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Interpersonal violence and mental illness

Definition

The World Health Organization (WHO) defines violence as “the intentional use of physical force or power, threatened or actual, against oneself, another person or against a group or community that either results in or has a high likelihood of resulting in injury, death, psychophysiological harm, maldevelopment or deprivation”. This concept can be distinguished into three wide categories: self-inflicted, interpersonal, and collective violence.

“Interpersonal violence” stands for acts of violence inflicted by an individual or a small group of individuals to another; it can occur between family members or intimate partners, especially at home, or between close friends, acquaintances and strangers, often, but not always, outdoor. Parts of it are child maltreatment, sexual violence, elder abuse; it is considered to be a predictable and preventable risk factor for lifelong health and social problems.

In the first report on interpersonal violence, released by the WHO in 2014 (*The Global status report on violence prevention*), data from 133 countries was collected, representing 6.1 billion people, which represents 88% of world population. Cruent deaths are the most evident outcome of violent behaviour recorded in official statistics: half a million people have been victims of homicide in 2012, for an overall rate of 6.7 per 100,000 people; 60% of these were males aged 15-44 years and, globally, 82% of all homicide victims are males, having a fourfold higher violent death rate than females; in 38% of cases, when a woman is killed the assassin is the partner. Deaths are only the tip of the iceberg of health and social burden arising from violence. It was estimated that in 2012 in the USA about 2 million people were treated in emergency departments for injuries sustained in an assault; 37% were aged 10-24. Women, children and elderly people are the principle victims of non-fatal physical, sexual and psychological abuse: 25% of all adults report having been physically abused as children, 36.3% experiencing emotional abuse and 16.3% experiencing physical neglect; one out of five women has reported having been sexually abused as a child and one out of three has been a victim of physical or sexual violence by an intimate partner at some point in her lifetime; about 6% of older adults reported significant abuse in national surveys conducted in the preceding 12 months in predominantly high-income countries.

Considering these data, we can state that violence represents a staggering problem of global Public Health; moreover, violence creates an economic load on society, although the accurate cost is unknown, especially in developing countries where there could be the risk of underestimating the impact of the problem. Violence consequences have both direct and indirect costs: provision of treatment in mental health or emergency care services and criminal justice administration are examples of direct ones; unemployment, absenteeism, permanent or temporary disability, provision of shelter for victims, disincentives to investment and tourism are some examples of indirect ones. The majority of nations spend a notable quantity of resources in responding to violence. In the United States the yearly economic cost of violence against women estimated in 2003 was approximately US\$ 5.8 billion; the total lifetime cost resulting from incidence of deaths and non-fatal

child maltreatment is about US\$ 124 billion annually. Public Health is promptly concerned with violence also for the significant contribution that health care professionals, in particular mental health professionals, can offer to reduce its consequences.

State of knowledge

Over the years, there has been a progressive convergence of mental illness and violence in the daily psychiatric practice, causing a broad number of violent individuals to be hospitalized. But what is the link between mental disorders and violence? Despite a certain connection between the two factors exists, both related to biological and psychological factors, it is now established that a severe psychiatric pathology itself it is not enough to determine violent behaviours and that there are other factors that play a role. Several studies affirm that family and social factors during childhood and adolescence have a huge impact in causing a tendency to violence in adulthood: within these factors there can be found family functioning, abuse and family neglect, parental conflict, support and social network, socioeconomic status and the social-working functioning. In general, individuals affected by mental disorders, particularly those within the schizophrenic spectrum, have a higher possibility to be violent compared to non-clinical population, even if the most of them are not violent. The incidence of violent behaviours gets higher in patients when a combination of these factors is found: active psychotic symptoms, male gender, lifetime history of violence and alcohol or drugs abuse, although substance consumption increases the risk of violent behaviours in the general population also.

The correlation between violence and suicidality is well known: an individual who has been repeatedly violent has a twofold higher suicide risk even after receiving treatment in a psychiatric inpatient care and, in the same way, a history of suicidal attempts is related to a future risk of violence. Moreover, self-injury and episodes of aggression represent one of the main causes for compulsory admissions, bringing plural management problems to psychiatrists.

There are specific categories of people with a higher risk of becoming victims of violence from individuals affected by psychiatric disorders. Recent studies suggest that severely ill patients engage more often in violent behaviours against family members and friends, and that violence usually takes place at home; they hit strangers 50% less compared to their community controls. Health professionals are another category at high risk: 20% of psychiatric acute inpatients may commit an act of violence against health workers, and 75% of nursing staff on acute psychiatric units reports experiencing at least one episode of aggression during their career.

Future perspectives

Considering these data, it is extremely important to determine the best prevention and intervention strategies. Currently, in Europe there is no unanimous approval upon which procedures are more effective in managing violent episodes in mental health services.

A descriptive survey study across 17 European countries reveals that almost 20% of health professionals employed in psychiatric wards had no received training on risk assessment and violence management; furthermore, this study shows that the most used intervention procedures were coercive ones, like physical restraint, rapid tranquilisation and seclusion, despite their higher efficiency has not been demonstrated and they cause negative effects on the prognosis.

Public Health should therefore focus on primary prevention of violence, through early identifications and treatment of dynamic risk factors, like substances abuse, active psychotic symptoms, impulsiveness, and the identification and treatment of static risk factors like previous history of violence and diagnosis.

One of the most used instrument is the Historical-Clinical-Risk Management-20, a structured clinical judgement tool useful to classify risk. There also are some specific instruments to evaluate interpersonal violence, like the Karolinska Interpersonal Violence Scale, currently being in the validation phase in Italy, composed by four sub-scales to evaluate the expression and exposure to violence during childhood and adulthood.

It is also necessary to work for reducing the environmental risks e.g. by acting on the lack of structured activities, temporary staff, low levels of staff-patient interaction. At the same time, mental health professionals should be provided with adequate training for risks evaluation and violence management in order to foster non-coercive methods such as de-escalation techniques, time out and increased observation and support.

Supporting actions on violence would bring benefits for the Government that reduces criminality levels and related costs, and the Public Health that reduces compulsory admissions and simplify the management in mental health services. Last but not least, there would be prognosis improvements for patients admitted to psychiatric units.

Hence, it is extremely important and a matter of interest for Public Health to identify the “violent phenotype”. This is also useful to approach an educational treatment towards patients, their families and health workers: within the next years, scientific research will have to address its interest to obtain this objective.

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Levels of abuse in mentally ill women and its relationship with health care behavior - An exploratory study

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Summary

Objective

Abuse is linked to mental illness, and associated morbidity & mortality in women. Self-management of health is unexplored in women with mental disorders, and this may have therapeutic and preventive implications. This study was conducted to know the level of abuse in women with mental disorder in remission and its relationship with self-management of health.

Materials and Methods

In this cross sectional hospital based, single centered study, one hundred women were recruited as per selection criteria and assessed with sociodemographic proforma, Composite Abuse Scale (CAS) and Effective Consumer Scale (ECS).

Results

Eighty six percent had experienced abuse, and 68% percent had experienced severe level of abuse. CAS score was statistically significantly more with employed status ($p = .000$), poor housing condition ($p = .000$), substance use in the family ($p = .005$), low socioeconomic status ($p = .003$) and sympathetic attitude of others ($p = .000$). On multiple linear regression analysis, the level of abuse was negatively associated with 'negotiation of roles and taking control' domain ($\beta = -2.540$, $t = -2.036$, $p = .045$), and positively associated with 'taking decision and action' ($\beta = 2.898$, $t = 2.329$, $p = .022$) domain of ECS.

Conclusions

Abuse is very common among mentally ill women and negatively associated with health seeking skills in India. This finding underscores the urgent need for intervention to reduce abuse among mentally ill.

Key words

Women abuse • Self-management of health • Women mental health

Introduction

Women abuse is defined as "Any act of gender-based violence that results in or is likely to result into, physical, sexual, or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or private life" ¹. In India, prevalence of women abuse is up to 50% in the general population, and 67% among women attending health care centers ^{1,2}. It is highly prevalent in the South-East Asian region, and World Health Organization (WHO) has expressed its concern about the same ³. Women abuse has a cause/effect relationship with mental disorder ^{4,5}. Abuse is a major cause of mental ill health globally, and a leading cause of morbidity and mortality for women of childbearing age ^{6,7}. Research has shown that, the rate of reported abuse in childhood and/or adulthood among women living with mental disorder is 80%. Most of them have been physically or sexually abused ^{4,5,8}. The disorders commonly associated with women abuse are

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post-traumatic stress disorder, depression, anxiety, eating disorders, insomnia, and substance abuse⁹⁻¹⁰. On the other hand, women with mental disorder experience more abuse than the general population, which may be responsible for non-remission or poor outcome¹¹⁻¹².

There is indirect evidence that women who experience abuse may have difficulty in self-health management. Self management of health refers to how effective people are at dealing with their mental disorder and making decisions about their mental health care.

