

Physical Disorders of Schizophrenia and Its Outcome on the Mental State

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Abstract

In this study, we researched the association between the schizophrenia and physical illness in Egyptian schizophrenic patients, Ain-Shams University Hospitals. A comparison was done between 200 random schizophrenic patients according to ICD 10 criteria (study or main group from Institute of Psychiatry) and control group I, 25 patients (medical group with chronic physical illnesses from internal medicine Department). Then we did comparison again between the main group and control group II, 25 patients (Dermatological group with chronic psoriasis from Dermatology Department). Control groups were assisted clinically by using General Health Questionnaire (GHQ) to exclude any psychiatric disorders. Schizophrenic patients who had associated physical illness represented 91 patients (45.5%), with mean age 34.8 ± 9.96 years, showed significant difference regarding patients without associated physical illness 109 patients (54.5%), with mean age 30.08 ± 8.1 years ($P < 0.01$). Also there was significant difference regarding severity of condition ($P < 0.001$), positive family history ($P < 0.001$), and smoking habits $P < 0.05$, with older patients presentation. The paranoid subtype predominated to 27 patients (29.68%) and the least the catatonic schizophrenic patients 5 (5.49%). Hypertension predominated (52.9%) among cardiovascular disorders (17 patients of physical illness), with paranoid subtype more be affected (41.2). Comparison between schizophrenic patients with physical illnesses, control groups I, 25 (100%) and II, 11 (44%) patients showed significant difference regarding presence of physical illness ($P < 0.01$), non-marital state ($P < 0.001$), site of interview (inpatient) ($P < 0.001$) and smoking habit ($P < 0.05$).

Most of physical illnesses diagnosed for the first time in schizophrenic patients were 55% and 26% chronic unknown (missed diagnosed) and 19% chronic known to the patient. Control group I maximum percent was in chronic known to the patient 60%, while newly diagnosed was 24% and 16% chronic unknown. Also control group II newly diagnosed represented 24%, chronic known 12% and chronic unknown 8%. Follow up 3 and 6 months later was done after proper treatment and physical examination with using Brief Psychiatric Rating Scale (BPRS), showed high significant improvement of psychiatric and physical condition according to the base line examination. It is concluded that (1) there was high percent of physical illnesses in schizophrenic patients (45.5%) with paranoid subtype predominance (29.68%). (2) Significant improvement of schizophrenic condition after proper diagnosis and treatment of physical illnesses. (3) Routine physical examination and laboratory investigation are primary to all mental diseases at the beginning of psychiatric examination and repeatedly.

Key words: physical disorders and schizophrenia (mental diseases).

Introduction

Schizophrenia is a heavily biological determined psychiatric disorder with evidence of major genetic component in its transmission (Freedman et al., 1990; Hyde

and Weinberger, 1990). Researchers speculated about the existence of relationship between physical disease and schizophrenia, with increased morbidity

and mortality (*Lipper & Werman, 1979; Josiassen & Schindler, 1996*). Schizophrenics may be at increased risk for breast cancer, respiratory and cardiovascular diseases, but at reduced risk for developing rheumatoid arthritis or lung cancer in particular (*Harris 1988*).

The chronically ill, the aged and alcoholic contributed to most of the excess death among schizophrenics. Smoking habits may be mediating factor between physical disorders and schizophrenia, such as cerebral trauma, epilepsy and Parkinsonism (*Fink, 1990*). The symptoms of schizophrenia may reduce the patient's capacity to recognize or articulate emerging on consulting for medical illnesses (*Viewieg et al., 1995*). Also such patients may be treated with sub-therapeutic doses of antidepressants or antipsychotics leading to greater duration of physical symptoms (*Honig et al., 1989*).

Psychiatrists often don't do or loses their skills of performing complete physical examination (*Pa Herson, 1978*). Also, reduced recognition of presence of somatic symptoms contributed to poor prognosis (*Honig et al., 1989*). Others refer their patients for physical examination without an idea of the medical practitioner why he is seeing the patient. There are sometimes positive findings with routine laboratory (*Pa Herson, 1978*) or electroencephalography screening, although there is no short test to be reasonable knowledge for physical illness.

In this study we screened a group of chronic schizophrenic patients for the possibility of presence of physical illness in relation to control groups. Notice the effect of presence of physical illnesses and its management on the course of psychiatric state.

Subjects and Methods

Random patients were collected for this study from Ain-Shams University Hospitals Departments in and outpatient clinics,

The patients were 200 schizophrenic patients with mean age 32.22 ± 9.29 years from Institute of psychiatry, control group I 25, mean age 35.23 ± 10.64 years, suffering from chronic physical illnesses from Internal Medicine Department and control group II 25, mean age 32.28 ± 9.45 years, from Dermatology Department with chronic psoriasis, as skin disease is the most be associated with psychiatric disorders.

Comparison between schizophrenic patients and control group I was done, then between schizophrenic patients again and control group II, for matching and studying the differences and characteristics between them after proper management.

Methods:

The schizophrenic group was diagnosed as schizophrenia and its subtypes according to criteria of ICD 10 and their severity was evaluated by using BPRS (*Overall & Gorham, 1962*). Patients excluded, included significant organic brain disease, acute psychiatric episodes, mentally retarded, and drug abusers. Examination was also fulfilled with exclusion of history of premorbid physical or social disturbance immediately prior to the onset of schizophrenia, presence of physical illness which don't have exacerbation, remission course, 'due to use of psychotropics or resolved with specific treatment of schizophrenia (*Hall et al., 1980*).

GHQ (*Goldberg and Williams, 1988; Okasha et al., 1988*) are given to the members of the two control groups to exclude any psychiatric problem especially schizophrenia. The results were negative, the cut off points are > 8 .

