

In [1]:

```
import cv2
import numpy as np
from matplotlib import pyplot as plt
from IPython.display import display, Image

#creating facecascade
face_cascade = cv2.CascadeClassifier("C:\\Users\\Rohan\\Downloads\\Wrinkles-Detection-master\\haarcascade_frontalface_default.xml")
display(Image(filename="C:\\Users\\Rohan\\Dark_Spots\\image (89).jpg"))
#Loading image to matrix
path = "C:\\Users\\Rohan\\Dark_Spots\\image (89).jpg"
#converting into grayscale image

# reading the image in grayscale mode
gray = cv2.imread(path, 0)

# threshold
th, threshed = cv2.threshold(gray, 100, 255,
                             cv2.THRESH_BINARY|cv2.THRESH_OTSU)

# findcontours
cnts = cv2.findContours(threshed, cv2.RETR_LIST,
                        cv2.CHAIN_APPROX_SIMPLE)[-2]

# filter by area
s1 = 3
s2 = 20
xcnts = []

for cnt in cnts:
    if s1<cv2.contourArea(cnt) <s2:
        xcnts.append(cnt)

number_of_dark_spot = len(xcnts)

if number_of_dark_spot > 10:
    print("Dark Spot Found ")
else:
    print("No Dark Spot Found ")
```



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Dark Spot Found

In [2]:

```
import cv2
import numpy as np
from matplotlib import pyplot as plt
from IPython.display import display, Image

#creating facecascade
face_cascade = cv2.CascadeClassifier("C:\\Users\\Rohan\\Downloads\\Wrinkles-Detection-master\\haarcascade_frontalface_default.xml")
display(Image(filename="C:\\Users\\Rohan\\Dark_Spots\\face1.jpg"))
#loading image to matrix
path = "C:\\Users\\Rohan\\Dark_Spots\\face1.jpg"
#converting into grayscale image
gray = cv2.imread(path, 0)

# threshold
th, threshed = cv2.threshold(gray, 100, 255,
                              cv2.THRESH_BINARY|cv2.THRESH_OTSU)

# findcontours
cnts = cv2.findContours(threshed, cv2.RETR_LIST,
                        cv2.CHAIN_APPROX_SIMPLE)[-2]

# filter by area
s1 = 3
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number_of_dark_spot = len(xcnts)

if number_of_dark_spot > 10:
    print("Dark Spot Found ")
else:
    print("No Dark Spot Found ")
```



No Dark Spot Found