Women with abuse try to address their health issues with informal care, and seek help only in case of increased severity. Common barriers for health seeking are fear, shame, embarrassment, stigma, perceived support for help seeking, lack of financial resources and limited awareness of available services, and the cost of mental health services¹³. Even with availing treatment, they may be inadequately adherent to medication¹⁴. There is evidence that outcome of mental disorder is worse among women with a history of abuse¹⁵⁻¹⁷. Women abuse has attracted the attention of a wide spectrum of agencies, from healthcare providers to law enforcement authorities. The WHO considers it as a priority public health issue; it emphasises to tackle this issue effectively at the earliest, and has suggested conducting more research in this area³. There is a gap of knowledge regarding the self-management of health in women with abuse and mental disorder, and there is a need for further study as abuse and mental disorder themselves may result in increased morbidity and mortality⁷⁻¹⁰. Understanding the self-management of health may be helpful in treatment and prevention of health issues in women with mental disorders in remission. We have conducted this study to find out the levels of abuse in women with mental disorder who are in remission and its relationship with self-management of health. We hypothesised that levels of abuse are inversely related with self-management of health.

Materials and Methods

This was a cross sectional hospital based study conducted over a period of six months (November 2014 – April 2015) at a tertiary care centre in South India, after approval from institutional ethics committee. One hundred females (out of 118 screened) who were living with relatives in the community after an episode of a mental disorder and coming for follow-up, were consecutively recruited after obtaining informed consent. We have included participants aged 18-65 years with history of mental disorder currently in remission for at least two months as per treating psychiatrist, currently living with family members. A two-month remission criterion has been adopted since a two-month remission period is considered sufficient to consider end of an episode of mental disorder. Living with family members

was another consideration because most women in India live with family members, who can provide required information about patients. It also indicates that patients have started living in the community after improving from an episode of mental disorder.

Patients were not included if they had a diagnosis of mental retardation or dementia due to issues related to reliability. For this study, presence of any psychiatric diagnosis as per ICD 10 (10th revision of the International Statistical Classification of Diseases and Related Health Problems) was considered as "Mental disorder". WHO defined mental disorders as a broad range of problems, with different symptoms characterized by some combination of abnormal thoughts, emotions, behavior and relationships with others.

Diagnosis and remission state were ascertained by a qualified psychiatrist using MINI Plus, case record files, discussion with the treating psychiatrist, and interview with patients and key informant. All participants who met selection criteria were further assessed with assessment tools in following order:

1. Sociodemographic proforma: marital status, socio-economic-status, education, occupation, family type, domicile, diagnosis, housing status, living with people who help in trouble, treatment received before, knowledge of cause of disorder, knowledge of treatment, family history of mental disorder, history of abuse in childhood, substance use in family, attitude of others etc.
2. Composite Abuse Scale (CAS): the CAS was used to assess the frequency and severity of different types of abuse¹⁸. This is a 30 item measure whereby participants answer using a five-point likert scale. The CAS is scored by summing the frequency scores of each of the items. Higher scores indicate more severe and frequent violence. Scores on the CAS can also be examined by focusing on the four subscales of the measure: severe combined abuse, physical abuse, emotional abuse, and harassment. Validation studies have found that CAS has a high internal consistency, and Cronbach's alpha value of > 0.85. These subscales are useful when trying to assess how different forms of abuse affect the physical and mental health of women. This scale has been previously used in Indian population¹⁹.
3. Effective Consumer Scale (ECS): the Effective Consumer Scale (EC-17) was developed to assess patient's perception of their skills and behaviours that are important for effectively managing, participating in, or leading their healthcare²⁰. The scale covers 5 sub-domains: (a) use of health information; (b) clarifying personal priorities; (c) communication with others; (d) negotiating own roles and taking control; and (e) deciding and taking action. The scale had a

score of 0.95 for Cronbach's Alpha test-retest intra-class correlation coefficient of 0.90. This scale has been used in Indian population previously²¹. Statistical analysis was done using SPSS v 16. To express the demographic characteristics, descriptive statistics (Percentage, Mean, Standard deviation etc.) were used. Data examination revealed significant skewedness in demographic variables, thus Kruskal Wallis Test was done to compare more than three groups while Mann Whitney U test was done to compare two groups. Multiple linear regression analysis was done to obtain the relationship between scores on measure of abuse and self-management of health after examining data distribution. Outcome measure was scored on ECS. The threshold of statistically significant level was kept at $p < 0.05$ for all the tests.

Results

Sociodemographic and clinical characteristics

Most participants were married, employed, of lower socioeconomic status, hailing from the rural area, and belonged to nuclear family. Majority had a diagnosis of mood disorder and did not receive any previous treatment except ongoing (Table IA).

Level of abuse

Eighty six percent of participant experienced some form of abuse with mean score being 20.33 (SD \pm 20.55) – commonest being emotional abuse (83%) followed by severe combined abuse (68%), physical abuse (62%) and harassment (60%) (Table IB).

Sociodemographic relationship of abuse

Level of abuse varied with employment status (Un-employed vs. employed; MU = 378.50, Z = -5.496, $p = .000$), patient domicile (Rural vs urban; MU = 756.50, Z = -2.454, $p = .014$), socioeconomic status (middle vs low; MU = 767.50, Z = -2.921, $p = .003$), status of housing (kachcha vs pakka house; MU = 297.50, Z = -3.714, $p = .000$), substance use in the family members (presence or absence; MU = 499.00, Z = -2.802, $p = .005$), attitude of others (sympathetic or non-sympathetic; MU = 544.50, Z = -4.567, $p = .000$) and knowledge of treatment option (medication vs other; $\chi^2 = 17.521$, $df = 1$, $p = .000$) (Tables II and III).

Relationship of abuse and self-management of health

On multiple linear regression analysis ($R^2 = .127$, $df = 5$, $F = 2.745$, $p = .023$) the value of score on CAS was statistically significantly negatively predicted by scores on 'negotiation of own roles and taking control' (beta = -2.540, $t = -2.036$, $p = .045$) and positively predicted by 'taking decision and action' (beta = 2.898, $t = 2.329$, $p = .022$) domains of ECS (Table IV).

TABLE IA. Sociodemographic and clinical characteristics.

Variables		N = %
Education	Primary	41
	Middle	23
	High School	30
	Higher Secondary	6
Occupation	Un-employed	35
	Employed	65
Family history of mental illness	Yes	10
	No	90
Housing	Kachcha house	17
	Pakka house	82
Childhood abuse	Yes	5
	No	95
Substance use in family	Yes	21
	No	79
Family type	Nuclear	85
	Joint	15
Domicile	Rural	68
	Urban	32
Marital status	Single	10
	Married	90
Socio-economic-status	Low	62
	Middle	38
Attitude of others	Sympathetic	61
	Non-sympathetic	39
Diagnosis	F10	3
	F20	4
	F30	82
	F40	11
Living with	Parent	19
	In-law	4
	With husband only	77
Person who helps in trouble	Parent or sibling	41
	Husband or relative	56
	Neighbour or other	3
Treatment received before	Nil	89
	Magico-religious	7
	Allopathic	4
Knowledge of cause of illness	Supernatural	2
	Physical	12
	Psychosocial	81
Knowledge of treatment	Bio-psycho-social	5
	Medication only	68
	Psychotherapy only	4
	Both	28

TABLE IB. *Experience of abuse.*

Composite abuse scale domains	N = 100, n = %	Minimum	Maximum	Mean (\pm SD)
Any form of abuse	86%	0.00	92.00	20.33 (20.55)
Harassment	60%	0.00	16.00	2.89 (3.39)
Physical abuse	62%	0.00	22.00	3.89 (4.86)
Emotional abuse	83%	0.00	40.00	9.30 (8.29)
Severe combine abuse	68%	0.00	21.00	4.25 (5.45)

TABLE II. *Relationship of abuse and socio-demographic variables (Kruskal Wallis Test).*

Variables	N	Mean Rank	Chi-Square	df	p	
Education* CAS Score	Primary	41	45.96	2.790	3	.425
	Middle	23	48.76			
	High school	30	56.58			
	Higher secondary	6	57.75			
Diagnosis* CAS Score	F10	3	36.00	3.518	3	.318
	F20	4	57.38			
	F30	82	48.92			
	F40	11	63.73			
Living with* CAS Score	Parent	19	56.89	1.609	2	.447
	In-law	4	39.38			
	With husband only	77	49.50			
Person who helps in trouble* CAS Score	Parent or sibling	41	56.05	2.552	2	.279
	Husband or relative	56	46.65			
	Neighbour or other	3	46.50			
Treatment received before* CAS Score	Nil	89	49.03	3.516	2	.172
	Magico-religious	7	70.29			
	Allopathic	4	48.50			
	Supernatural	2	36.00			
Knowledge of cause of illness* CAS Score	Physical	12	65.25	3.969	3	.265
	Psychosocial	81	48.95			
	Bio-psycho-social	5	46.00			
Knowledge of treatment* CAS Score	1 Medication only	68	38.03	6.546	1	.011*
	Psychotherapy only	4	10.50			
	2 Psychotherapy only	4	13.50	.495	1	.482
	Both	28	16.93			
	3 Medication only	68	56.12	17.521	1	.000*
	Both	28	29.98			

CAS: Composite abuse scale; *: significant at $p = 05$; **: significant at $p = 001$

Discussion and Conclusions

Level of abuse

We observed a high prevalence of abuse (particularly emotional abuse) among women with mental disorder.

