

## Original Article

# The life style parameters of schizophrenic clients in palestine

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### ABSTRACT

**Background and Objectives:** Studies have shown that people with schizophrenia die prematurely. Antipsychotic medications and clients' lifestyle seem to be the contributing factors to excess morbidity and mortality in these clients. The objective of this study was to investigate different lifestyle parameters, diet, body mass index, smoking, and unemployment, among schizophrenic clients in Palestine. **Materials and Methods:** A cross-sectional study was conducted between August 2011 and February 2012 at the governmental primary psychiatric health care centers in Northern West Bank, Palestine. Two hundred and fifty clients were selected by a convenience sampling method and different lifestyle parameters were measured among the selected clients. **Results:** Regression analysis showed that smoking, obesity, and unemployment were significantly high among schizophrenia clients with the majority of clients having unhealthy lifestyles. **Conclusion:** The compromised health conditions of schizophrenic clients could be due to poor nutritional status and unhealthy lifestyle. These findings suggest that schizophrenic clients need nutritional follow-up as well as coaching to help them improve their lifestyle.

**Key words:** Education, employment, life-style, obesity, palestine, schizophrenia, smoking

### Introduction

Schizophrenia is a mental disorder that affects approximately one percent of the various populations throughout the world.<sup>[1]</sup> Clients with schizophrenia are reported to have a shorter life span compared to the general population.<sup>[2,3]</sup> Shortened life span could be attributed to the increased frequency of some physical illnesses, particularly diabetes and coronary heart disease, in schizophrenic clients.<sup>[4,5]</sup>

Researchers have observed that nutritional deficiencies correlate with some mental disorders.<sup>[6]</sup> People with schizophrenia were reported to make significantly poorer dietary choices, do less exercise, and smoke more heavily

than the comparator groups in the general population<sup>[7]</sup> keeping in mind that poor diet, smoking, and excess weight are potentially modifiable factors associated with increased physical morbidity and mortality.<sup>[7]</sup> There was a negative (beneficial) relationship between pulses, fish and seafood intake, and prevalence of depression among schizophrenic clients.<sup>[8]</sup>

The prevalence of smoking in schizophrenia patients greatly exceeds that in the general population.<sup>[9,10]</sup> Furthermore, heavy cigarette smoking is intimately associated with schizophrenia and it may have implications in the underlying neurobiology of the disease.<sup>[11]</sup>

People with schizophrenia tended to take only small amounts of exercise.<sup>[12]</sup> The reason for this has not been demonstrated, but factors such as features of the illness, sedative medication, and lack of opportunity and general motivation may be relevant.<sup>[7,13]</sup> The relative risk of atherosclerosis in physically inactive individuals is higher than in those who are more active. Nevertheless, the specific mechanism by which physical

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activity reduces mortality from cardiovascular disease is unknown, but exercise has been shown to improve lipid profiles, glucose tolerance, and correct body mass index (BMI) and hypertension.<sup>[14]</sup>

In psychiatric practice, weight gain is a long recognized and commonly encountered problem.<sup>[15]</sup> Monitoring body weight early in treatment will help predict those at high risk for substantial weight gain. Lifestyle therapies and other non-pharmacological interventions have been shown to be effective in controlled clinical trials.<sup>[16]</sup>

Moreover, it is well established that people with schizophrenia have markedly high rates of<sup>[17]</sup> unemployment due to difficulties in social and cognitive function, self-care, residual negative symptoms, and social exclusion.<sup>[18]</sup> Moreover, the absence of legislation supporting the right of schizophrenic clients to obtain a job in Palestine exaggerates the unemployment rate among schizophrenic clients. Although schizophrenia clients had lower pre-morbid IQ,<sup>[19]</sup> occupational therapy has been used for the treatment and rehabilitation of people with severe mental health problems, and it was found that occupational therapy combined with medications can improve the symptoms of schizophrenia.<sup>[18]</sup>

Clients with schizophrenia could be neglected and their physical health and nutritional status may be impaired. Therefore, this study investigated different lifestyle parameters of a group of schizophrenic clients in Palestine.

## Materials and Methods

### Study design

A cross-sectional study was conducted between August 2011 and February 2012 in the governmental primary psychiatric health care centers located throughout the Northern West Bank, Palestine. The centers included in the study were those in municipality of Nablus, Jenin, Tulkarm, and Qalqilia.

