlaid on the form, displaying the message: 'New user added.' with an 'OK' button.

Some considerations while creating a new user:

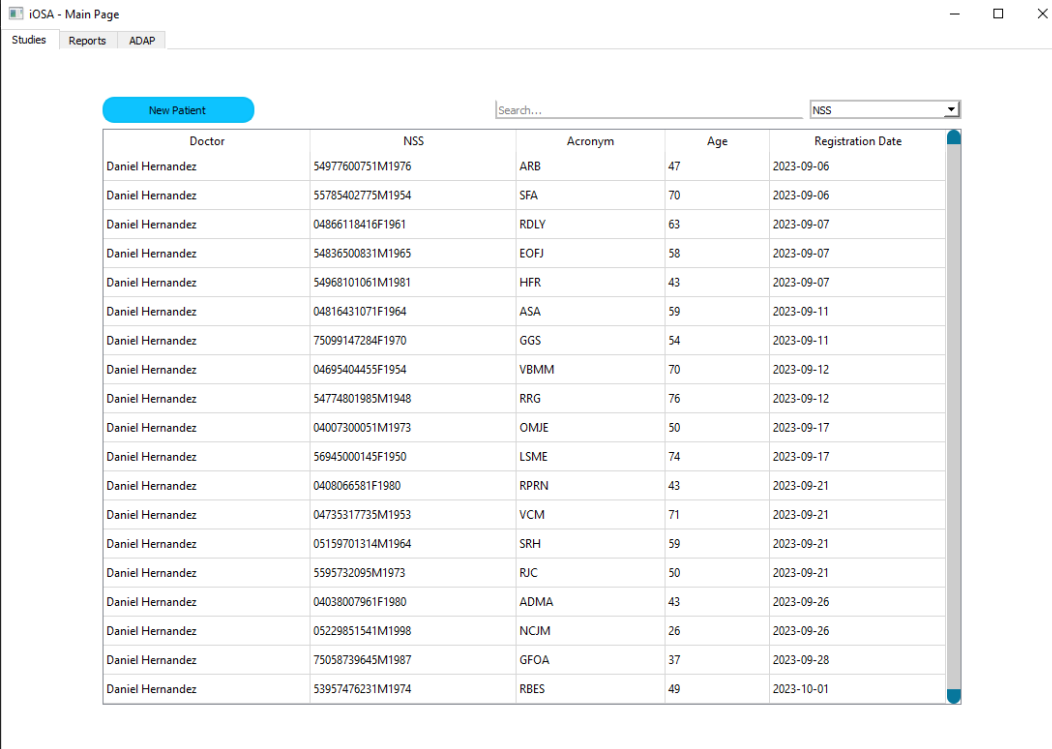
- Please leave the username with less than 15 characters.
- Please leave the password with less than 15 characters.

Data Management

Patient Profiles Management

The main page lists all the patient's profiles that are already registered on the system. They are listed by the last registered patient to the newest. From this page

new patients can be created and be search selecting a filter (doctor, NSS, acronym, age or registration date). Being the NSS search de default.



The screenshot shows the 'iOSA - Main Page' window. At the top, there are tabs for 'Studies', 'Reports', and 'ADAP'. Below the tabs, there is a blue 'New Patient' button on the left. To its right is a search bar with the text 'Search...' and a dropdown menu currently set to 'NSS'. Below these elements is a table with five columns: 'Doctor', 'NSS', 'Acronym', 'Age', and 'Registration Date'. The table contains 20 rows of patient data, all with 'Daniel Hernandez' as the doctor's name. The NSS values are unique alphanumeric strings, and the acronyms vary. The ages range from 26 to 76, and the registration dates range from 2023-09-06 to 2023-10-01.

Doctor	NSS	Acronym	Age	Registration Date
Daniel Hernandez	54977600751M1976	ARB	47	2023-09-06
Daniel Hernandez	55785402775M1954	SFA	70	2023-09-06
Daniel Hernandez	04866118416F1961	RDLY	63	2023-09-07
Daniel Hernandez	54836500831M1965	EOFJ	58	2023-09-07
Daniel Hernandez	54968101061M1981	HFR	43	2023-09-07
Daniel Hernandez	04816431071F1964	ASA	59	2023-09-11
Daniel Hernandez	75099147284F1970	GG5	54	2023-09-11
Daniel Hernandez	04695404455F1954	VBMM	70	2023-09-12
Daniel Hernandez	54774801985M1948	RRG	76	2023-09-12
Daniel Hernandez	04007300051M1973	OMJE	50	2023-09-17
Daniel Hernandez	56945000145F1950	LSME	74	2023-09-17
Daniel Hernandez	0408066581F1980	RPRN	43	2023-09-21
Daniel Hernandez	04735317735M1953	VCM	71	2023-09-21
Daniel Hernandez	05159701314M1964	SRH	59	2023-09-21
Daniel Hernandez	5595732095M1973	RJC	50	2023-09-21
Daniel Hernandez	04038007961F1980	ADMA	43	2023-09-26
Daniel Hernandez	05229851541M1998	NCJM	26	2023-09-26
Daniel Hernandez	75058739645M1987	GFOA	37	2023-09-28
Daniel Hernandez	53957476231M1974	RBES	49	2023-10-01

Add New Patient Profiles

To create a new patient profile, click on the blue “New Patient” button on the “Main Page”. This will open the patient “Registration Form”.