Full **physical history** for all systems and full examination to all patient groups were done. Ophthalmic examination with correction of refractive errors, audiometry and auroscopic examination if needed.

Laboratory and radiological assessment included full blood picture, erythrocyte sedimentation rate, folate and vitamin B12 levels in blood, urine and stool analysis for two specimens, occult blood, culture if needed, tuberculin skin test, VDRL and ELISA for AIDS, HBs Ag., sputum analysis with culture if needed, cholesterol, triglycerides, uric acid and sugar levels in the blood. Urine and blood toxicology screen, kidney-liver-respiratory-thyroid function tests, x-ray chest. Specific investigations were done if needed as CAT scan, MRI, lumbar puncture, specific x-rays, ultrasound, hormonal and immunological assessment as RW, ANA, anti nDNA, Sm antibodies.

Physical diseases were classified according to **a)** Non compensating (severe) others compensating (moderate) or early mild disease (mild) **-b)** chronic unknown (being missed) or chronic known disease to the patient and newly diagnosed. Follow up prior to discharge for inpatient and one month after treatment for outpatients. Re-evaluation of the diagnosis and effect of treatment three and six months later for all groups through rating severity BPRS, GHQ and physical examination guided by investigations if needed.

Results

When matching group ages, it was found out, non significant difference between study and control groups ($P>0.05$), it was peaking in schizophrenic group at 18-30 years (47%), while in control groups at ages between 31-40 years, control I 32% and II 44% (**Table, 1**).

Comparison between study group and control groups regarding to socioideographic data showed non significant difference in gender with male predominance ($P>0.05$). There is high rate of non-married either single or divorced in the study group (84.5%), but control groups showed higher marital status (68%, 48%) ($P<0.001$). Regarding to site of interview of patients there is high significant difference in inpatients (80%) of the study group and outpatient of control groups (64%, 92%) respectively ($P<0.001$). Habits of smoking represented 77.5% of study group and 22%, 56% of control groups respectively with significant difference ($P<0.001$). There is non-significant difference regarding education and economic levels with middle classes more representative among all groups ($P>0.05$). (**Table, 2**).

Careful physical examination is done for all patients with laboratory investigations which reveal that 91 patients (45.5%) of main group having associated physical illnesses significantly when compared to control group I (100%) and control group II (44%) ($P<0.001$) (**Table, 3**).

Comparison between schizophrenic patients with and without physical illnesses regarding to socioideographic data showed that there is non significant difference in gender, marital status, site of interview, education and economic levels ($P>0.05$), except age there is high

significant difference ($P < 0.001$) (Table, 4). The schizophrenic patients with physical illnesses are more older with paranoid subtype predominance, also having a severe condition ($P < 0.001$) with positive family history $P < 0.001$ and smoking, significantly ($P < 0.05$). As regards duration of illness showed non significant difference between schizophrenics with and without physical illness ($P > 0.05$) (Table, 5).

Evaluation of physical illnesses in groups presentation showed that the most prevalence disorder is cardiovascular system (18.7%, 32%, 12%) respectively with moderate severity predominance in main and control group II (45%, 24%) respectively but control group I mild severity predominated (48%). Most of physical illnesses diagnosed for the first time in schizophrenic group is 55% with equal percentage in control groups 24%.

Chronic unknown (missed illnesses) represented also a high frequency in schizophrenic patients 26% and 16%, 8% of control groups respectively. Chronic known diseases were represented in a high

percentage only in control group I (60%) (Table, 6). Hypertension is high in schizophrenic patients (52.9%) with paranoid subtype predominance in cardiovascular disorders, which showed higher percentage of newly diagnosed disorder followed by chronic known. The next disease is tuberculosis in respiratory (30.8%), followed by seizures in neurological (27.3%), diabetes mellitus in endocrine (50%), Acne vulgaris, tinea and scabies in skin (each 20%), urinary tract infection in urogenital (33.3%), peptic ulcer in digestive disorders (37.5%) (Table, 7-8-9).

Follow up of all groups at presentation and 3,6 months later showed high significant difference ($P < 0.001$), which reflected marked improvement of both physical and psychiatric conditions. Severe cases were improved in physical condition from 21 to 2 patients and in psychiatric condition, 40 to 5 patients only. Also control groups gained complete recovery in 16 and 5 patients respectively (Table, 10-11-12).

Table (1): Age Distribution of schizophrenic group and control groups.

Variables	Schizophrenic N 200		Control Group I N 25		Control Group II N 25	
	No	%	No	%	No	%
Age						
18-30	94	47	8	32	10	40
31-40	70	35	8	32	11	44
41-50	28	14	5	20	4	16
51-60	8	4	4	10	-	0
Mean $\pm$ SD	32.22 $\pm$ 9.29		35.23 $\pm$ 10.64		32.28 $\pm$ 9.45	

Table (2): Comparison between the study group and control groups. (Sociodemographic data)

Variables	Study Group N 200		Control Group I n 25		Control Group II n 25		Analysis		
	No	%	No	%	No	%	X ²	DF	P
Gender									
Male	134	67	17	68	14	56	2.287	2	0.318 NS
female	66	33	8	32	11	44			
Marital Status							42.32	8	0.0000 VHS
Single	109	54.5	2	8	6	24			
Married	60	30.0	17	68	12	48			
Divorced	18	9.0	0	0	2	8			
Separated	6	3.0	4	16	4	16			
Widow	7	3.5	2	8	1	4			
Education Level							10.42	8	0.236 NS
Illiterate	34	17.0	8	32	4	16			
Primary	29	14.5	1	4	3	12			
Preparatory	38	19	4	16	2	8			
Secondary	48	24.0	8	32	7	28			
University	51	25.5	4	16	9	36			
Economic Level							3.33	4	0.538 NS
Low	19	9.5	0	0	1	4			
Middle	123	61.5	19	76	18	72			
High	58	29	6	24	6	24			
Site Interview							66.92	4	0.0000 VHS
In patient	156	78	9	36	2	8			
Out patient	40	20	16	64	23	92			
Emergency room	4	2.0	0	0	0	0			
Habits (Smoking)							22.43	1	0.005 HS
Positive	155	77.5	13	52	14	56			
Negative	45	22.5	12	48	11	44			

Table (3): Comparison between schizophrenic and control groups for presence of physical illness.