This is consistent with the previous report that abuse among mentally ill is not uncommon, particularly in depression²²⁻²⁴. Relationship between abuse and mental disorder appears to be bi-directional, but evidence for abuse leading to illness is stronger^{11 12 25}. In Indian

TABLE III. Relationship of abuse and socio-demographic variables (Man Whitney U test).

		N	Mean rank	Sum of ranks	Mann-Whitney U	Z	p
Occupation* CAS Score							
	Un-employed	35	28.81	1008.50	378.50	-5.496	.000**
	Employed	65	62.18	4041.50			
Family history of mental illness* CAS Score	Yes	10	56.65	566.50	388.50	-.708	.479
	No	90	49.82	4483.50			
Housing* CAS Score	Kachcha house	17	73.50	1249.50	297.50	-3.714	.000**
	Pakka house	82	45.13	3700.50			
Childhood abuse* CAS Score	Yes	5	64.30	321.50	168.50	-1.093	.274
	No	95	49.77	4728.50			
Substance use in family* CAS Score	Yes	21	66.24	1391.00	499.00	-2.802	.005*
	No	79	46.32	3659.00			
Family type* CAS Score	Nuclear	85	52.04	4423.00	507.00	-1.262	.207
	Joint	15	41.80	627.00			
Domicile* CAS Score	Rural	68	55.38	3765.50	756.50	-2.454	.014
	Urban	32	40.14	1284.50			
Marital status* CAS Score	Single	10	55.20	552.00	403.00	-.541	.588
	Married	90	49.98	4498.00			
Socio-economic-status* CAS Score	Low	62	57.12	3541.50	767.50	-2.921	.003*
	Middle	38	39.70	1508.50			
Attitude of others* CAS Score	Sympathetic	61	61.07	3725.50	544.50	-4.567	.000**
	Non-sympathetic	39	33.96	1324.50			

CAS: Composite abuse scale; *: significant at $p = 05$; **: significant at $p = 001$.

cultural context, it is even more important as domestic violence is acceptable to a certain extent and can be attributed to mental disorder^{2,26}.

Relationship of abuse and socio-demographic variables

Low socioeconomic status is a risk for violence²⁷ as observed in this study. Other reports from India found a positive association between violence and mental illness in women of low socioeconomic status²⁸. Violence against women in families with lower socioeconomic status may be due to "male" stress arising out of inability to fulfil their culturally defined roles such as breadwinners, and to control behaviour of women²⁹. Majority of Indian families are of patriarchal nature with the male being the head of the family. Valor of an ideal man resides in his ability to protect and honor the chaste behavior of women in his family. Counts et al. (1992) observed that where women have a higher economic status, they are

seen as having sufficient power to change traditional gender roles in those situations, and it is at this point that violence is at its highest³⁰.

Our study found that employment is a risk for abuse in mentally ill women. Though there is paucity of literature revealing relationship of abuse and demographic features such as employment in mentally ill women, abuse may not be uncommon³¹. Helen et al. argue that household income can increase the violence, if the abuser's marginal utility of violence is increasing in the welfare of the victim³². Similar to other reports, our study revealed more abuse among rural participants³³. This could be due to early marriage, lower educational level of husband, women with husbands having alcohol use disorder in the rural setup³⁴.

Presence of substance use in the family members was associated with increased levels of abuse in this study. Substance use in caregivers who abuse the care recipi-

TABLE IV. Regression of abuse and self-management of health.

Model		Un-standardized coefficients		Standardized coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.441	5.543		2.244	.027
	Health information	.779	1.345	.089	.579	.564
	Priority	2.077	1.483	.222	1.400	.165
	Communication	-1.457	1.419	-.191	-1.027	.307
	Negotiation and control	-2.540	1.247	-.400	-2.036	.045
	Decision and action	2.898	1.244	.443	2.329	.022

Dependent variable: composite abuse scale score. $R^2 = .127$; $df = 5$; $F = 2.745$; $Sig. = .023$.

ents as a coping of primary disorder is not uncommon³⁵. Alcohol abuse is specifically associated with physical abuse³⁶. It is speculated that the overall level of functioning (dysfunctional internal and external boundaries) within the family of substance abusing caregivers leads to maltreatment³⁷. In most Indian studies, alcohol use in husbands is the commonly associated factor with spouse abuse^{2 38 39}. Direct effects such as intoxication and indirect effects such as economic difficulty, interpersonal dispute and other co-morbidities associated with substance use may also contribute to higher levels of abuse. The results of this study revealed that scores on the severity of abuse statistically significantly vary with the attitude of others (other than abuser). People may sympathise more when they witness severe abuse. However, studies have reported that there is a global change in attitude toward domestic violence⁴⁰. An increase in the level of education in the general population appears to have played a role in such change⁴¹.

Most participants were only aware of medication as treatment option for mental disorder, and were significantly associated with higher level of abuse. In this study, nearly 60% were below middle level education and were less likely to have exposure to mental health related information.

Relationship of abuse and self-management of health

Consistent with our hypothesis, the CAS score was negatively predicted by scores in 'negotiation of own role and taking control' domain of ECS. This indicates that they have a lack of skills/attributes in the area of assertiveness, communication, listening and negotiating, empathy and self-motivation, willing to comply with treatment, patience, responsibility for control over illness etc⁴².

Effective communication is critical to healthy relationships⁴³⁻⁴⁵. It appears that the non-healthy conflict resolution in the form of abuse may be the result of poor communication skills particularly in high-conflict prob-

lems like criticism, contempt, defensiveness, stonewalling etc^{43 46}. On the other hand, communication associated with control and power issues are the foundation of most conflicts.

The relationship observed between CAS score and scores in 'negotiation of own role and taking control' domain of ECS does not appear to be direct. Many factors appear to moderate the scope of practice or acquisition of communication or social skills. Home environmental factors appears to be the major determinant of having these skills. In India common causes of abuse in women are dowry, substance use, unemployment, poor communication skills, lower socioeconomic status, inability to carry out domestic responsibility and gender role violation^{47 48}.

Maladaptive coping may accompany with experience of severe abuse and may have skill deficits in the area of self-care, psychological and physical health management^{49 50}. A lack of access to resources and systems of support is also a risk for domestic violence⁷. It may also be due to economic dependence, high cost of health care, fear that disclosure of abuse may result in psychosocial consequences and imposed restriction of movements⁵⁰.

Contrary to our hypothesis, the CAS score was positively predicted in 'taking decision and action' domain of ECS. In other words, they have some better health skills in the area of tailoring/adapting information to self, goals/priority setting, determining values, recognition of rights versus acting on rights and lifestyle changes⁴². They exercise these skills in case of higher severity of abuse or whenever they have the opportunity⁵⁰.

In India, sociocultural factors and gender-role expectations drive Indian women into using predominantly passive coping modalities⁵¹. Common strategies used to cope with abuse are negotiating and independent behaviours, help-seeking, conciliatory, resistance, and leaving behaviours are commonly used coping strat-

egies. Women's coping strategies is dependent on their access to financial and familial resources and are weighed against the particular social context as social networks are not usually supportive. Compliance behaviours are more popular coping strategies⁵².

Moreover, all participants were in remission after treatment from a tertiary care centre (a multispecialty medical school). Visiting hospitals and interacting with health professionals may also increase the health literacy. Medical model of illness is highly prevalent in India, and majority of the people are aware that multispecialty care centre provides a comprehensive health service beneath a single roof.

With the findings of this study, we can conclude that abuse among women with mental disorder is highly prevalent, and varies with employment and socioeconomic status. The level of abuse is negatively associated with health seeking skills and positively associated with skills resolving the health issues. Like any other study, this study had limitations, and the findings should

be interpreted in the view of these limitations. Study data had a skewed distribution. Our study had a small sample size conducted in Indian culture. Multicultural and larger sample size of 200 or more could have increased the generalizability of the study findings. Our study did not have normal control to compare the findings and assessed the abuse and health care behavior only once. Observation over a period of time could have given the idea of any variation over time. Further study is needed in this area, with overcoming the limitations of this study.

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Conflict of interest

None to declare.

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Validation of the Arabic Version of the PANSS scale among Lebanese schizophrenic patients

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Summary

Objectives

To use the Arabic version of the PANSS in Lebanese schizophrenic patients, to check its validity and reproducibility compared to other versions of the questionnaire and to assess risk factors affecting the total PANSS score.

Methods

This case-control study, performed between April and August 2016, included 400 patients (200 patients, 200 controls).

Results

The PANSS scale items converged over a solution of three factors, explaining a total of 64.81% of the variance. A high Cronbach's alpha was found for the full scale (0.961), the positive symptoms (0.877), negative symptoms (0.933) and general psychopathology (0.926). A stepwise linear regression, using the total PANSS score as continuous variable, showed that low socioeconomic level and male gender would significantly increase the total PANSS score (Beta = 13.139, CI 7.570-18.708, $p < 0.001$ and Beta = -8.614, CI -13.884 – -3.345 $p = 0.001$).