The screenshot shows the iOSA application window with tabs for 'Studies', 'Reports', and 'ADAP'. A blue button labeled 'New Patient' is highlighted with a red rectangular box. To the right of the button is a search bar with the placeholder text 'Search...' and a dropdown menu currently set to 'NSS'. Below these elements is a table with the following headers: 'Doctor', 'NSS', 'Acronym', 'Age', and 'Registration Date'. The table body is currently empty.

The patients profile requires a designated acronym from the medic, the NSS of the patient with a unique 6-digit number, the birthdate and the patient sex.

The screenshot shows the 'iOSA - Main Page' window. It contains several form sections outlined in blue:

- Registration Form**: A single-line text input field.
- Acronym And NSS**: A section containing two input fields. The first is labeled 'Acronym' with a hint '(Example: EDGA)'. The second is labeled 'NSS' with a hint 'Social Security number' and a placeholder '000000'.
- Birthdate**: A section containing three input fields for 'Day' (with value '1'), 'Month' (with value '1'), and 'Year' (with value '1980').
- Sex**: A section with three radio buttons labeled 'Male', 'Female', and 'Other'.

 At the bottom right of the form are two buttons: a red 'Cancel Registration' button and a blue 'Create New Patient Profile' button.

The use of an acronym is to avoid saving the patient's full name, this because some hospitals and facilities are not allowed to store this information on any database.

The NSS is a governmental insurance code provided to any person of the country and the 6-digit number is an internal patient number for the hospital or the medic. With this combination, the patient duplication is avoided.

Once all the data is provided, click on the blue “Create New Patient Profile” button or on the red “Cancel Registration” button to cancel the operation.

The screenshot shows the 'iOSA - Main Page' window with tabs for 'Studies', 'Reports', and 'ADAP'. The 'Registration Form' section is highlighted with a blue border. Below it, the 'Acronym And NSS' section is also highlighted with a blue border. The 'Acronym' field contains 'EDGA' and the 'NSS' field contains '1111111111'. The 'Birthdate' section is highlighted with a blue border. The 'Day' field contains '1', the 'Month' field contains '1', and the 'Year' field contains '1980'. The 'Sex' field has radio buttons for 'Male' (selected), 'Female', and 'Other'. At the bottom, there are two buttons: 'Cancel Registration' (red) and 'Create New Patient Profile' (blue).

Now the new profile will appear on the registered patients list on the “Main Page”.

The screenshot shows the 'New Patient' form in the iOSA application. At the top, there is a 'New Patient' button and a search bar. Below this is a table with the following columns: Doctor, NSS, Acronym, Age, and Registration Date. The table contains one row with the following data: Doctor: Admin User, NSS: 1111111111111111, Acronym: EDGA, Age: 44, and Registration Date: 2024-06-13. The table is highlighted with a red border.

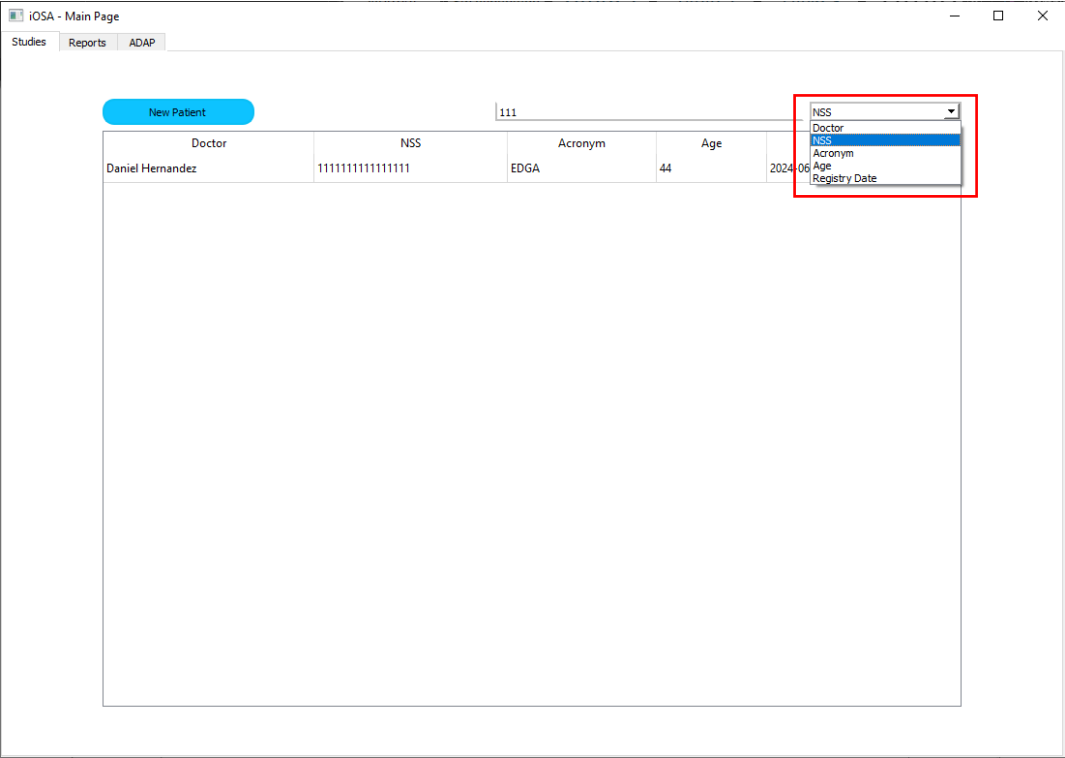
Doctor	NSS	Acronym	Age	Registration Date
Admin User	1111111111111111	EDGA	44	2024-06-13

In case the NSS is already registered, the screen will show an alert notifying the existence of the patient profile. Click on the “Ok” button and enter another NSS.