Variables	Schizophrenic n 200		Control Group I n 25		Control Group II n 25	
	frequency	%	frequency	%	frequency	%
With physical illness	91	45.5	25	100	11	44
Without physical illness	109	54.5	0	0	14	56

Chi square 31.184

DF 15

P = 0.0083 HS..

**Table (4): Comparison between schizophrenic with and without physical illness
(Sociodemographic data)**

Variables	Schizophrenic with physical illness N = 91		Schizophrenic without physical illness N = 109		Analysis		
Age Mean $\pm$ SD.	34.8 $\pm$ 9.96		30.08 $\pm$ 8.1		T 3.66 HS		
	No	%	No	%	X2	DF	P
Gender							
Male	58	63.74	76	69.72	0.483	1	0.48 NS
Female	33	36.26	33	30.28			
Marital Status							
Single	42	46.15	67	61.47	7.672	4	0.10 NS
Married	31	34.06	29	26.60			
Divorced	11	12.08	7	6.42			
Separated	2	2.19	4	3.67			
Widow	5	4.49	2	1.83			
Education Level							
Illiterate	13	14.29	21	19.26	1.092	4	0.89 NS
Primary	16	17.59	13	11.93			
Preparatory	20	21.97	18	16.51			
Secondary	27	29.67	21	19.27			
University	15	16.48	36	33.03			
Economic Level							
Low	10	10.98	9	8.2	0.684	2	0.71 NS
Middle	54	59.35	69	63.3			
High	27	29.67	31	28.5			
Site Interview							
In patient	68	74.73	88	80.73	0.215	2	0.89 NS
Out patient	21	23.08	19	17.43			
Emergency room	2	2.19	2	1.84			

Table (5): Comparison between schizophrenic with physical illness and without physical illness

Data	Schizophrenic with physical illness n = 91		Schizophrenic without physical illness n =109		Analysis		
	Frequency	%	Frequency	%	X2	DF	P
Schizophrenic subtypes							
Undifferentiated	21	23.07		32.4	10.19	5	0.069 S.
Hebephrenic	14	15.38		25.7			
Paranoid	27	29.68		12.9			
Residual	15	16.48		18.3			
Simple	9	9.89		7.3			
Catatonic	5	5.49		3.6			
Severity of schizophrenia							
Mild	8	8.79	16	14.6	66.03	11	0.000 VHS
Moderate	43	47.26	71	65.2			
Severe	40	43.95	22	20.2			
Duration of illness							
From 2-6 years	51	56.04	65	59.6	3.129	4	0.536 NS.
From 6-12 years	31	34.00	39	35.7			
More than 12 years.	9	9.89	5	4.7			
Family history of illness							
Positive	34	37.36	29	26.6	55.22	2	0.000 VHS
Negative	57	62.63	80	73.4			
Habits (Smoking)							
Positive	73	80.21	82	75	13.65	1	0.078 S.
Negative	18	19.78	27	25			

Table (6): Descriptive physical evaluation the of study and control groups which having physical illness.

Data	Study group		Control group I		Control group II	
	Frequency	%	Frequency	%	Frequency	%
1-Cardiovascular	17	18.7	8	32	3	12
2-Respiratory	13	14.3	2	8	2	8
3-Neurology	11	12.1	4	12	0	0
4-Endocrine	10	10.9	3	16	1	4
5-Skin	10	10.9	-	-	-	-
6-Uro-genital	9	9.9	1	4	1	4
7-Digestive	8	8.8	3	12	2	8
8-Miscellaneous Disease	13	14.3	4	16	2	8
Total	91	45.5	25	100	11	44
Combined Cases included in the above:						
System 1+7+8	1		1		1	
System 1+6+8	1		1		0	
System 2+4+8	2		1		0	
System 1+4	2		1		0	
Total	8		4		1	
Illness criteria						
Mild (early)	29	32	12	48	4	16
Moderate (compensating)	41	45	7	28	6	24
Severe(non-compensating)	21	23	6	24	1	4
Timing of Diagnosis						
1-Newly diagnosed	50	55	6	24	6	24
2- chronic Unknown	24	26	4	16	2	8
3- chronic Known	17	19	15	60	3	12

Table (7): Distribution of physical illnesses according to bodily systems in the study group (no. 91)