Conclusions

This study shows that the Arabic version of the PANSS has promising psychometric properties, and thus it is a good tool to use for the diagnosis of patients with schizophrenia. Based on this study, health care professionals and researchers can readily use the PANSS questionnaire to estimate the overall severity of schizophrenia among psychiatric patients in Lebanon.

Key words

Schizophrenia • PANSS scale • Validation • Reliability

Introduction

Schizophrenia is a multidimensional psychiatric diagnosis which has been observed in all cultures and socioeconomic groups throughout the world. It can profoundly affect the ability to lead a satisfying social and family life, causes serious occupational disability and acquires extensive health care costs ¹. Schizophrenia affects around 0.3-0.7% of people at some point in their life ². In a review of the epidemiology of schizophrenia and related disorders in the Arab world, the prevalence ranged between 0.7% and 5.6% ³. The World Health Organization report on mental health system in Lebanon in 2010 showed a prevalence of around 47% ⁴.

Decades ago, research on schizophrenia showed that this disorder consists of at least two separate symptom clusters: positive and negative symptoms and syndromes ^{5 6}. As a result, a variety of assessment scales were developed to identify these syndromes ⁷⁻⁹.

In 1987, Kay and colleagues developed the Positive and Negative Syndrome scale (PANSS) ¹⁰ that is a widely used and valid instrument for the

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assessment of severity of schizophrenia symptoms¹⁰⁻¹². The PANSS is currently one of the most widely used symptom measure in schizophrenia research; data are typically presented in the original three-dimensional form. It helps clinicians and researchers assess treatment outcomes by providing a psychopathology profile and by comparing the changes in PANSS scores throughout treatment¹³⁻¹⁵. The PANSS can also assist clinicians in providing personalized treatment for patients¹⁶.

It has been translated into many languages and validated in different populations, however the Arabic version was never validated in Lebanon. Thus, the objectives of the current study were to use the Arabic version of the PANSS in Lebanese schizophrenic patients, to check its validity and reproducibility compared to other versions of the questionnaire and to assess risk factors affecting the total PANSS score.

Methods

Study design

This case-control study was performed between April and August 2016 in the Psychiatric Hospital of the Cross (PHC), the biggest psychiatric hospital in Lebanon. This study included 400 patients, 200 schizophrenic patients recruited from the PHC and 200 controls subjects chosen randomly from the general population. The purpose and procedures of the study were explained to all participants, and a written informed consent was signed and obtained from each participant. No payment was made for participation. The patient had the right to accept or refuse to participate in the study.

Ethical aspect

The Psychiatric Hospital of the Cross Ethics and Research Committee, in compliance with the Hospital's Regulatory Research Protocol, waived the need for an approval based on the facts that it was an observational study that respected participants' autonomy and confidentiality and induced minimal harm to them.

Procedures and assessments measurement

The questionnaire used during the interviewed was in Arabic, the native language of Lebanon. It included two parts, the first one concerning the socio-demographic characteristics (age, gender, age of the first episode, number of episodes, family history of mental disorder) and another one that included the Positive and Negative Syndrome Scale (PANSS) questions. The PANSS was translated from English to Arabic through an initial translation and back translation process. The English version was translated into Arabic by a mental health specialist, then this translation was translated again into English by another specialist. Upon completion of this

process, the translators compared the English versions of PANSS to determine whether the variables had the same meaning. One trained person was responsible for the data collection, via a personal interview with each patient. This person was independent of this study. A pilot test was conducted on 15 patients to check if the questions were well understood. To note that these 15 answers were not entered in the final database.

PANSS scale

The PANSS is a 30 item questionnaire, originally organized into separate scales for positive symptoms (seven items), negative symptoms (seven items) and general psychopathology (16 items) as designed by Kay and al.¹⁰ to assess severity of psychopathology in adult patients with schizophrenia and other psychotic disorders. All individual items are scored with values from 1 to 7, with 1 reflecting absence of symptoms and 7 reflecting extremely severe symptoms.

The 30 items are arranged as follow:

- positive symptom subscale items (P1-P7) includes: delusions, conceptual disorganization, hallucinatory behavior, excitement, grandiosity, suspicious/persecution, and hostility;
- negative symptom subscale items (N1-N7) includes: blunted affect, emotional withdrawal, poor rapport, passive/apathetic social withdrawal, difficulty in abstract thinking, stereotyped thinking, and lack of spontaneity and flow of conversation;
- general psychopathology symptom items (G1-G16) includes: somatic concern, lack of judgment and insight, guilt feelings, tension, mannerisms and posturing, depression, motor retardation, uncooperativeness, unusual thought content, disorientation, poor attention, anxiety, disturbance of volition, poor impulse control, preoccupation, active social avoidance¹⁰.

The scores for these scales are calculated by summation of ratings across component items. Therefore, the potential ranges are 7 to 49 for the Positive and Negative Scales, and 16 to 112 for the General Psychopathology Scale. In addition to these measures, a Composite Scale is scored by subtracting the negative score from the positive score. This yields a bipolar index that ranges from -42 to +42, which is essentially a difference score reflecting the degree of predominance of one syndrome in relation to the other¹⁰.

Statistical analyses

Data analysis was conducted using SPSS software version 23. The independent-sample t-test was used when comparing two groups. When two variables were correlated we used the paired sample t-test. For categorical variables, the chi-2 were used when applicable. A p-value less than 0.05 was considered as significant.

To confirm the PANSS questionnaire construct validity in the Lebanese population, a factor analysis was launched for the positive, negative and general psychopathology symptoms of the questionnaire respectively, using the principal component analysis technique, with a promax rotation since the extracted factors were found to be significantly correlated. The Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett's test of sphericity were ensured to be adequate. The retained number of factors corresponded to Eigenvalues higher than one. Moreover, Cronbach's alpha was recorded for reliability analysis for the total score and for subscale factors.

Results

Sociodemographic and socioeconomic characteristics of the participants

Details regarding sociodemographic and socioeconomic characteristics of the participants are shown in Table I. Overall 400 participants were enrolled (200 cases and 200 controls). The mean age of schizophrenic patients was 43 ± 13 years compared to 27 ± 10 years for the controls. Most of the participants were female in each group (70.5% in control group, 55.5% in cases group). The majority of cases were single (70.0%), having an intermediate and below level of education

TABLE I. Sociodemographic and socioeconomic characteristics of the participants.

		Patients with schizophrenia	Healthy control	
		Frequency (%)	Frequency (%)	p-value
Gender	Male	89 (44.5%)	59 (29.5%)	0.002
	Female	111 (55.5%)	141 (70.5%)	
Geographic region	Beirut	28 (14.0%)	20 (10.0%)	< 0.001
	Mont-Lebanon	71 (35.5%)	130 (65.0%)	
	North	52 (26.0%)	25 (12.5%)	
	South	26 (13.0%)	11 (5.5%)	
	Beqaa	19 (9.5%)	11 (5.5%)	
	Nabatieh	2 (1.0%)	3 (1.5%)	
	Foreign	2 (1.0%)	0 (0.0%)	
Marital status	Single	140 (70.0%)	166 (83.0%)	< 0.001
	Married	35 (17.5%)	33 (16.5%)	
	Divorced	23 (11.5%)	1 (0.5%)	
	Widowed	2 (1.0%)	0 (0.0%)	
Education level	Illiterate	8 (4.0%)	0 (0.0%)	< 0.001
	Primary	59 (29.5%)	0 (0.0%)	
	Complementary	62 (31.0%)	1 (0.5%)	
	Secondary	37 (18.5%)	3 (1.5%)	
	University	34 (17.0%)	195 (98.0%)	
Socioeconomic level*	Low	134 (67.0%)	132 (66.0%)	< 0.001
	Medium	61 (30.5%)	44 (22.0%)	
	High	5 (2.5%)	24 (12.0%)	
History of medical illness	Yes	110 (55.0%)	18 (9.0%)	< 0.001
	No	90 (45.0%)	182 (91.0%)	
Family history of psychiatric illness	Yes	86 (43.0%)	15 (7.5%)	< 0.001
	No	114 (57.0%)	185 (92.5%)	
		Mean \pm SD	Mean \pm SD	
Age		43 \pm 13	27 \pm 10	< 0.001

TABLE II. Mean scores on the different scales.

	Patients with schizophrenia	Healthy control	p-value
	Mean \pm SD	Mean \pm SD	
Positive symptoms	17.00 \pm 7.43	4.42 \pm 5.29	< 0.001
Negative symptoms	19.07 \pm 7.54	4.29 \pm 6.15	< 0.001
General psychopathology	35.07 \pm 10.12	11.65 \pm 13.92	< 0.001
Total PANSS score	71.13 \pm 18.99	20.35 \pm 23.75	< 0.001

(64.5%), and a low socioeconomic level (67%). On the other hand, 83% of the control group were single, 98% had a high level of education and 66% had low socioeconomic level. Almost all the control group didn't have a history of medical illness and family history of mental disorders (91% and 92.5% respectively), while 45% of cases didn't have a history of medical illness and 57% of them didn't have a family history of mental disorders. A significant difference was found between the two groups for all the sociodemographic and socioeconomic characteristics ($p < 0.05$).