The screenshot shows the 'Main Page' of the iOSA application. It features a registration form with several sections: 'Registration Form', 'Acronym And NSS', 'Birthdate', and 'Genre'. The 'Acronym And NSS' section is highlighted with a blue border. A 'Duplicated NSS' alert dialog box is displayed over the form, indicating that the provided NSS is already used. The dialog box contains the text: 'The provided NSS is already used: 1111111111111111'. The 'Acronym' field is filled with 'EDGA' and the 'NSS' field is filled with '1111111111'. The 'Birthdate' section has fields for Day (1), Month (1), and Year (1980). The 'Genre' section has radio buttons for Male (selected), Female, and Other. At the bottom, there are two buttons: 'Cancel Registration' (red) and 'Create New Patient Profile' (blue).

Search Patient Profile

For search a patient is necessary to select a search filter. Then, input the search pattern of the patient.



The screenshot shows the 'iOSA - Main Page' interface. At the top, there are tabs for 'Studies', 'Reports', and 'ADAP'. Below the tabs, there is a 'New Patient' button and a search input field containing the text '111'. To the right of the input field is a dropdown menu with a red border. The dropdown menu is open, showing a list of search filters: 'NSS', 'Doctor', 'NSS', 'Acronym', 'Age', and 'Registry Date'. The 'NSS' option is currently selected and highlighted in blue. Below the search input field, there is a table with patient data.

Doctor	NSS	Acronym	Age	Registry Date
Daniel Hernandez	11111111111111111111	EDGA	44	2024-06

Patient Studies Management

Each patient has one or more studies. These studies are a combination of a medical record, a frontal and a lateral image, a video, a polygraphy PDF file and a OSA/EDF file.

To access a patient studies list, go to the "Main Page", create or search for the patient profile and double click on it.

iOSA - Main Page

Studies Reports ADAP

New Patient

111 NSS

Doctor	NSS	Acronym	Age	Registration Date
Daniel Hernandez	111111111111111111	EDGA	44	2024-06-13

If the patient profile is new, no studies will be listed, therefore, click on the blue “Create New Study” button to start the creation of the study.

iOSA - Main Page

Studies Reports ADAP

Create New Study Search... Status

# Study	Status	Study Date
---------	--------	------------

Go Back Update

Add Medical Record Data

The medical record consists of several metrics that the medic takes in the medical appointment to the patient. The weight is registered in kilograms, the height in meters and the neck circumference in centimeters. With this data, the patient BMI is calculated.

Weight, Height and BMI

Weight (Kg) Height (M) Neck Circumference (Cm) BMI

Next are the vital signs, the temperature is registered in Celsius.

Vital Signs

Heart Rate
Respiratory Rate
Oxygen Saturation
Blood pressure

Next is some yes/no questions and if the patient is taking some prescribed medicines. The medicines field can be left blank.

Patient Record

Oxygen Use ☐ NO ☐ YES

Smoker ☐ NO ☐ YES

Exsmoker ☐ NO ☐ YES

Hypertension ☐ NO ☐ YES

Snoring ☐ NO ☐ YES

Witnessed Apneas ☐ NO ☐ YES

Chronic Fatigue ☐ NO ☐ YES

The next part is another questionnaire known as the “Charlson Comorbidity”, this questionnaire is known related to OSA. Each field have a score value, shown at the next table

Field	No	Yes	Third
Cardiac Insufficiency	0	1	Null
History Cerebral Vascular Accident	0	1	Null
Peripheral Vascular Disease	0	1	Null
Dementia	0	1	Null
Chronic Obstructive Pulmonary Disease	0	1	Null
Connective Tissue Disease	0	1	Null
Liver Disease	0	1	Null
Diabetes Mellitus	0	1	2
Hemiplegia	0	2	Null
Renal Disease	0	2	Null
Solid Tumor	0	2	3
Leukemia	0	2	Null
Lymphoma	0	2	Null
Human Immunodeficiency Virus	0	6	Null

The age is also a score value following the ranges:

- Less than 50 years old = 0
- More than 50 year old but less than 60 years old = 1
- More than 60 year old but less than 70 years old = 2
- More than 70 years old = 3

Charlson Comorbidity

Cardiac Insufficiency	<input type="checkbox"/> NO <input type="checkbox"/> YES
History of Cerebral Vascular Accident	<input type="checkbox"/> NO <input type="checkbox"/> YES
Peripheral Vascular Disease	<input type="checkbox"/> NO <input type="checkbox"/> YES
Dementia	<input type="checkbox"/> NO <input type="checkbox"/> YES
Chronic Obstructive Pulmonary Disease	<input type="checkbox"/> NO <input type="checkbox"/> YES
Connective Tissue Disease	<input type="checkbox"/> NO <input type="checkbox"/> YES
Liver Disease	<input type="checkbox"/> NO <input type="checkbox"/> YES
Diabetes Mellitus	<input type="checkbox"/> No / Controlled <input type="checkbox"/> Not Complicated <input type="checkbox"/> Damage to White Organ

Hemiplegia	<input type="checkbox"/> NO <input type="checkbox"/> YES
Renal Disease	<input type="checkbox"/> NO <input type="checkbox"/> YES
Solid Tumor	<input type="checkbox"/> NO <input type="checkbox"/> Localizado <input type="checkbox"/> Metástasis
Leukemia	<input type="checkbox"/> NO <input type="checkbox"/> YES
Lymphoma	<input type="checkbox"/> NO <input type="checkbox"/> YES
Human Immunodeficiency Virus	<input type="checkbox"/> NO <input type="checkbox"/> YES
Total	0

The next three sections require of studies previously carried out, for that reason they can be left without value selecting the “No” option. This will save the fields as “Null” values. In case of having the studies, just select the “Yes” option and enter the values.