System	Illness	Frequency	%	Total
Cardiovascular System	Hypertension	9	52.9	17
	Angina pectoris	2	11.8	
	Arrhythmia	2	11.8	
	Congestive Heart Failure	1	5.9	
	Myocardial Infarction	2	11.8	
	Deep Venous Thrombosis	1	5.9	
Respiratory System	Tuberculosis	4	30.8	13
	Bronchitis	3	23	
	Bronchial Asthma	1	7.7	
	Emphysema	2	15.4	
	Pneumonia	2	15.4	
	Cancer Lung	1	7.7	
Neurological System	Seizure Disorder	3	27.3	11
	Migraine	2	18.1	
	Parkinson	2	18.1	
	Sciatica	1	9.2	
	Degenerative Disc Lesion	2	18.1	
	Carpal Tunnel Syndrome	1	9.2	
Endocrine System	D. M.	5	50	10
	Thyrotoxicosis	1	10	
	Morbid Obesity	1	10	
	Hypothyroidism	3	30	
Skin	Acne Vulgaris	2	20	10
	Tinea	2	20	
	Eczema	1	10	
	Leucoderma	1	10	
	Psoriasis	1	10	
	Scabies	2	20	
	Dermatitis	1	10	
Urological / Genital	U. T. I.	3	33.3	9
	C. R. F.	1	11.1	
	Renal Calculi	2	22.3	
	Cancer Bladder	1	11.1	
	Dysmenorrhea	1	11.1	
	Cystic Ovary	1	11.1	
Digestive system	Peptic Ulcer	3	37.5	8
	Hepatitis	1	12.5	
	Liver Cell Failure	1	12.5	
	Colitis	3	37.5	
Miscellaneous	Anaemia	4	30.8	13
	Osteoarthritis	1	7.7	
	Cataract	1	7.7	
	Glaucoma	1	7.7	
	Otitis media	1	7.7	
	Hearing Loss	2	15.4	
	Hernia	2	15.4	
	Dental abscess	1	7.7	
	Dental caries	4	Included in combined disease	

Table (8): Distribution of physical illness, which affected bodily system on schizophrenic group sub-types

Schizo.	Bodily System								
	Cardi.	Resp.	Diges.	Endo.	Urog.	Neur.	Skin	Miscel	Total
Undif.	4	1	3	2	2	4	2	3	21
Hebep.	3	4	1	0	3	1	2	0	14
Paran.	7	4	2	4	2	2	1	5	27
Resid.	2	4	1	2	1	1	2	2	15
Simp.	-	-	-	1	-	3	2	3	9
Catato.	1	0	1	1	1	-	1	0	5

Table (9): Distribution of physical illness, which is concomitant to schizophrenic group according to timing of diagnosis

System	chronic Known	chronic unknown	Newly Diagnosed	Total
Cardiovascular	6	3	8	17
Respiratory	3	3	7	13
Neurological	4	2	5	11
Endocrine	2	6	2	10
Skin	1	4	5	10
Uro/genital	1	-	8	9
Digestive	-	2	6	8
Miscellaneous	-	4	9	13
Total	17	24	50	91

Table (10): Changes in physical condition after follow-up I and II

	Schizophrenia			Control group I			Control group II		
	Base Line	F 1	F II	Base Line	F 1	F II	Base Line	F 1	F II
No physical	109	109	109	0	17	16	14	15	19
Mild	29	60	77	12	7	6	4	4	4
Moderate	41	29	12	7	1	3	6	4	1
Severe	21	2	2	6	0	0	1	2	1

Chi square 32.619

DF= 9

P 0.0001 HS.

Table (11): Changes in severity of schizophrenia in study group using BPRS

Variables	Mild		Moderate		Severe	
	Freq.	%	Freq.	%	Freq.	%
Base line	8	8.8	43	47.2	40	44
Follow up I	46	50.5	34	36.3	11	12.2
Follow up II	59	64.9	27	29.6	5	5.5

Table (12): Changes in psychiatric condition and severity of schizophrenia subtypes after follow up I and II using BPRS

Variables	Base line			Follow-up I			Follow-up II		
	Mild	Moder.	Sever.	Mild	Moder.	Sever.	Mild	Moder.	Sever.
Undifferentiated	3	5	13	11	8	2	16	5	0
Hebephrenic	1	13	1	9	6	0	9	6	0
Paranoid	1	10	16	7	14	6	16	8	3
Residual	2	9	3	12	2	0	12	2	0
Simple	1	5	3	5	2	2	3	5	1
Catatonic	0	1	4	2	2	1	3	1	1
Total	8	43	40	46	34	11	59	27	5

Chi square 43.235

DF 5

P 0.000 VHS

Discussion

The schizophrenic patients mean age is 32.22 ± 9.29 years, peaking at twenties (10-30 years) with males females ratio 2:1 (67%: 33%) while those with physical illness were older (mean age 34.8 ± 9.69 years) peaked at thirties with male female ratio also 2:1 (63.7%: 36.3%). This is in accordance to (Eastwood, 1975); (Korongi, 1979); (Sartorius et al. 1986); Harris, (1988); (Fink, 1990) and (Davis, 1994) who stated that schizophrenia started at an early age with male predominance and patients with physical illnesses were older and peaked at thirties. Controversy (Adler, 1972); (Koranyi, 1972, 1979) and (Muller,

1991) suggested that female schizophrenics are more susceptible to physical illnesses more than males.

Patients with physical illnesses represented 45.5% of schizophrenic patients, while control groups were 100% and 44% with mean age of 34.8 ± 9.96 , 35.23 ± 10.64 and 33.09 ± 9.68 years respectively. The control groups with physical illnesses peaked at thirties with male predominance as in schizophrenic patients and control group II represented nearly the same percent of schizophrenic patients with physical illnesses of 44%.

(*Haridge, 1960*) (*Koranyi, 1979*) (*Lipper and Worman, 1979*); (*Hall, 1980 and Bunce et al., 1982*) stated that schizophrenics with physical illnesses represented 50% of schizophrenic patients (*Summers et al., 1981*) who stated a percent of 42.7%. Which are nearly equal to our result of 45.5%. (*Lipper and Worman, 1979*) stated also that young patients with chronicity were more affected which is in accordance to our results. On the other hand, (*Maquire and Granville Grossman, 1968*) stated that schizophrenic patients with physical illnesses represented 67% of schizophrenic patients, which is more than our results.