Mean scores on the different scales

Table II displays the PANSS scores between patients and control group. The results showed that PANSS score was significantly higher for patients with schizophrenia when compared to controls (71.13 \pm 18.99 vs 20.35 \pm 23.75, $p < 0.001$). It was also significantly higher on the three subscales of PANSS ($p < 0.001$).

Correlation factor

Table III displays the correlation factors between each item of the PANSS scale and the whole scale. The correlation factors ranged from 0.27 to 0.806 for an individual item. In addition, the three subscales had a high correlation with the total PANSS score. For the positive symptom $r = 0.864$, for the negative symptoms $r = 0.907$, for the General psychopathology $r = 0.968$. To note that all factors were highly significantly correlated with the whole scale with $p < 0.001$ for all of them.

Factor analysis

Out of all the items of PANSS scale, all variables could be extracted from the list, with no items that over-correlated to each other ($r > 0.9$), having a low loading on factors (< 0.3) or because of a low communality (< 0.3). The factor analysis for the PANSS scale was run over the sample of healthy individuals and schizophrenic patients (Total $n = 400$). The PANSS scale items converged over a solution of three factors that had an Eigenvalue over 1, explaining a total of 64.81% of the variance. A Kaiser-Meyer-Olkin measure of sampling adequacy of 0.951 was found, with a significant Bart-

lett's test of sphericity ($p < 0.001$). According to the promax rotated matrix the three components could be summarized as follows: factor 1 included 15 items, factor 2 incorporated 8 items, while factor 3, seven items were retained (Table IV). Moreover, a high Cronbach's alpha was found for the full scale (0.961). The internal consistency for the subscales score was also high; Cronbach's alphas for the positive symptoms, negative symptoms and general psychopathology were 0.877, 0.933 and 0.926 respectively.

Validity measures

The ROC curves of PANSS scale, comparing schizophrenic patients with control individuals were shown in Figure 1. The optimal score that was a cutoff between healthy controls and patients with schizophrenia was 35.50 according to the ROC curve analysis. The sensitivity and specificity were good at this cutoff (99.5% and 81.5%, respectively). The area under the curve was high: 0.937 [0.910-0.964]; $p < 0.001$.

Multivariate analysis

A stepwise linear regression, using the total PANSS score as a continuous variable, showed that low socioeconomic level would significantly increase the total PANSS score by 13.1 points (Beta = 13.139, CI 7.570-18.708, $p < 0.001$). Male gender was significantly more associated with increasing the total PANSS score level by 8.6 points (Beta = -8.614, CI -13.884--3.345 $p = 0.001$) (Table V).

Discussion

Validation of the scale

In the current study, we were able to validate the Arabic version of the PANSS scale, intended specifically for use among the Lebanese population. Results provided initial evidence supporting the reliability and validity of the scale as a screening instrument for Lebanese schizophrenics. The three factors identified in the PANSS scale demonstrated good psychometric properties, with excellent internal consistency for the scale. Thus, it can be used in the Lebanese population.

TABLE III. Correlation for each item and the subscales with the whole scale.

	Total PANSS	
	Correlation	p-value
P1 Delusions	0.769	< 0.001
P2 Conceptual disorganization	0.788	< 0.001
P3 Hallucinatory behavior	0.692	< 0.001
P4 Excitement	0.270	< 0.001
P5 Grandiosity	0.554	< 0.001
P6 Suspiciousness persecution	0.783	< 0.001
P7 Hostility	0.678	< 0.001
N1 Blunted affect	0.766	< 0.001
N2 Emotional withdrawal	0.793	< 0.001
N3 Poor rapport	0.789	< 0.001
N4 Passive apathetic social withdrawal	0.794	< 0.001
N5 Difficulty in abstract thinking	0.761	< 0.001
N6 Lack of spontaneity and flow of conversation	0.793	< 0.001
N7 Stereotyped thinking	0.675	< 0.001
G1 Somatic concerns psychopathology	0.510	< 0.001
G2 Anxiety	0.539	< 0.001
G3 Guilt feelings	0.475	< 0.001
G4 Tension	0.463	< 0.001
G5 Mannerisms and posturing	0.729	< 0.001
G6 Depression	0.635	< 0.001
G7 Motor retardation	0.749	< 0.001
G8 Uncooperativeness	0.746	< 0.001
G9 Unusual thought content	0.797	< 0.001
G10 Disorientation	0.728	< 0.001
G11 Poor attention psychopathology	0.723	< 0.001
G12 Lack of judgment and insight	0.806	< 0.001
G13 Disturbance of volition psychopathology	0.788	< 0.001
G14 Poor impulse control	0.690	< 0.001
G15 Preoccupation	0.539	< 0.001
G16 Active social avoidance	0.757	< 0.001
Positive symptoms	0.864	< 0.001
Negative symptoms	0.907	< 0.001
General psychopathology	0.968	< 0.001

TABLE IV. Promax rotated matrix of PANSS score*

	Items	Loading factors
Factor 1		
Blunted affect	N1	0.802
Emotional withdrawal	N2	0.890
Poor rapport	N3	0.935
Passive apathetic social withdrawal	N4	0.950
Difficulty in abstract thinking	N5	0.800
Lack of spontaneity and flow of conversation	N6	0.812
Stereotyped thinking	N7	0.674
Mannerisms and posturing	G5	0.731
Motor retardation	G7	0.637
Uncooperativeness	G8	0.508
Disorientation	G10	0.874
Poor attention psychopathology	G11	0.717
Lack of judgment and insight	G12	0.651
Disturbance of volition psychopathology	G13	0.804
Active social avoidance	G16	0.544
Factor 2		
Delusions	P1	0.942
Conceptual disorganization	P2	0.733
Hallucinatory behavior	P3	0.787
Grandiosity	P5	0.866
Suspiciousness persecution	P6	0.704
Hostility	P7	0.458
Unusual thought content	G9	0.847
Poor impulse control	G14	0.500
Factor 3		
Excitement	P4	0.562
Somatic concerns psychopathology	G1	0.712
Anxiety	G2	0.841
Guilt feelings	G3	0.768
Tension	G4	0.848
Depression	G6	0.509
Preoccupation	G15	0.566

* Cronbach's alpha: For positive symptoms = 0.877; For negative symptoms = 0.933; For general psychopathology = 0.926; Total PANSS = 0.961.

Reliability

The internal consistency as showed by Cronbach alphas were higher than the original scale ¹⁰ and that

of Qatar ³ and Brazil ¹⁷. Another way to verify the reproducibility of the questionnaire was to use correlation coefficients, as the one proposed by Kirshner and

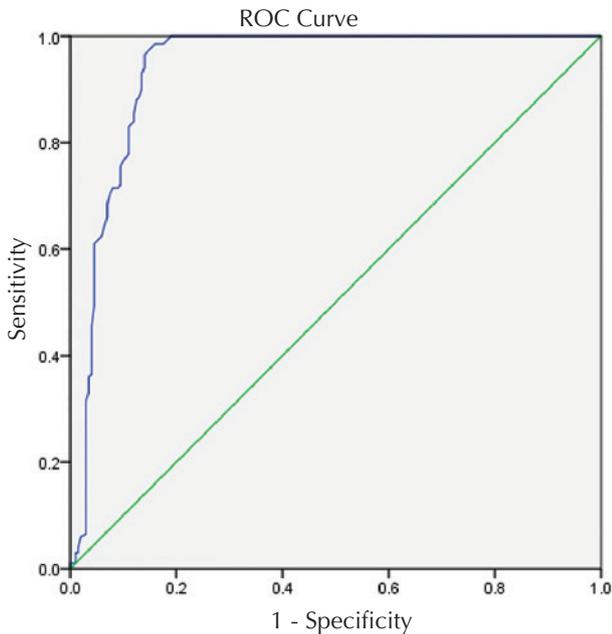


FIGURE 1. ROC curve of PANSS scale. Schizophrenic patients and healthy control were analyzed. Area under the curve = 0.937 [0.910-0.964] ($p < 0.001$); at value = 35.50, Se = 99.5% and Sp = 81.5%.

Guyatt¹⁸. The correlation coefficients showed a high correlation between each item of the PANSS questionnaire and the disease. Moreover, all the items correlated well with the composite score supporting the good internal reliability of this version of the scale similar to the findings by Kay et al.¹⁰.

Validity

The construct validity of the Arabic version of the PANSS was addressed by calculating the sensitivity and specificity of the scale. Our scale properties are also better than those of other researchers: we obtained in a case finding situation a sensitivity of 99.5% and a specificity of 81.5%, and an Area Under the Curve (AUC) of 0.937. These excellent results may be due to the fact that we compared individuals with schizophrenia versus others with no psychiatric disease.

In the first factor structure study of the PANSS, Kay & Sevy¹⁹ found four factors (negative, positive, excited, and depressive) in an American population. Most recent studies found five to seven factors²⁰⁻²². Our model accounted for almost 65% of the variance, higher than most of the conducted studies²³⁻²⁵. The factor analysis in our study converged over 3 factors versus 4 factors in the original version¹⁰ and 5 factors in the Brazilian version²³.