Diagnostic Aids ☐ NO ☐ YES

Epworth scale ETco2 Mallampati Scale (Class)

Once all the data is already entered, click on the blue “Save and Continue” button.

Arterial Gasometry		Spirometry	
	<input type="checkbox"/> NO <input type="checkbox"/> YES		<input type="checkbox"/> NO <input type="checkbox"/> YES
P.H.	<input type="text" value="0.00"/>	FVC Liters	<input type="text" value="0.00"/>
pCO2	<input type="text" value="0"/>	FVC%	<input type="text" value="0"/>
pO2	<input type="text" value="0"/>	FEV1 Liters	<input type="text" value="0.00"/>
EB	<input type="text" value="0.0"/>	FEV1L%	<input type="text" value="0"/>
		FEV1L / FVCL	<input type="text" value="FEV1L / FVCL"/>


[Save and Continue](#)

Add Frontal Image

The next section is for upload a frontal image of the patient. For upload the image, select the “Select Image” button and find the image to upload.

iOSA - Edit Patient Data

Front

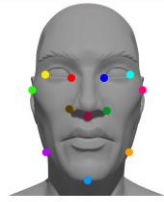


[Select Image](#) ZOOM

Details

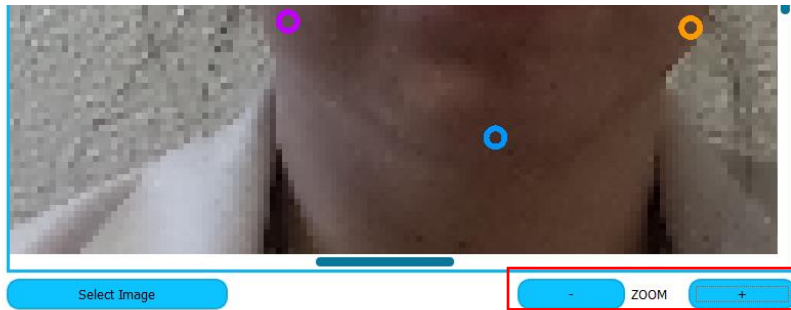
Measurements	
Face Width	17.9212 cm
Face width-midface depth angle	145.6197 °
Intercanal Width	4.9781 cm
Biocular width	12.7439 cm
Mandibular width	13.1422 cm
Maxillary triangle area	46.3116 cm2
Mandibular width-length angle	106.4404 °
Nose width	5.1772 cm

[Update Measurements](#)

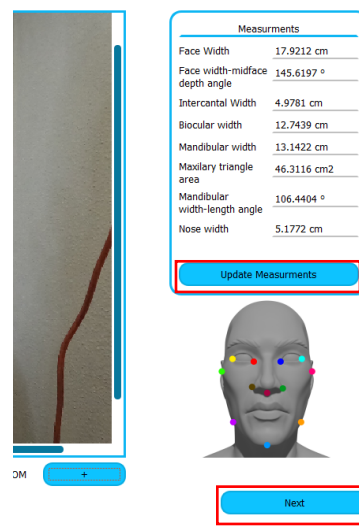


[Next](#)

In this section the medic must move the landmarks according to the reference figure. To facilitate the landmark placement, the image can be zoom.