The high numbers of singles and non-married in schizophrenics (84.5%) than control groups because this illness causes financial and social disability while control groups are having more stabilized life. Schizophrenic patients admitted in the hospital for treatment represented 80% of them, in contrast, control groups who received treatment were more in the outpatient's Clinics, except in serious condition. This is because rejection of medication in schizophrenic patients accounts for one third of rehospitalization among schizophrenic individuals (*Weiden, 1994*). Also three-fold increase in risk of relapse was seen in individuals who remain on outpatient medication (*Gilbert et al., 1995*)

In this work schizophrenics with physical illnesses have high percent of positive family history (37.36%) than schizophrenics without physical illness and control groups which is in agreement with previous researchers (*Freedman et al., 1990; Hyde and Weinberger, 1990*). Controversially, *North, 1989* stated that family interaction does not appear to play a

role in the development of schizophrenia. Also, *Schlaff, 1993* suggested that schizophrenia with physical illnesses were at lower risk among biological relatives of schizophrenics than was found in the earlier studies.

The smokers represented a high percent of schizophrenic patients (80.2%) with physical illnesses, which is in accordance with *Goff et al., 1992*. Nicotine increases the release of dopamine from nuclear accumbens, which has a beneficial effect on the negative symptoms of schizophrenia (*Andreasen and Flaum, 1991*) as apathy, lack of motivation through increased reward system activity. The paranoid subtype is more presentable either from positive family history or smoking habits with increased percent of physical illness (29.68%), especially cardiovascular affection which is in accordance with *Baldwin, 1979*.

Lack of early proper physical diagnosis of schizophrenic patients explains the high percentage of newly diagnosed patients of 55% more than both control groups (24% each) and of chronic unknown to 26%, 16%, 8% respectively. This percent is more than that of *Regire et al. (1985)* who stated that 30% had a comorbid psychiatric disorder and 9% had some functional impairment were seeking the attention of primary care physical illness. *Summers et al. (1981)* stated that 611 physical findings led to unsuspected (new) physical illness of 65% of patients, each patient averaged 5.3% new findings and 2.8% chronic findings, which is more than our results. The presence of physical illness in association with schizophrenics leads to poor outcome of the state and causing serious complication (*Honing et al., 1992*). Failure of discovery of physical illness in

schizophrenia may be due to that mental disorders are noted by friends, relatives (*Andreasen and Flaum, 1991*) which is the same as in case of physical disorders that the patient was in need of medical attention. Schizophrenics positive symptoms (*Mc Glashan and Fenton, 1992*), as delusion, command hallucination deficit processing of sensory information may not cooperate adequate physical examination or diagnosis (*Adler, 1972*). Many diseases appear to be masqueraded by symptoms common to both physical and mental state as weakness, fatigue, loose motion, epigastric discomfort, flatulence, anorexia, shortness of breath, tachycardia, tremors, dizziness, poor concentration and depression. These symptoms may be improved by improvement of mental condition. Altered mood or delusion can occur without physical sign of disease like vit. B deficiency or cerebral mass lesion (*Baldwin, 1979; Fink, 1990 and Honing et al., 1992*). Also, lack of psychiatrist skills due to insufficient physical training may be a factor (*Paherson, 1978; Honig et al., 1989*).

Cardiovascular system involvement represented 18.7% (17 patients) of physical illnesses which is more than that of *Maquire and Granville-Grossman, (1968)*, who reported a percent of 13.4% (9 out of 67 patients). Hypertension represented in 52.9% (9 out of 17 patients), angina, arrhythmias and myocardial infarction, each were 11.8%, congestive heart failure and deep venous thrombosis, each were 5.9% of cardiovascular disorders. Most studies reported that cardiovascular disorders is the first cause of death in schizophrenics especially ischaemic heart disease (*Hoffman and Koron, 1984*). This is because of common risk factors especially to outpatient clinics such as smoking,

increased stresses of waste time, high expressed emotion (EE) and obesity (*Elamin et al., 1997*). Drug factor as clozapine produces tachycardia, postural hypotension and arrhythmias, while phenothiazine produces electrocardiographic (ECG) changes as T wave abnormalities, S-T depression, QT prolongation and left BBB (*Martinez et al., 1994*). Anticholinergic drugs should be used with caution also because of tachycardia, which has been reported with benztropine and benhexol (*Stephen Bazire, 1998*).

Chest diseases represented 14.3% of physical illnesses, which is more than control groups (each 8%). Tuberculosis represented 30.8% of chest diseases and improved by treatment, although it accounts for the first cause of deaths in mental hospitals previously (*Baldwin, 1979*). This may be due to excessive smoking, decreased immunity and negligence of rules of self-hygiene. Patients presented by pneumonia were 15.4% of chest diseases and improved, while high mortality rate have been reported with pneumonia and asphyxiation previously (*Hall, 1980*). Cancer lung represented 7.7% (one patient) among chest diseases and 0.5% among schizophrenic patients. *Mortenson, 1994* stated that bronchogenic carcinoma is 10 times more common in cigarette smoking of high tar cigarettes, although the percent of deaths was not significantly different in schizophrenic patients from that of general population. This may be contributed to cigarette smoking or pharmacological evidences. The highest concentration of phenothiazines in the body occurs in the lungs which clearly raising the possibilities that medication may be a significant factor. (*Gulbinate et al., 1992; Harrison and Maquire, 1994*).