Factors affecting the total PANSS score

Gender differences have been widely observed in the clinical presentation, psychosocial functioning and course of illness in people with first-episode and chronic schizophrenia^{26 27}. Gender effects have been reported quite consistently in schizophrenia, with male patients having an earlier age of onset, poorer functional outcome, greater negative symptoms and cognitive impairment, and less severe positive symptoms²⁸. Male gender was correlated with a higher total PANSS score. Our results consolidate the previous findings that also found that schizophrenic men show more negative symptoms such as social withdrawal, blunted affect, poverty of speech and anhedonia^{29 30}. Previous research has consistently indicated that female patients have a later age of onset, fewer negative symptoms, better premorbid social functioning, less extensive cognitive impairment, and a better overall functional outcome than male patients²⁸.

The relationship between socio-economic status and schizophrenia has been the subject of much research as well. Parental education and low familial socio-economic status may also be risk factors for poor outcome in schizophrenia³¹. As schizophrenia occurs more commonly in children of parents with less education, such as in immigrant and/or urban families^{32 33}, it is also possible that patients with schizophrenia grow up in low socio-economic status environments only to end up even lower. Our results were in agreement with these previous findings.

Limitations

The present study has few limitations. First, this preliminary study recruited a relatively small sample of Lebanese schizophrenics, but the sample size is compa-

TABLE V. Linear regression with the total PANSS score as the dependent variable in schizophrenic patients only.

	Unstandardized beta	Standardized beta	p-value	95% CI	
Low socio-economic level	13.139	0.326	< 0.001	7.570	18.708
Gender	-8.614	-0.226	0.001	-13.884	-3.345

Variables entered in the linear regression: age, gender, family history of mental disorders, history of medical illness, geographic region, marital status, education level, and socioeconomic level.

rable to previous pilot studies done in the original and the other translated versions. Further larger studies are needed to confirm our findings. Our study recruited patients from one hospital only and thus might cause a selection bias.

Conclusions

This study shows that the Arabic version of the PANSS has promising psychometric properties, and thus it is a good tool to use for measuring symptom severity in pa-

tients with schizophrenia. Based on this study, health care professionals and researchers can readily use the PANSS questionnaire among psychiatric patients in Lebanon. It is recommended to be used as a routine screening test to identify schizophrenia in all Arabic-speaking populations, including the Gulf and most North African countries, and in all Arab immigrants around the world.

Conflict of interest

None to declare.

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Predictive factors of anxiety and depression symptoms in patients with breast cancer undergoing chemotherapy. An explorative study based on metacognitions

Summary

Objectives

Chemotherapy is a treatment associated with a decrease in the patient's quality of life. Negative emotions as depressive and anxiety symptoms are common during treatment for non-metastatic breast cancer. Many studies have found a link between dysfunctional metacognitive beliefs and psychopathology. However this relationship remains unclear in patients with breast cancer during chemotherapy. Aim of the study was to explore how metacognitions predict anxiety and depression in breast cancer patients undergoing chemotherapy.

Materials and Methods

A convenience sample of 80 breast cancer patients undergoing chemotherapy in an outpatient clinic completed a demographic questionnaire, the Metacognitions Questionnaire 30 (MCQ-30), and the Hospital and Anxiety Depression Scale (HADS). Medical information about the stage of disease and the history of treatment was provided. A correlational analysis was performed to explore relationships between metacognitions and psychological symptoms. To examine the independent role of metacognitions to predict anxiety, depression, and overall distress (anxiety and depression), three hierarchical regression analyses were conducted.

Results

Results of correlational analysis has shown that negative beliefs were highly correlated with anxiety and depression. Cognitive confidence and positive beliefs factors did not show significant correlation coefficients with anxiety and depression. Moreover, need to control thoughts were moderately correlated with anxiety and depression. Finally, cognitive self-consciousness had a low correlation coefficients with anxiety but not with depression. Results of regression analysis has shown that negative beliefs were a significant predictor of anxiety. The final model predicted the 64% of variance for anxiety. Regarding depression, the final model was not significant. However, negative beliefs were a significant predictor of depression. Finally, negative beliefs were a significant predictor of overall distress. The final model explained the 46% of variance for overall distress.

Conclusions

There are specific correlations between metacognitions and anxiety and depression in breast cancer undergoing chemotherapy. Moreover, negative beliefs is the strongest predictor for anxiety, depression, and overall distress. The metacognitive approach could have positive effects on breast cancer undergoing chemotherapy.

Key words

Breast Cancer • Anxiety • Depression • Metacognition • Chemotherapy

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Introduction

Cancer patients during chemotherapy often have to deal with numerous side effects and psychological distress¹. In fact, chemotherapy is a treatment associated with a decrease in the patient's quality of life². Cancer and chemotherapy side effects concern daily activities, employment and sexual life of patients³. Physical problems as fatigue, memory and concentration problems, are associated with demoralization⁴. Furthermore,

one in four cancer patients is depressed with more high percentage for brain tumours and thyroid cancer ⁵.

Regarding breast cancer, negative emotions as depressive symptoms are common during treatment for non-metastatic breast cancer ⁶. Patients with *in situ* cancer presented an increased incidence of stress-related disorders during the first 6 months after diagnosis ⁷. Anxiety and depression symptoms improved over the time even if a significant percentage of patients had elevated anxiety and depression at the follow-up after 18 months diagnosis ⁸. However, initial cancer severity and the type of treatment used were not associated with Major Depressive Disorder (MDD) or Generalized Anxiety Disorder (GAD) seven months after diagnosis ⁹.

On the other hand, breast cancer with personality disorders are at higher risk for GAD and MDD at the end of treatment. Pre-treatment patient characteristics were predictive of reduced quality of life ¹⁰. Specifically, young patients with breast cancer can be considered a target to psychological support to improve their quality of life after side effects of treatments ¹¹. Difficulty in emotional processing and defense mechanisms might be potential targets of psychological intervention for patients with breast cancer for improvement psychological adjustment ¹².

At this regard, Wells and Matthews ¹³ have argued for the central role of metacognition to development anxiety and depression. Hence, dysfunctional metacognitive beliefs are the basis for the development and maintenance of psychological disorders ¹⁴. There is a link between metacognitive processes and psychopathology also in childhood ¹⁵. Metacognition is defined as "the aspect of information processing that monitors, interprets, evaluates and regulates the contents and processes of its organization" ¹⁶. Vulnerability and maintenance of emotional disorders are associated with a non-specific style of thinking called the Cognitive-Attentional Syndrome (CAS) ¹⁷. The CAS consists of repetitive negative thinking in the process of worry and rumination that is driven by positive and negative beliefs about worry, concerning uncontrollability and danger, and limitations on executive controls. On these basis Wells constructed a metacognitive theory for emotional disorders and also developed self-report instruments for assessing dysfunctional metacognitive beliefs as MCQ-30 ¹⁸⁻¹⁹.

Many studies have found that metacognitive beliefs are involved in a wide array of conditions, such as anxiety disorder ²⁰, obsessive-compulsive symptoms ²¹, schizophrenic disorders ²²⁻²³, anorexia nervosa ²⁴, alcohol abuse ²⁵, eating disorders ²⁶, and Amyotrophic Lateral Sclerosis (ALS) patients' caregivers ²⁷. Moreover, in the last decade empirical research has explored the role of metacognitions in non-clinical sample. In this perspective, a recent research has found a relationships

between metacognitions and coping strategies in palliative home care workers ²⁸.

Metacognitive beliefs has a crucial role also for cancer patients during chemotherapy ¹. In fact, negative beliefs explained the 61% variance for anxiety. On the other hand, age, negative beliefs and cognitive self-consciousness explained the 39% variance for depression. However, there are no study that had examined the role of some medical aspects of cancer as the types of tumor. This study is the first attempt to examine the relationships between metacognitions and anxiety and depression in breast cancer patients undergoing chemotherapy. A clinical group of breast cancer patients undergoing chemotherapy participated in this study and two hypotheses were examined.

The first was to examine the relationships between metacognitive beliefs, anxiety, and depression in breast cancer patients during chemotherapy. We hypothesized significant and positive correlations between metacognitive factors, anxiety, and depression. More specifically we hypothesized that negative beliefs about worry concerning uncontrollability and danger were strongly correlated with both anxiety and depression.

The second was to explore the role of metacognitions in predicting anxiety and depression. If metacognitive beliefs can be considered as relatively stable traits that pre-exist emotional disorders ^{18 29}, it is likely that they can explain variance in symptoms of anxiety and depression in cancer patients that are undergoing chemotherapy. We hypothesized that negative beliefs about worry concerning uncontrollability and danger and cognitive self-consciousness were the strongest predictors for both anxiety and depression.

Methods

Participants

A convenience sample of 80 breast cancer patients undergoing chemotherapy in an oncological department of a university hospital in southern Italy participated in this study. Patients were recruited on a voluntary basis and were informed about the aim of the study before to sign an informed consent sheet.

All patients were native Italian speakers and Italian nationals. Sociodemographics and medical characteristics of the sample are presented in Table I. The mean age was 56.09 years (SD = 13.00; range = 27-82), and the level of education in years was 11.88 (SD = 4.12; mode = 13; median = 13). Eighty-five percent were married, and in terms of occupation, 69% were unemployed.