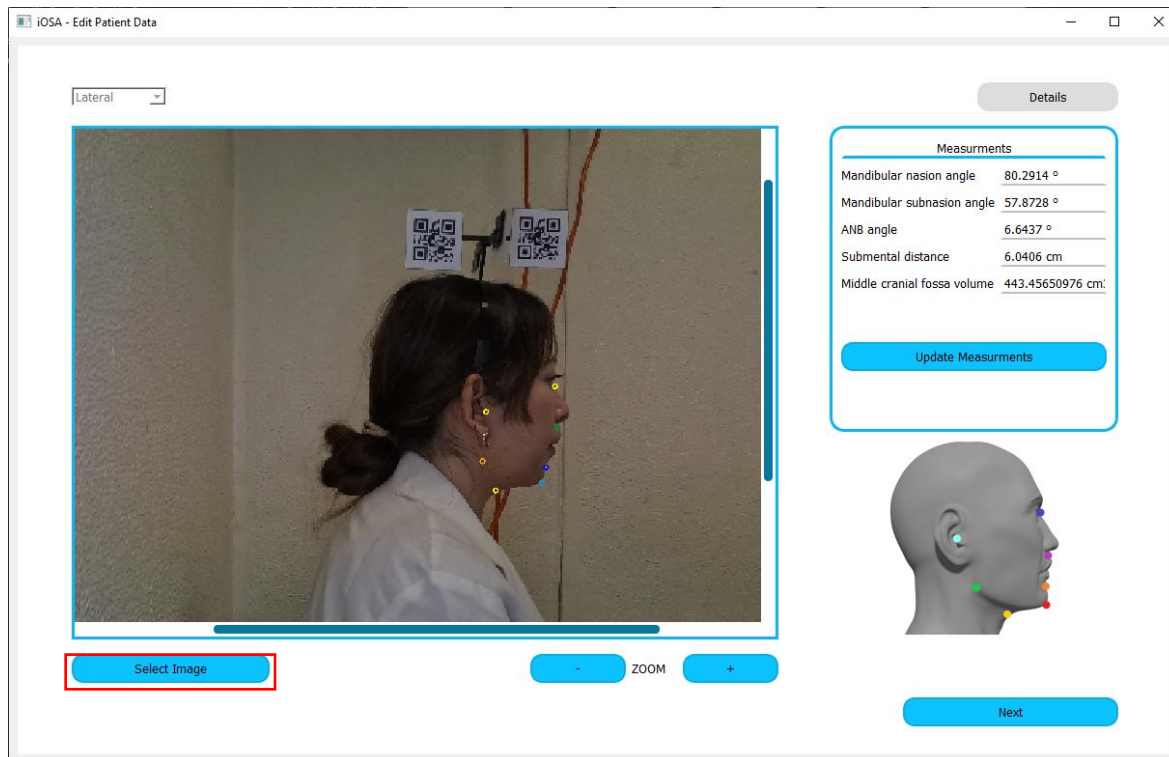


Once the landmarks are placed correctly, click the “Update Measurements” button to calculate the new measurements. When finished, click the “Next” button.

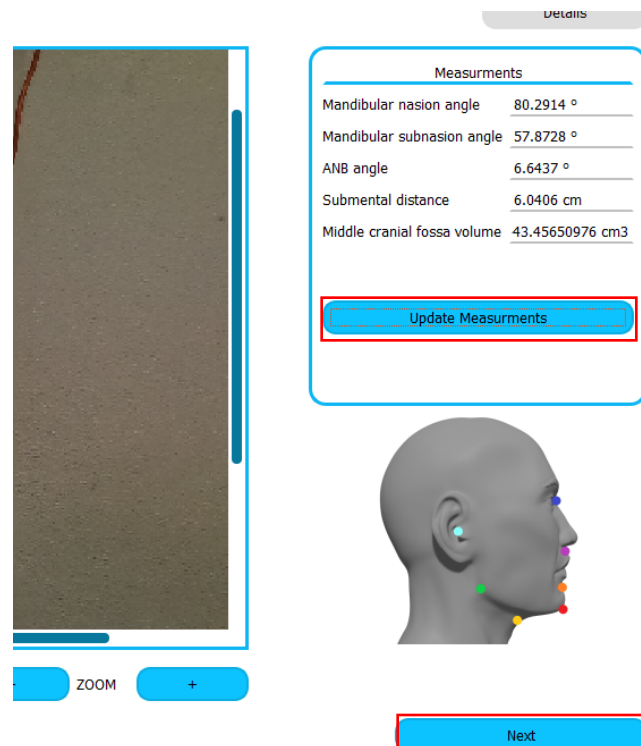


Add Lateral Image

For the lateral image is the same process as the frontal image. First, select the patient image.



Then move the landmarks as the reference image, click on the “Update Measurements” and finally click on the “Next” button.