### Study population

The target population was 254 schizophrenic clients attending governmental mental health clinics and diagnosed based on DSM-IV. All attending clients who accepted to participate in the study were invited to fill a consent form.

### Inclusion criteria

All clients attending the governmental psychiatric health centers during the study period were invited to participate. All clients who included in the study were

diagnosed with schizophrenia according to definition of DSM-IV and were 16 years old and above.

### Exclusion criteria

Newly diagnosed clients and those younger than 16 years were excluded from the study.

### Sample size estimation and sampling method

A convenience, non-probability, sampling method was adopted. All attendants of the governmental psychiatric clinics in the Northern West Bank were invited to participate in the study.

### Data collection

An assessment sheet was developed to collect personal information. This sheet consisted of two sections; the first section covered the demographic information of the clients including gender, age, and place of residence, education, marital status, occupation, and smoking status. The second section covered clinical characteristics and history, including information regarding their BMIs, waist circumference, duration of illness, and number of times of hospitalizations due to their psychiatric illness.

### Tested variables

**Waist circumference:** Based on ATP III guidelines for definition of metabolic syndrome, normal waist circumference for males should be less than 102 cm, and for females less than 88 cm.<sup>[20]</sup> To measure the waist circumference of participants, a tape measure was used. Starting at the top of the hip bone, then bring it all the way around level with the navel. The tape should not be too tight and that it is parallel with the floor. Participants were asked not to hold their breath while measuring it.

**Height and weight:** The height and weight of all participants were measured in a standing position without shoes and heavy garments and recorded to the nearest kilogram, and full centimeter.

**Independent variables:** These included age, gender, education, place of residence, marital status, smoking status, duration of illness, number of psychiatric hospitalizations, body weight and height, waist circumference, and occupation.

**BMI:** Based on National Institutes of Health (NIH), a normal weight is associated with a BMI <25 kg/m<sup>2</sup>, overweight is associated with a BMI of 25 – 29.9 kg/m<sup>2</sup>, and obesity is associated with a BMI ≥30 kg/m<sup>2</sup>.

### Ethical considerations

Permissions were obtained from Palestine Ministry of Health, the College of Graduate Studies and

Institutional Review Board (IRB) at An-Najah national University.

## Results

Table 1 shows the incidence rate of reported new cases of mental disorders in the occupied Palestine area per 100,000 Palestinians in the years from 2001 – 2005.<sup>[21]</sup>

### Demographic and clinical data of the clients

As shown in Table 2, out of the 254 included clients, 250 agreed to participate in the study, a response rate of 98.4%. In this study, the number of male clients was 182 (72.80%) and that of female clients was 68 (27.20%). One hundred and forty-five (58%) participants resided in villages, 84 (33.6%) resided in cities, and 21 (8.4%) resided in refugee camps. One hundred and twelve participants were married (44.80%), 114 (45.60%) were single, and 24 (9.60%) were divorced. The mean age, in years, of participants was  $41.9 \pm 11.8$ .

### The client's characteristics

#### Education and work

The level of academic education of clients was variable as shown in Table 3; the number of participants with an elementary level of education was 109 (43.60%), those with a high school level were 104 (41.60%), and those with two-year diploma were 37 (14.80%). None of the clients had a bachelor degree.

One hundred and ninety-seven (78.80%) participants were jobless and the number of working participants was 53 (21.2%).

### BMI for schizophrenic clients

Out of the 250 clients, 82 clients (32.8% of the total number of clients) had normal BMI values; 60 of these were males representing 84.1% and 13 were females, representing 15.9% [Table 4].

A total of 55 male clients (71.4% of total clients) and 22 female clients (28.6% of total clients) had a BMI between 25 and 29.9 kg/m<sup>2</sup>, which is considered as an indicator of overweight. The total numbers of both male and female clients who were overweight came to a total of 77 clients out of 250 clients, representing 30.8% of the total study sample.