Neurological disorders represented 12% (11 patients) of physical disorders while patients with seizure concluded 27.3% (3 patients of neurological disorders). **Baldwin, 1979** reported that there is significant relative risk of major epilepsy following paranoid schizophrenia or preceding it. Others stated that epilepsy and schizophrenia are antagonistic like psychosis following epilepsy. There is hypothesized theory stated that disturbance in epileptic renders them less prone than the normal population to schizophrenia and schizophrenia is less liable than the normal subject to develop epilepsy (**Mendez et al., 1993**). It is suggested that schizophrenic patients are more liable to develop epilepsy, especially temporal lobe type as it mostly be associated, and temporal discharge is of much indication to possible psychiatric symptoms. Also, schizophrenic patients are at increased risk to head trauma or birth trauma besides that anti-psychotic drugs makes patients at increased risk to epilepsy as one of their side effects. Chloropromazine, thioridezine, clozapine and haloperidol, causes lower brain threshold, clozapine can cause seizure and the risk is rising steeply at doses above 600 mg/d. Loxapine can cause convulsion even at normal doses (**Stephen Bazire, 1998**), so it seems that the relationship between epilepsy and mental disorders is complex. Parkinsonism is the second neurological disease (18.1%) of neurological disorders as a side effect of anti-psychotic drugs, occurring in the course of long standing treatment.

Diabetes mellitus represented 50% of 10 patients, it may be due to obesity as a result of bad habits in eating and self-health negligence or as side effect of clozapine because it causes obesity (**Stephen Bazire, 1998**). There is a reported case of

hyperglycemia-required insulin, and resolved on clozapine withdrawal has been mentioned.

Skin diseases represented 10.9% of physical disorders e.g. (eczema, tinea, scabies and dermatitis), which may be due to self negligence body care, bad health habits, disturbed behaviours and also the malodorous dirty patients discourage close careful examination by some doctors.

Urinary tract infection represented 33.3% (3 out of 9 patients) of urogenital disorders, this is because of self-negligence of care and bad health habits with decreased immunity. Cancer bladder represented 11.1% (one patient) of this disorder, although cancer mortality among paranoid schizophrenic patients aged range from 50-60 years is to be 3-4 times greater than general population rates which is diminished with inpatient paranoid for long time. Reduction in risk for gastrointestinal cancer, prostate and bladder when computed as percentage of deaths, were less than pancreatic carcinoma where the reported failed to find any correlation (**Ehrentheli, 1957 and Gulbinate et al., 1992**).

Schizophrenic patients with peptic ulcer were 37.5% (3 out of 8 patients) of digestive disorders and of 1.5% of the schizophrenic patients. This is according to that of **Ehrentheli, 1957** who stated a percent of 2.1% of schizophrenic patients, while **Baldwin, 1980** reported a non significant decrease risk of gastric and duodenal ulcer among schizophrenics. Two patients have liver affection; one patient (12.5%) of them suffered from manifestations of hepatic cell failure and the other with acute B virus. Psychotropic drugs causing hepatic affection must be put in mind, so raised transaminasees

are reported with lexopine (**Stephen Bazire, 1998**). Also, phenothiazine causes hepatolenticular cholestasis and suggestive immunological liver damage up to coma have been reported. Resperidone, increases in liver diseases and the initial doses should be halved in patients with liver disease (**Land and Salzman, 1994; Stephen Bazire, 1998**).

Miscellaneous diseases (13 patients) included one case of osteoarthritis which represented 7.7% of them and 0.5% of main group. This is more than that reported by (**Baldwin, 1979 and 1980**) who reported one case among 2314 schizophrenic patients (0.04%), this lower percent may be due to increased prostaglandin synthesis in schizophrenic patients which may play a part in resisting inflammation and pain (**Harris, 1988**). Iron deficiency anaemia (hypochromic microcytic) present in 4 patients (30.8%) of miscellaneous diseases, which is usually due to dietary factors. Blood element changes have been demonstrated in schizophrenic patients as a result of side effects of psychotropics. Eosinophilia and dramatic raised transaminases with clozapine (300-400) mg / day and normalized within 4-5 weeks of drug stopping was noted. Also, leucopenia with chlorpromazine and agranulocytosis with clozapine have been demonstrated (**Kane, 1988, Land and Salzman, 1994**).

Improvement of physical condition of schizophrenic patients is followed by marked improvement in psychiatric condition. These changes occurred in all schizophrenic subtypes especially paranoid. This is in accordance with (**Eastwood, 1972 and Vieweg et al 1995**) who find such correlation between severity of psychiatric condition and the presence of physical illness. So, treatment of physical conditions

may be the first step toward successful treatment of mental state significantly.

The psychiatrist must be aware by the importance of early detection and recognition of physical illness among schizophrenics. Standardized medical history and physical examination form is important with doing regular review of medical condition with proper laboratory examination routinely. **Maquire and Granville-Grossman, 1968**, found one third of psychiatric inpatients have physical disorder, which in half of cases had been undiagnosed before admission. Also, a day hospital survey as many as 50% of patients were found to have physical disorders (**Burke, 1978**). **Thomas, 1979** found that 5% of 5,000-clinic patient presented by some type of abnormal laboratory findings, which may be raised as high as 10% or even more. The screening tests are also important for the detection of side effects of any drug therapy, which is known today as polypharmacy (**Thomas, 1979**).

In conclusion, it was found that: [1] 45.5% of schizophrenic patients have significant physical illnesses with predominating cardiovascular disorders (18.7%). [2] The most affected subtype is paranoid (30%) and the least catatonic (5.5%). [3] Most of physical diseases were rated, as of severe, moderate degrees, while control groups were mild. [4] Marked improvement of psychiatric condition with improvement of physical illness when using BPRS. [5] Physical examination and laboratory investigation are essential in mental diseases routinely.

References

Adler L .E. (1972): Concurrent medical illness in schizophrenic patients.

Epidemiology, diagnosis and management. (Schizophrenia-Res) Mar-Apr 4(2).

Andreasen N.C and Flaum m. (1991): Schizophrenia: the characteristic symptoms. Scizophr. Bull. 17(1): 27-49.

Baldwin J. A. (1979): Schizophrenic and physical diseases psychological medicine 9: 611-618.