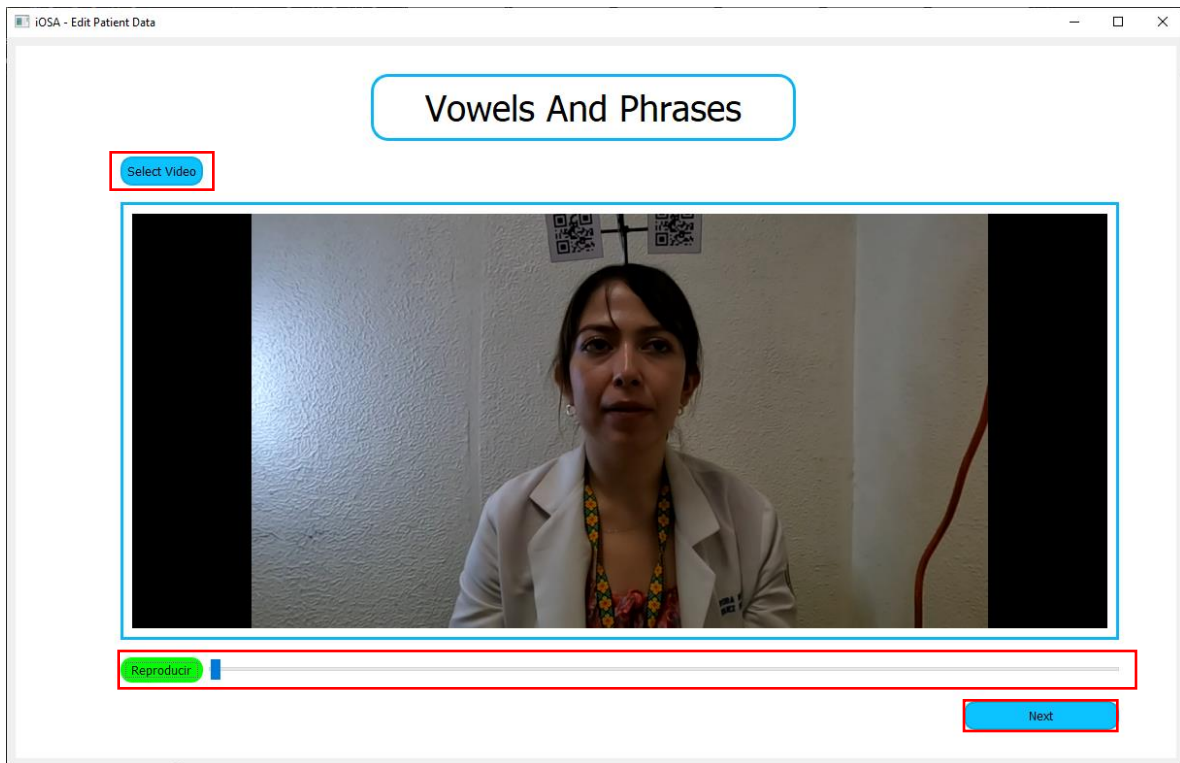


Add Patient Video

The video is of the patient repeating some vowels and phrases, this is a new feature for future work, but it is already attached to the iOSA system.

To upload the video, click on the “Select Video” button and select the patient video.

Once the video is uploaded, video can be play, stop and advance to a certain point. Finally, click on the “Next” button. This will proceed to separate the audio from the video and save them separately.



Add Polygraphy PDF and OSA File

This is the final study section; it consists of the upload of an OSA/EDF file and the resulting PDF of that OSA/EDF file.

Polygraphy Results

Load OSA File No OSA File

Load PDF

OSA PDF Metrics

IAH%:	-	Breaths per minute:	-
IR%:	-	Breaths:	-
Apneas Index	-	Apneas:	-
IAI:	-	Indeterminate apneas:	-
IAO:	-	Obstructive apneas:	-
IAC:	-	Central apneas:	-
IAM:	-	Mixed apneas:	-
Hypopnea index:	-	Hypopnea:	-

Save Study

For the OSA/EDF file upload, select the “Load OSA File” and select the OSA file for that patient. Once an OSA/EDF file is uploaded, the red “No OSA File” will change to a green “OSA file uploaded”.

Load OSA File No OSA File

Load OSA File Archivo OSA Cargado

Then, for the PDF upload, select the “Load PDF” button and select the PDF file of the patient. Once the PDF file is uploaded, the iOSA system will extract the OSA relevant metrics and display them. Finally click on the “Save Study” button to finish the patient study.

Load PDF

OSA PDF Metrics

IAH*:	12.7	Breaths per minute:	17.63
IR*:	14.9	Breaths:	9085
Apneas Index	0.2	Apneas:	2
IAI:	0	Indeterminate apneas:	0
IAO:	0.2	Obstructive apneas:	2
IAc:	0	Central apneas:	0
IAM:	0	Mixed apneas:	0
Hypoonea index:	12.5	Hypoonea:	107

Save Study

Edit Patient Study

In the case that a study needs to be consulted or edited, go to the patient recorded studies and double click on the study to edit.

iOSA - Main Page

Studies Reports ADAP

Create New Study

Search...

Status

# Study	Status	Study Date
1	Complete	2024-06-13

Go Back

Update

Once the edit window appears, select the section to edit (medical record, frontal image, lateral image, video, OSA/EDF file or PDF file).

The screenshots illustrate the iOSA software interface for editing patient data. The first screenshot shows the 'Medical Record' tab with fields for Weight, Height, BMI, and Vital Signs. The second screenshot shows the 'Frontal Image' tab with a video feed and facial measurements. The third screenshot shows the 'Lateral Image' tab with a video feed and lateral facial measurements. The fourth screenshot shows the 'Vowels And Phrases' tab with a video feed. The fifth screenshot shows the 'Polygraphy Results' tab with a table of OSA PDF Metrics.

Medical Record

Weight, Height and BMI

Weight (Kg) 85.11 Height (M) 1.85 Neck Circumference (Cm) 22.1 BMI 24.8678

Vital Signs

Heart Rate 70 Blood pressure 120

Respiratory Rate 20

Oxygen Saturation 95 Temperature 36.0

Frontal Image

Measurements

Face width 127.9213 cm

Face width-midface 123.2792 cm

depth angle

Interorbital width 4.9781 cm

Snarler width 22.3448 cm

Mandibular width 22.3421 cm

Maxillary triangle area 437.1641 cm²

Mandibular width-length angle 105.5625 °

Nose width 4.9781 cm

Lateral Image

Measurements

Mandibular nasion angle 79.8234 °

Mandibular subnasion angle 57.6177 °

ANB angle 6.2299 °

Submental distance 5.8737 cm

Middle cranial fossa volume 7.31125988 cm³

Vowels And Phrases

Polygraphy Results

Load OSA File

Perform OSA Legend

Load TSP

OSA PDF Metrics

14H%	12.7	Breaths per minute	17.63
3H%	24.9	Breaths	9085
Apnea Index	0.2	Apneics	2
IAI	0	Indeterminate apneics	0
IAOI	0.2	Obstructive apneics	2
IAOI	0	Central apneics	0
IAOI	0	Mixed apneics	0
Hypopnea Index	12.5	Hypopneas	107