Moreover, a total of 58 male clients representing 63.7% and 33 female clients representing 36.3% of the study sample were found to have a BMI above 30 and are considered obese. The total number of both male and female clients with BMI above 30 was 91 clients, representing 36.4% of the study sample. Based on

**Table 1: Incidence rate of reported new cases of mental disorders in the occupied Palestinian territory per 100,000 inhabitants in the years in the year of 2001 and 2005**

Mental disorder	Year 2001	Year 2005
Schizophrenia	7	9
Mental retardation	6	13
Epilepsy	7	10

**Table 2: Demographic and clinical data of the clients**

Variables	Statistics
	Number of participants (%)
Gender	
Female	68 (27.20)
Male	182 (72.80)
Residence	
City	84 (33.6)
Village	145 (58)
Camp	21 (8.4)
Marital status	
Married	112 (44.80)
Single	114 (45.60)
Divorced	24 (9.60)
Age	Value (years)
Mean	41.9±11.8

**Table 3: Education and employment among schizophrenic clients**

Variables	Statistics
	Number of clients (%)
Education	
Elementary	109 (43.60)
Secondary	104 (41.60)
Diploma	37 (14.80)
Working status (%)	
Working	53 (21.20)
Not working	197 (78.80)

the above results, the percentage of schizophrenic clients suffering from overweight and obesity was high (67.2%) [Table 4a and b].

The mean BMI for the participants was  $28.4 \pm 6.1$  kg/m<sup>2</sup> and the mean waist circumference of participants was  $97.8 \pm 13.4$  cm. A high waist circumference and too much abdominal fat puts the participants at high risk for type 2 diabetes, high blood pressure, high blood cholesterol, and heart disease.

### Smoking

Over half of participants were smokers ( $n = 153$ ; 61.20%). The mean duration of illness of participants was  $15.8 \pm 9.3$  years and number of their hospitalization due to their psychiatric illness was  $1.9 \pm 3.2$  times [Table 5].

**Table 4a: Body mass index**

BMI	N (%)			P value
	Male	Female	Total	
Acceptable (<25)	69 (84.1)	13 (15.9)	82 (32.8)	0.01
Overweight (25-29.9)	55 (71.4)	22 (28.6)	77 (30.8)	0.01
Obese (>30)	58 (63.7)	33 (36.3)	91 (36.4)	0.01

BMI: Body mass index

**Table 4b: The means of BMI and waist circumference**

Variables	Mean
BMI (kg/m <sup>2</sup> )	28.4±6.1
Waist circumference (cm)	97.8±13.4

BMI: Body mass index

**Table 5: Smoking, illness duration and number of hospitalizations**

Variables	Statistics
Smoking (%)	
Non smoker	97 (38.80)
Smoker	153 (61.20)
Illness and Hospitalizations	
Duration of illness (years)	15.8±9.3
Number of Hospitalizations (times)	1.9±3.2

## Discussion

Psychotic disorders are related to unhealthy life habits such as smoking, poor diet, and physical inactivity.<sup>[22]</sup> Schizophrenia is a disabling and life-shortening psychiatric disorder due to the disease itself, medications, and lifestyle-related factors.<sup>[23]</sup> People with schizophrenia have an unhealthy lifestyle, which probably contributes to the excess mortality of the disease.<sup>[13]</sup> It is not unreasonable to assume that existential themes are important for these patients. Therefore, people with schizophrenia are an appropriate target group for health promotion interventions.

The objectives of this study were to describe the lifestyle parameters of schizophrenic clients and their effect on the patients' health and life.

The majority of schizophrenic clients in this study were males (72.8%) [Table 2], while other studies showed a lower incidence of schizophrenia among male clients (58%).<sup>[24]</sup> The higher ratio of schizophrenia among males in Palestine may be due to persistent political unrest and economic crisis in Palestine. The intervention significantly reduced the proportion of clinical posttraumatic stress symptoms.<sup>[25]</sup> Despite the fact that an urban place of birth has been identified as a risk factor for schizophrenia,<sup>[26]</sup> the majority of the clients in this study were from rural areas. About 58% of

clients were from rural areas as most of the Palestinian population is living in rural areas and Palestinian cities are small places with calm environment that cannot be compared with big busy cities worldwide. In addition, all the Palestinian mental health centers are located at urban areas, which make it difficult for the rural population to receive the appropriate intervention and treatment.