Baldwin J. A. (1980): Schizophrenia and physical illness A preliminary analysis of the data from ORLS biochemistry of schizophrenia and addiction. Lancaster MTP press 611-618.

Bunce D.F.M; Jones L.R.; and Badger L.W. et al. (1982): Medical illness in psychiatric patients, barriers to diagnosis and treatment. South med. J. 75: 941-944.

Burke A.W. (1978): Physical disorders among day hospital patients. Br. J. Psychiatry, 133: 22-27.

Davies B. (1994): Psychiatric illness at general hospital clinics. Postgrad. Med. J. 40: 15-18.

Eastwood M.R. (1972): Relation between physical and psychiatric disease psychological medicine, Toronto Univ. Press 75. 2: 363-372.

Ehrenteli (1957): Common medical disorders rarely found in psychotic patients. Arch of neurology and psychiatry, 77: 178-186.

Elamin H.M.; Bassuiny M.M. and Ahmed R. (1997): Cardiovascular risk factors among chronic mentally ill patients. Current Psychiatry Vol. 4 no. 1 July.

Fink P. (1990): Physical disorders associated with mental illness. A register investigation. Psychological medicine, Nov. 1990, 20(4): 829-834.

Freedman R.; Waldo M.; Bickford B. et al. (1990): Elemental neuronal dysfunction in schizophrenia, Schizophr. Res. 4 (2): 488-493.

Gilbert P. L.; Harris J.; McAdams L. A. et al. (1995): Antipsychotic withdrawal in schizophrenic patients: a review of the literature. Arch. Gen. Psychiatry 52(3): 173-188.

Goff D.C.; Henderson D.C. and Ameco E. (1992): Cigarette smoking in schizophrenia relationship to psychopathology and medication side effects. Am. J. Psych. 149:1189-1194.

Goldberg and William P. (1988): A users guide to the general health quastionaire (GHQ) UUINDOR) Berkshine: NFER-Neelson.

Gulbinat W.; Dupont A.; Jablensky A.; Jensen D.M.; Marsella A.; Nakare Y. and Sartrino N. (1992): Cancer incidence of schizophrenic patient. Result of record linkage studies in three countries. Br. J. of Psychiatry Oct. supplements (18): 75-83.

Hall R.C.W. (1980): Psychiatric presentation of medical illness. Somato. Psychic. Disease . New York Spectrum.

Hall R.C.W.; Gardner E.R.; Stickney S. K et al. (1980): Physical illness manifesting as psychiatric disease. Arch. Gen. Psychiatry 37: 989-995.

Harris A. E. (1988): Physical disease and schizophrenia. Schizophrenia Bulletin Vol. 14, No. 1, 85-86.

Harrison J. and Maguire P. (1994): Predictors of psychiatric morbidity in cancer patient review. Br. J. Psychiatry. Nov, 165(5): 593-598.

Heridge C.F. (1960): Physical disorder in psychiatric illness. A study of 209

consecutive admissions. *Lancet*, 2: 949-951.

Hoffman R.S. and Koran L. M. (1984): Detecting physical illness in-patients with mental disorders. *Psychosomatic*, 25: 654-660.

Honig A.; Tan E.S. Pop P.; Philipsen H.; Dewit R. And Von Felt P. (1989): The influence of consensus on the assessment of physical disease in chronic community psychiatric patients. *Psychotherapy psychosom.* 51(3): 142-149.

Honing A.; Tan E.S.; Pop P.; Philipsen H.; Romme M.A.J. (1992): Physical illness in chronic psychiatric patients from a community psychiatric units revisited. A three years follow up study. *British J. Psych.* 161, 80: 83.

Hyde T.M. and Weinberger D.R. (1990): The brain in schizophrenia, *semit Neurol.* 1093: 276-286.

ICD 10 WHO (1992)

Josiassen R.C. and Schindler B. (1996): Medical co morbidity and schizophrenia. *Schizophrenia Bulletin* 22(3): 411-412.

Kane J.M.; Honig Feld G.; Singer J. et al. (1988): Clozapine for the treatment resistant schizophrenic. *Arch. Gen. Psychiatry* 45: 789-796.

Koranyi E.K. (1972): Physical health and illness in psychiatric outpatient department population. *Canadian psychiatric Ass. J. Sup.* 2:109-116.

Koranyi E.K. (1979): Morbidity and rate of undiagnosed physical illness in psychiatric clinic population. *Arch. Gen. Psychiatry* 36: 414-419.

Land W. and Salzman C. (1994): Risperidone: a novel antipsychotic

medication. *Hosp.Community Psychiatry* 54: 434-435.

Lipper S. and Werman D.S (1979): Schizophrenia and intercurrent physical illness. *Comprehensive psychiatry* 18:11-22.

Maquire G.P. and Granville Grossman K.L. (1968): Physical illness in psychiatric patients. *Br. J. of Psychiatry* 114:1365-1369.

Martinez J.A.; Velasco J.J. and Urbistondo M.D. (1994): Effects of pharmacological therapy on anthropometric and biochemical status of male and female institutionalized psychiatric patients. *J.Am. Coll. Nutr.* 13(2): 192-197.

McGlashan T.H. and Fenton W.S. (1992): The positive-negative distinction in schizophrenia: review of natural history validators. *Arch. Gen. Psychiatry* 49(1): 546-553.

Mendez M.F.; Grau R.; Doss R.C. and Taylor J. L. (1993): Schizophrenia in epilepsy: seizure and psychotic variables. *Neurol. June* 43(6): 1073-1077.

Mortensen P.B. (1994): The occurrence of cancer in first admitted schizophrenic patients. *Schizophrenia researches June*, 12(3): 185-194.