Save Study

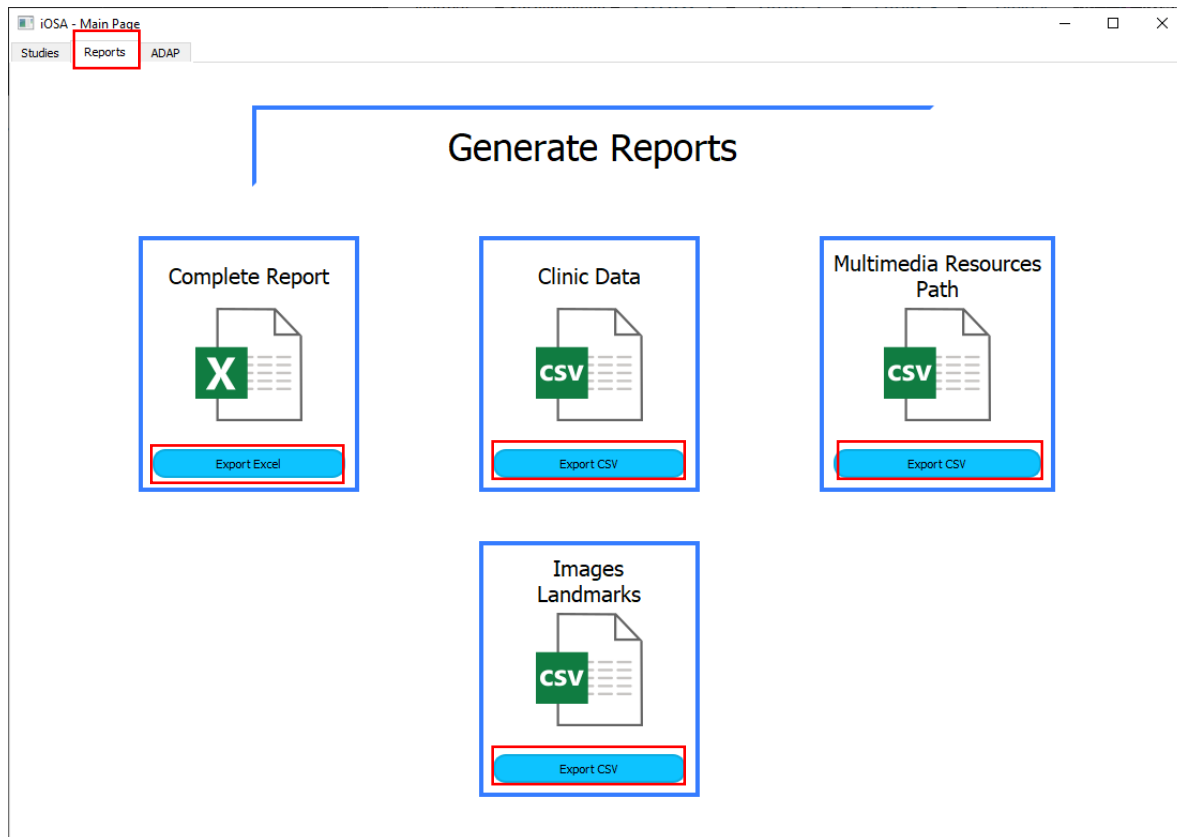
Be sure to click on the “Save” button if the data was edited, otherwise, the modifications will not be saved.

Reporting

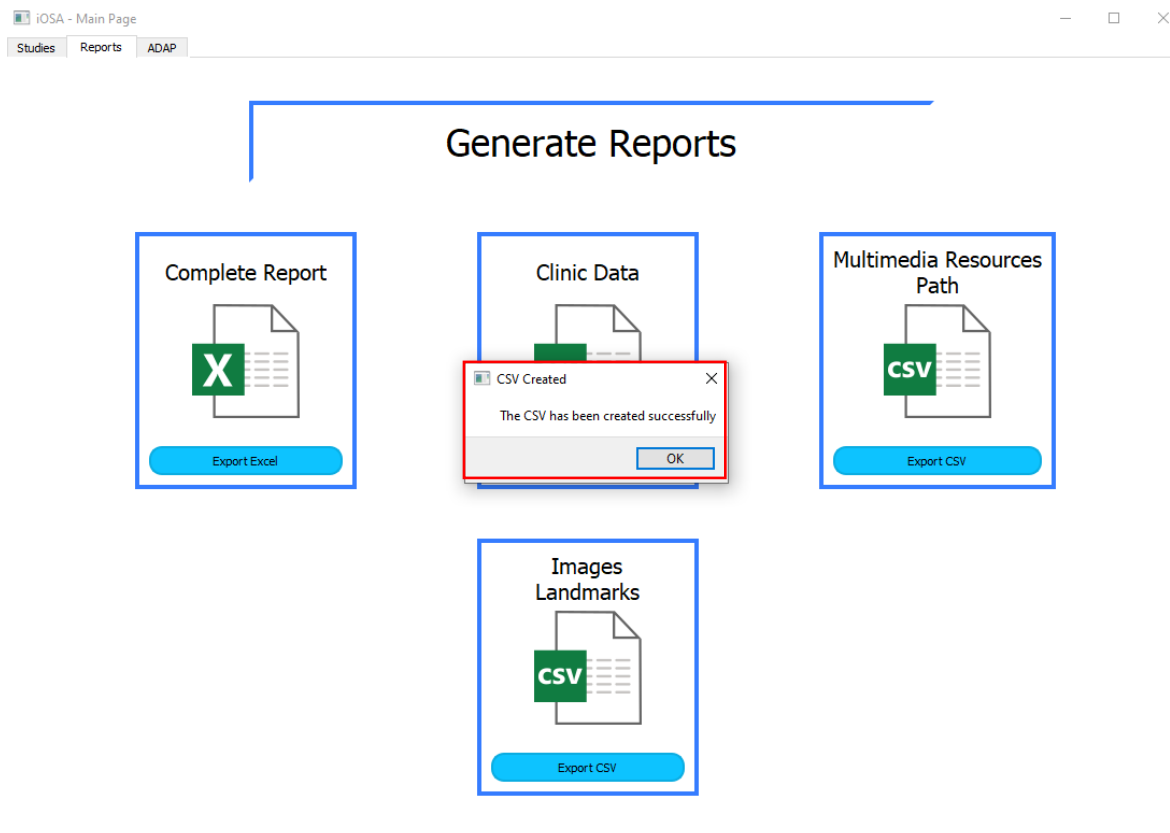
On the “Main Page”, on the second tab, is where the iOSA system reporting module can be found.