Table 3 shows that there are only 37 (14.80%) clients who completed their diploma (two years course after high school). The low educational achievement among participants highlights education as a potentially important area for interventions targeted at this group. The rate of unemployment was significantly high, 197 (78.80%), which is due to low educational level and poor job skills as well. Therefore, it is important to help persons with schizophrenia to gain job skills and employment because working (having a job) is one of the important factors for normalizing lives. Working is correlated with positive outcomes in social functioning, symptom levels, quality of life, and self-esteem, but a clear causal relationship has not been established.<sup>[27]</sup>

Schizophrenic clients usually have poor nutritional patterns, in particular, female clients who have more percent body fat and lower dietary pattern scores compared with healthy persons.<sup>[28]</sup> The majority of clients in this study, 168, were overweight and obese (67.2%) [Table 4a]. A study has shown that schizophrenic clients drink more carbonated drinks but fewer consumed milk, vegetables, fish, nuts, and sausages in accordance to daily servings.<sup>[28]</sup> Moreover, clients frequently consume more full-fat cream, chocolate, fat, and sweet drinks.

People with schizophrenia may be at risk for being overweight or obese, compared with the general population.<sup>[29]</sup> Our study [Table 4b] showed that the average of the scores of the BMI and waist circumference for most of the clients were above normal (28.4 ± 6.1 and 97.8 ± 13.4, respectively). Antipsychotics, poor dietary choices, social isolation, and self-ignorance about personal appearance, may contribute in causing weight gain in schizophrenic clients.<sup>[7,30]</sup>

Most of the participants in our study were smokers (61.2%). Among the mentally ill, smoking prevalence is highest in clients with schizophrenia (80%), whereas it is 20% in the general population.<sup>[31,32]</sup> Studies showed a strong association between schizophrenia and smoking.<sup>[33]</sup> There is currently no definitive explanation for this prevalence of smoking among schizophrenic clients.<sup>[34]</sup> Several social, psychological, and biological

explanations have been proposed, but today research focuses on neurobiology factors.<sup>[32]</sup> The high rate of smoking among schizophrenics has a number of serious effects, including increased rates of mortality, increased risk for coronary heart disease, reduced treatment effectiveness, and greater financial hardship.<sup>[35]</sup>

Schizophrenia is not a life-threatening disorder and schizophrenic clients can live with the disorder for quite some time. In our study, we found that the average duration of illness was about 16 years. The life expectancy for individuals with schizophrenia is 57 years for men and 65 years for women, around 20% shorter than the life expectancy for the general population, which is in agreement with other studies.<sup>[36]</sup> Preventive interventions should prioritize primary health care tailored to this population, including more effective risk modification and screening for metabolic syndrome and diabetes as suggested by our earlier reports.<sup>[4,5]</sup>

### Conclusion and recommendations

This is the first study of its kind to be carried out in Palestine assessing the lifestyle of schizophrenic clients. We showed high prevalence of obesity and overweight in schizophrenic clients. Moreover, the majority of the clients were also unemployed with low educational levels and they smoke heavily. So, obesity, unemployment, low education level, and smoking, in addition to the illness, will worsen the life of these patients. Therefore, it is recommended that mental health providers deliver clients with an appropriate community-based intervention strategy for prevention, detection, and treatment of different unhealthy lifestyle practices. The low educational achievement and the lack of job opportunities among participants make education and job skills a potentially important area for interventions targeted at this group.

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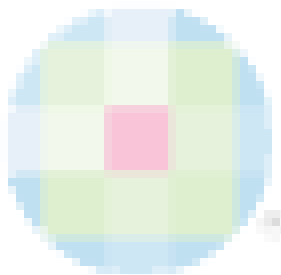
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## **Editorial**

**Special message of Professor Philip Zimbardo, one of the most famous psychologists of century, former president of American Psychological Association to Alireza Memarian, Global Representative at International Positive Education Network(IPEN):**

**I wish to send my fondest greetings to all the readers of this new and exciting European journal of Psychology (positive psychology). I hope it will become a central marketplace for sharing research and conceptual ideas that can help inform and inspire educators, business leaders, politicians, parents and youth to work in harmony to transform Iranian society for the good of all people.**

**Among the many Iranians I met during my recent visit to academic institutions, arts and crafts centers, holy places, ancient cities, and dinners in private homes, I was very impressed by the editor of this new journal, Alireza Memarian. His enthusiasm for promoting positive psychology throughout his nation was boundless and his vision well focused. I have agreed to be an honorary member of his board of directors in his new Iranian Positive Psychology program (Foundation).**

**Professor Philip Zimbardo, Ph.D.**

**Stanford University, Emeritus**

**President & Founder, Heroic Imagination Project**