Muller P. (1991): Psychotherapy in schizophrenic psychoses-historical development, effectiveness and currently accepted methods. *Fortschr. Neurol. Psychiatr.* 59(7): 277-285.

North C.S. (1989): Current concepts of schizophrenia. *Compr. Ther* 15(3): 8-21.

Okasha. A, Kamel M. Fares R. and Abdel Hakam R. (1988): an epidemiological study of depressive symptoms in ruler and

urban population in Egypt. Egyptian J. of Psychiatry.

Overall J. and Gorham D. (1962): The brief psychiatric rating Scale (BPRS): Psych. Reports, 10:799:812.

Pa Herson C.H. (1978): Psychiatrist and physical examinations: A survey. Am. J. Psychiatry, 135: 967-968.

Regier D.A, Burke J.D. Manderscheu R.W. et al. (1985): The chronically mentally ill in primary care. Psychol. Med. 15: 265-273.

Sartorial N.; Jablensky A.; Korten A. et al. (1986): Early manifestations and first contact incidence of schizophrenia in different out- collaborative study in determinants of outcome of severe mental disorders. Psychol. Med. 16: 909-928.

Schlaff C. (1993): From dependency to self advocacy: redefining disability. Am. J. Occup. Ther. 47(10):943-948.

Stephen Bazire (1998): Psychotropic Drugs Directory

Summers W.K., et al. (1981): The psychiatric physical examination. Part 2: Finding in 75 unselected psychiatric patients. 42: 99-102.

Summers W.K., et al. (1981): The psychiatric physical examination.-part I: Methodology. J. of clin. Psych. 40, 95-98.

Thomas C.J. (1979): The use of screening investigations in psychiatry. Br. J. of psychiatry 135: 65-72.

Vieweg V.; Levenson J. and Paldurangi A. (1995): Medical disorders in schizophrenic patients. Int. J. of Psych. In medicine 25(2) 137-172.

Wieden P.I. (1994): The cost of relapse: the noncompliance factor. 147th American psychiatric Association Annual Meeting, May 24: Philadelphia (PA) 311.

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العلاقة بين المرض البدني ومرض الفصام ومدى انعكاس تأثيره على مسار مرض الفصام بعد العلاج.

تم اختيار عينة عشوائية تكونت من مائتين مريض فصامي مصري من مركز الطب النفسي طبقاً لخصائص التصنيف الدولي العاشر للأمراض النفسية وتم تحديد خطورة المرض النفسي لديهم إكلينيكيًا باستخدام المقياس الطب النفسي المختصر بالإضافة إلى عينتين ضابطتين خاليتين من الأمراض النفسية وخاصة الفصام وكل عينة منهم ٢٥

مريض الأولى تعاني من أمراض بدنية مزمنة والثانية تعاني من مرض الصدفية الجلدي المزمن من قسمي الأمراض الباطنة والجلدية بمستشفيات جامعة عين شمس.

وقد تم تشخيص المرض البدني من خلال فحص طبي متكامل يشمل كافة أجهزة الجسم باستخدام التحاليل المعملية الروتينية والتخصصية والأشعة المختلفة وتم إعطاء العلاج المناسب لجميع المرضى ومتابعتهم بعد ثلاثة أشهر وبعد ستة أشهر أخرى بالفحص الإكلينيكي والمعملي ومقياس الطب النفسي المختصر.

أكدت النتائج أنه لا يوجد دلالة إحصائية للفروق بين المجموعات في البيانات الديمغرافية فيما عدا الحالة الاجتماعية فغير المتزوجون كانت نسبتهم أكثر وذلك يرجع لتأثير مرضهم العقلي (٨٤.٥%) وكانت نسبة المرض البدني في مرض الفصام ٤٥.٥% وكان لدى ٢٢% من المرضى بأمراض عضوية بدنية قديمة لا يعلمون تشخيصها و ١٨.٦% لديهم أمراض بدنية مزمنة لا يعلمون تشخيصها و ٢٤% يعلمون التشخيص و ١٦% فقط تم تشخيص المرض البدني لأول مرة. أما المجموعة الضابطة الثانية نسبة تشخيص المرض القديم ٢٤% والمرض القديم غير معلوم التشخيص ١٢% وتم تشخيص ٨% فقط منهم لأول مرة ومعظم هؤلاء المرضى من الفصام البار انوي (٣٠%) وأقلهم مرض الفصام التصليبي ٥.٥%. وكان حدة المرض النفسي لديهم ٤٧% ومدة المرض من ٢-٦ سنوات ولديهم تاريخ عائلي للمرض ٣٧.٥% ومعظمهم من المدخنين ٨٠%.

وقد أظهرت الدراسة أن المرض البدني لدى مرضى الفصام متوسط الحدة بينما المجموعتين الضابطة كان أغلبهم بسيط الحدة ويمثل الجهاز الدوري أعلى نسبة بين جميع المجموعات يليهم الجهاز التنفسي في مرضى الفصام فإضرابات الغدد وأمراض الجلد ثم الجهاز البولي التناسلي والجهاز الهضمي وأخيراً أمراض أخرى مثل الأنف والأذن والعيون والأمراض الروماتيزمية والأنيميا. وكان ارتفاع ضغط الدم يمثل أعلى نسبة لدى مجموعة الجهاز الدوري ٥٢.٩%.

وعند إعادة تقييم المرضى، اتضح وجود تحسناً ملحوظاً بالحالة النفسية بمراجعة حدة المرض وتأكيد وجود دلالة صحية ذات فروق إحصائية عالية بين مجموعة الدراسة والمجموعتين الضابطتين.

من ذلك نستخلص أن الكشف على مرض الفصام وإدراك التشخيص البدني المبكر ممكن أن يشكل خطوات جوهرية في نجاح علاج هؤلاء المرضى.

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