With respect to medical status, the majority of the patients (80%) had cancer in stage I. All patients were previously treated with surgical therapy and then admit-

TABLE I. Demographic and medical characteristics of the sample.

Demographic and medical characteristics	%	Mean (SD)
Age		56.09 (13.00)
Status		
Single (or separated/widowed)	85	
Married	15	
Level of education (years)		11.88 (4.12)
Employment status		
Employed	31	
Unemployed	69	
Stage		
I	80	
II and III	20	
Months undergoing chemotherapy		10.94 (12.77)

ted at the outpatient clinic. All patients were treated with chemotherapy and the mean of treatment was 10.94 months (SD = 12.77). Exclusion criteria included pre-existing psychopathology or neurological disorders that would interfere with the completion of the measures. An a priori power analysis, conducted using G*Power³⁰ – version 2, ensured that the sample sizes were sufficient to yield adequate statistical power for the procedures conducted in our study. More specifically, to detect a significant finding with 7 predictors (at the .05 level) at a desired power level of .8, a minimum of 49 participants were required.

Instruments

Sociodemographic information included age, gender, educational degree, nationality, marital status.

Medical information included data on the stage of the disease and the history of treatment.

Metacognitions Questionnaire-30^{18 19}. This is a 30 item self-report questionnaire, which measures a range of metacognitive beliefs and processes relevant to vulnerability and maintenance of emotional disorders. The items are rated on a 4-point Likert scale from 1 (*do not agree*) to 4 (*completely agree*). The items are grouped into five subscales, as in the original version²⁹. Factorial analysis has shown the presence of five factors: cognitive confidence, which measures confidence in attention and memory (*Cognitive confidence, CC*); cognitive self-consciousness, which measures the tendency to monitor one’s own thoughts and focus attention inward (*Cognitive self-consciousness, CSC*); positive beliefs about worry, which measures the extent to which a person thinks that perseverative thinking is useful (*Positive beliefs about worry, POS*); negative beliefs about worry concerning

uncontrollability and danger, which assess the extent to which a person thinks that perseverative thinking is uncontrollable and dangerous (*Negative beliefs about uncontrollability and danger, NEG*); beliefs about the need to control thoughts, which assesses the extent to which a person believes that certain types of thoughts need to be suppressed (*Need to control thoughts, NC*). A high score on each factor is considered dysfunctional. The MCQ-30 is a brief, reliable and valid self-report measure of metacognitions^{29 31}. In this study, a validated Italian version of the MCQ-30 was used to assess metacognitive beliefs¹⁸. Results of the Italian version of MCQ-30 indicated, as in the original version, direct correlations between metacognitive factors (except for CSC) and state and trait anxiety, pathological worry, and obsessive-compulsive symptoms. Reliability of all five factors in the present clinical group was acceptable to good, with Cronbach’s α ranging between .70 and .87 for the different scales.

Hospital Anxiety and Depression Scale^{32 33}. This is a 14 item self-report scale that is divided into two dimensions, each composed of 7 items. The two subscales provide a measure of anxiety (HADS-A) and depression (HADS-D). The HADS is specifically designed for assessing physically ill patients and is used with medical outpatients. Respondents choose one from four responses to each item. Their responses are then summed within dimensions and a total score for each dimension, as well as both dimensions, are obtained. Scores can range from 0 to 21 for each subscale; high scores indicating higher levels of anxiety and depression. According to the authors of the HADS, scores for the anxiety dimension and the depression dimension can be categorized as follows: 0-7, normal; 8-10, mild; 11-14, moderate; 15-21, severe. Moreover, scores for the entire scale assess overall emotional distress and range from 0-42, with higher scores indicating more distress. The HADS has been employed among a wide range of clinical groups. Results of an Italian study with a sample of breast cancer patients indicated a total score for both dimensions of 10 points, 10 being the cut-off score for psychological distress³⁴. Reliability of the two factors in this present sample was good, with Cronbach’s α of .77 for depression scale and .85 for anxiety scale.

Statistical analyses

Data obtained from this research was checked and subsequently analyzed by descriptive statistical analysis and modeling. Descriptive statistics were calculated for MCQ-30, HADS, and for sociodemographic and medical information. Pearson correlation coefficients were calculated to examine the bivariate associations among study variables. To examine the independent role of metacognitions to predict negative emotions, the hierarchical regression analyses is conducted. In the

TABLE II. Descriptive statistics (mean with standard deviations in parentheses) and zero-order correlations for all the variable observed.

Variable	M (SD)	1	2	3	4	5	6	7	8
1. HADS Anxiety	7.43 (4.34)								
2. HADS Depression	5.86 (3.63)	.57**							
3. HADS Total score	12.79 (7.40)	.91**	.87**						
4. MCQ-30 Positive beliefs	9.91 (4.44)	.19	-.08	.08					
5. MCQ-30 Negative beliefs	13.13 (4.63)	.76**	.54**	.68**	.02				
6. MCQ-30 Cognitive confidence	10.89 (4.36)	.21	.20	.26*	-.08	.19			
7. MCQ- 30 Need to control thoughts	14.16 (3.44)	.35*	.31**	.38**	.07	.44**	.10		
8. MCQ-30 Cognitive self-consciousness	18.41 (2.89)	.30**	.06	.26*	.33**	.27*	.06	.47**	
9. MCQ-30 total score	66.50 (11.47)	.64**	.37**	.59**	.47**	.68**	.47**	.66**	.65**

HADS: Hospital anxiety and depression scale; MCQ-30: short version of the Metacognitions Questionnaire. * $p < .05$. ** $p < .01$.

first step we insert the age as demographic variable, in second step the “duration of chemotherapy”, then stepwise entry of the metacognitive factors. So the latter were controlled on step 1 and 2.

In stepwise multiple regression the independent variables are entered according to their statistical contribution in explaining the variance in the dependent variable. The procedure is designed to find the most parsimonious set of predictors that are most effective in predicting the dependent variable, so it excludes variables that do not contribute to explaining differences in the dependent variable.

To validate the three stepwise regression models, the data set was randomly split into a 75% training sample and a 25% validation sample. The training sample was used to develop the model, test its effectiveness on the validation sample and test the applicability of the model to cases not used to develop it. For the models presented in Table III, the shrinkage (R^2 for the training sample 75% - R^2 for the validation sample 25%) was not more than 3% (results not shown).

Results

Table II shows the mean scores, and zero-order correlations for all the observed variables. Examination of the metacognitive factors the results showed that negative beliefs had the strongest correlation both with anxiety ($r = .76$; $p < .01$) and depression ($r = .54$; $p < .01$). Cognitive confidence did not show significant correlation coefficients with anxiety and depression. However, cognitive confidence showed a low correlation coefficient with overall distress ($r = .26$; $p < .05$). Regarding positive beliefs, there were not significant correlation coefficients with anxiety, depression, or overall distress. Need to control thoughts were weekly and positively correlated with

anxiety ($r = .35$; $p < .01$), depression ($r = .31$; $p < .01$), and overall distress ($r = .38$; $p < .01$). Cognitive self-consciousness had a low correlation coefficients with anxiety ($r = .30$; $p < .01$) and overall distress ($r = .26$; $p < .01$), but not with depression. The total score of MCQ was positively related with all the other observed variables.

Table III shows a summary of the regression analyses. A series of stepwise multiple-regression equations were constructed to examine the role of the metacognitive factors in predicting negative emotions of patients in chemotherapy. Before stepwise entry of the metacognitive factors, age and duration of chemotherapy were controlled on step 1 and 2.

The first regression equation examined the effect of metacognitive factors in predicting anxiety. In the first step, age was not a significant predictor ($p < .05$). In the second step, age and the duration of chemotherapy were not a significant predictor of anxiety in breast cancer undergoing chemotherapy ($p < .05$). In the third step, only negative beliefs were a significant predictors ($p < .05$). the model predicted a good portion of variance for anxiety (64 per cent considering the adjusted R^2 to correct for the number of predictors).

The second regression equation examined the role of metacognitive factors to predict depression during chemotherapy. As for anxiety, age at the first step and duration of chemotherapy were not a significant predictors ($p < .05$). At the third step, only negative beliefs were a significant predictor ($p < .05$) of depression in breast cancer patients undergoing chemotherapy. However, the final model was not significant to explain depression in breast cancer undergoing chemotherapy.