This module generates four different reports: one that downloads the complete database to an excel file, other with the clinical data, a third with the path to all the multimedia files (frontal and lateral images, videos, OSA/EDF files and PDF files) and the last one are the coordinates of each landmark for the frontal and lateral images.

To generate the reports just click on the “Export” button of the desired report, select the destination and then wait for the report to be generated.



When the report is generated, a notification will appear. In case an error occurs, another notification will be displayed.



Pattern Detection

On the “Main Page”, on the third tab, is where the iOSA system detection patterns module can be found.

This module search for association rules that are related to OSA. The first step is to select which data the analysis will use. The system can perform analysis for the clinical data, the images measurements or with both sets of data.

The system requires to specify three ranges and the sex of the patients. The configurations can be made as the medic own discretion. Once the values are enter, click on the “Apply Filters” button.

The “Ranges Settings” is an optional spec where the discretized ranges can be set. This is an specialize option, therefore, is recommended to leave all the ranges on their default values.

Attribute	Custom Range	Default Range
Age		<input checked="" type="checkbox"/> Default Range
Heart rate		<input checked="" type="checkbox"/> Default Range
Systolic blood pressure		<input checked="" type="checkbox"/> Default Range
Diastolic blood pressure		<input checked="" type="checkbox"/> Default Range
Breathing frequency		<input checked="" type="checkbox"/> Default Range
Oxygen saturation		<input checked="" type="checkbox"/> Default Range
Temperature		<input checked="" type="checkbox"/> Default Range
Height		<input checked="" type="checkbox"/> Default Range
Neck circumference		<input checked="" type="checkbox"/> Default Range
Weight		<input checked="" type="checkbox"/> Default Range
Oxygen use		<input checked="" type="checkbox"/> Default Range
Smoking		<input checked="" type="checkbox"/> Default Range
Former smoker		<input checked="" type="checkbox"/> Default Range
Hypertension		<input checked="" type="checkbox"/> Default Range
Presence of snoring		<input checked="" type="checkbox"/> Default Range
Epworth scale		<input checked="" type="checkbox"/> Default Range
ET CO2		<input checked="" type="checkbox"/> Default Range
Mallampati scale		<input checked="" type="checkbox"/> Default Range

Accept

Analysis Settings

☐ Clinic Data

☐ Craniofacial Measurements

Filters

Range Settings

Minimum Support 50

Minimum Confidence 50

Maximum Rules Generated 100

Start Smart Analysis

Export Rules

The algorithm the iOSA system use to find the association rules is call Apriori, and this algorithm requires of two parameters, the minimum support and the minimum confidence. These parameters can be set with the slide bars. Once everything is setup, click on the green “Start Smart Analysis” button and wait until the rules are generated and displayed on the left panel.

Range Settings

Minimum Support 50

Minimum Confidence 50

Maximum Rules Generated 100

Start Smart Analysis

The rules resulting rules can be exported to a .txt file so that the medic can save all the analysis that have perform. This file header describes the parameters the algorithm used on the analysis.

iOSA - Main Page

Studies Reports ADAP

Automatic Detection of Association Patterns

Results Obtained Table

Support	Confidence	Antecedent	Consequent
1.0	0.5	Presión arterial diastólica ...	circunferencia de cuello ...
0.956	0.647	Saturación de oxígeno (%) ...	circunferencia de cuello ...
0.947	0.529	Frecuencia respiratoria (rp...	circunferencia de cuello ...
0.944	0.5	Frecuencia cardíaca (lpm) ...	circunferencia de cuello ...
0.928	0.764	Saturación de oxígeno (%) ...	circunferencia de cuello ...
0.925	0.735	Presión arterial sistólica ...	circunferencia de cuello ...
0.9	0.529	IMC (30, 200]	circunferencia de cuello ...
0.894	0.5	Presión arterial sistólica ...	circunferencia de cuello ...
0.894	0.5	Saturación de oxígeno (%) ...	circunferencia de cuello ...
0.88	0.647	Escala de Epworth (-0.01, ...	circunferencia de cuello ...
0.88	0.647	Presión arterial sistólica ...	Saturación de oxígeno (%...
0.851	0.676	Presión arterial sistólica ...	Saturación de oxígeno (%...
0.846	0.647	Saturación de oxígeno (%) ...	Presión arterial sistólica ...
0.838	0.764	circunferencia de cuello (c...	Saturación de oxígeno (%...

Analysis Settings

☒ Clinic Data

☐ Craniofacial Measurements

Filters

Range Settings

Minimum Support 50

Minimum Confidence 50

Maximum Rules Generated 100

Start Smart Analysis

Export Rules