The third equation examined the role of the metacognitive factors to predict both anxiety and depression, considering emotional distress as an overall presence during chemotherapy. As for anxiety and depression,

TABLE III. Predictors of anxiety, depression and overall distress.

	b	T	P	R²	Adj R²	F	P
I – Anxiety							
Step 1				0.01	0.02	0.22	.64
Age	0.08	0.47	.64				
Step 2				0.06	0.00	1.01	.38
Age	0.09	0.51	.61				
Months undergoing chemotherapy	0.23	1.34	.19				
Step 3				0.71	0.64	9.47	.00
Age	0.01	0.12	.90				
Months undergoing chemotherapy	0.02	0.22	.83				
MCQ-30 Positive beliefs	0.11	0.96	.34				
MCQ-30 Negative beliefs	0.83	6.71	.00				
MCQ-30 Cognitive confidence	-0.05	-0.40	.69				
MCQ-30 Need to control thoughts	-0.09	-0.64	.53				
MCQ-30 Cognitive self-consciousness	0.13	1.06	.30				
II - Depression							
Step 1				0.02	0.02	0.59	.45
Age	0.13	0.77	.45				
Step 2				0.07	0.01	1.10	.34
Age	0.13	0.80	.43				
Months undergoing chemotherapy	0.22	1.27	.21				
Step 3				0.32	0.14	1.78	.13
Age	0.09	0.50	.62				
Months undergoing chemotherapy	0.08	0.48	.63				
MCQ-30 Positive beliefs	0.04	0.20	.84				
MCQ-30 Negative beliefs	0.51	2.71	.01				
MCQ-30 Cognitive confidence	-0.13	-0.76	.45				
MCQ-30 Need to control thoughts	0.11	0.49	.63				
MCQ-30 Cognitive self-consciousness	-0.20	-1.04	.31				
III – Overall distress							
Step 1				0.01	-0.02	0.21	.65
Age	0.08	0.46	.65				
Step 2				0.70	0.14	1.25	.30
Age	0.09	0.51	.61				
Months undergoing chemotherapy	0.25	1.51	.14				
Step 3				0.57	0.46	5.29	.00
Age	0.01	0.08	.93				
Months undergoing chemotherapy	0.07	0.55	.58				
MCQ-30 Positive beliefs	0.11	0.83	.41				
MCQ-30 Negative beliefs	0.72	4.89	.00				
MCQ-30 Cognitive confidence	-0.09	-0.67	.51				
MCQ-30 Need to control thoughts	-0.07	-0.04	.97				
MCQ-30 Cognitive self-consciousness	0.04	0.29	.77				

The table shows the standardized regression coefficients (β), the t test on individual coefficients (T), the p values of T (Sig of T); the R² and the adjustment R² to correct for the number of predictor, and the F change statistic for each step, the p values of F change statistic (Sig of F change).

gender and the duration of chemotherapy were not a significant predictors ($p < .05$) of emotional distress. At the third step, negative beliefs were a significant predictor of emotional distress in breast cancer during chemotherapy. Considering the adjusted R^2 correct for the number of predictors, the final model explained the 46 per cent of variance for emotional distress.

Discussion

In this study, our goal was to examine the relationships between metacognitions and emotional distress (anxiety and depression) in breast cancer patients undergoing chemotherapy. We tested two hypotheses and two main results emerged from our study.

The first aim was to explore the association between metacognitions and emotional distress. Consistent with a recent study on metacognitions and emotional distress in cancer patients¹, dysfunctional metacognitive beliefs were positively associated with both anxiety and depression. Negative beliefs about worry concerning uncontrollability and danger showed a strong correlation with anxiety. Negative beliefs were also correlated with depression, but to a lesser degree. Hence, the extent to which a breast cancer patient during chemotherapy thinks that perseverative thinking is uncontrollable and dangerous is strongly related to the presence of anxiety and depression.

Furthermore, results had shown two specific relationships for breast cancer patients. Need to control thoughts, was positively related both to anxiety and depression but only weakly. In addition, cognitive confidence and positive beliefs were not related with anxiety and depression. Hence, the extent to which a breast cancer believes that certain types of thoughts need to be suppressed is related with anxiety and depression. On the other hand, confidence in attention and memory has a marginal role for anxiety and depression in breast cancer.

Another metacognitive factor, cognitive self-consciousness, was weakly related with anxiety but not with depression. Therefore, the tendency to monitor one's own thoughts and focus attention inwards has only for anxiety. Finally, positive beliefs was not related with both anxiety and depression.

The second aim of this study was to explore the independent role of metacognitions while controlling for age and duration of chemotherapy.

Past studies have shown that metacognitive factors are relatively stable traits that exist before the onset of emotional disorders¹⁸ and can explain symptoms of emotional distress during chemotherapy¹. To test whether metacognitive factors could independently predict anxiety, depression, and overall distress in breast cancer patients during chemotherapy, three regression analyses were conducted. Results highlighted that negative

beliefs was important predictor for negative anxiety, depression, and overall distress.

Specifically, the first equation showed that negative beliefs about worry concerning uncontrollability and danger explained a high portion of variance for anxiety (64% considering the adjusted R^2). No other metacognitive factors have shown a significant role in predicting anxiety level in breast cancer undergoing chemotherapy. In addition, results of this research showed that both age and months undergoing chemotherapy did not have an impact on anxiety levels of patients.

Results of the second equation showed that the negative beliefs was a significant predictor of depression. However, the model was not significant for explained depression scores of breast cancer patients undergoing chemotherapy. Differently from a recent study with patients undergoing chemotherapy¹, cognitive self-consciousness did not show a role to predict depression in breast cancer. Furthermore, age and duration of chemotherapy did not have an impact on depression scores.

Finally, the third regression analysis examined the role of metacognitive factors to predict overall distress (anxiety and depression) in breast cancer patients undergoing chemotherapy. The final model was statistically significant and explained the 46% of variance for emotional distress. On the other hand, only negative beliefs was a significant predictor. As for anxiety and depression, the other metacognitive factors and age and duration of chemotherapy did not show a significant role in the model.

This study aims to examine the role of metacognitions in breast cancer patients undergoing chemotherapy. Past studies have shown the role of metacognitions as vulnerability factors to predicting development of psychological symptoms. Moreover, a recent study has explored this relationship in cancer patients undergoing chemotherapy¹. In this perspective, the present research was aimed to explore the relationships between metacognitions and psychological symptoms in breast cancer.

However there are a number of limitations that should be addressed by future research. A major limitation was the small size of the sample. Moreover, future research should be take account the role of medical aspects, such as the time elapsed after diagnosis.

If confirmed by future research, results of this study would have important implications in clinical practice. In fact, metacognitive approach¹⁷ could have positive effects on breast cancer patients undergoing chemotherapy. At this regard, a time-limited group therapy can be efficacy for MS patients³⁵.

Conflict of interest

None to declare.

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Neurological soft signs in schizophrenia: gender differences and promising suggestions

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Summary

Objective

Neurological soft signs in schizophrenia have been widely discussed, and have been of great interest to many psychiatrists and neuroscientists. Clinical gender differences have been widely detected in schizophrenia, and soft sign studies might help us relate these clinical differences to neurological abnormalities. Our aim was to look for gender differences in “developmental reflexes” soft signs in schizophrenia.

Methods

Fifty patients with schizophrenia and 50 healthy individuals were enrolled in this study. The Neurological Evaluation Scale was used in order to assess for all soft signs in normal subjects and in schizophrenia patients.

Results

Schizophrenia subjects scored significantly higher than normal subjects in terms of the total NSS score. Male schizophrenia subjects scored significantly higher than female schizophrenia subjects in terms of the glabellar reflex score, and total NSS score of all soft signs.

Conclusions

Gender differences in the glabellar reflex might suggest differences in the etiology of the illness between the genders. We think that these differences might involve the basal ganglia. Future studies involving larger samples might confirm these differences.

Key words

Schizophrenia • Glabellar reflex • Neurological evaluation scale • Neurological soft sign • Basal ganglia

Introduction

Defined as “non-localizing abnormalities without diagnostic specificity”¹, neurological soft signs (NSS) represent a tool that is independent of the disorder’s core signs and symptoms. However, they reflect significant notions regarding the disorder’s developmental etiology.

Many studies have focused on comparing three sets of NSS scores: those of patients, those of their normal first degree relatives, and those of normal non relative subjects. In fact, most of these studies showed that patients had the highest NSS scores among the three sets, and the first degree relatives, although normal, showed scores that were lower in number than those of patients but higher than those of the normal non-related subjects². This has suggested a genetic, developmental etiology governing schizophrenia.

A wide variety of other studies has shown the abundance of gender differences in schizophrenia. These studies showed males having the disorder more commonly than females, with a slight difference in prevalence³.

Males showed a peak at early adulthood, while females presented two peaks: the first slightly later than that of males, and the second around

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menopause. Another study conducted by Lane et al. showed that males, whose mothers suffered from obstetric complications, had higher NSS scores, while females showing high NSS scores had a family history of schizophrenia. However the study didn't discuss any differences in NSS subscores between the sexes⁴. Furthermore, differences in function and severity were also assessed, with males showing a lower functioning ability prior to their first psychotic break, suggesting the earlier appearance of abnormalities in males than in females⁵. Finally, women with schizophrenia tended to continue to have better outcomes than males regarding their social functioning⁵⁻⁷. In fact these clinical differences need to be explained neurologically, and we think that NSS studies might help us define the targets and the aims of future neurological studies.

From a metabolic perspective, the metabolic activity of the caudate nucleus has been studied in schizophrenia, with the results showing an abnormal metabolism within the basal ganglia in schizophrenia, with the most severe abnormality being reported in patients with developmental reflexes. These patients showed an earlier age of psychosis' onset⁸.

Our study aims at assessing whether gender differences in "Developmental Reflexes" soft signs do exist in schizophrenia.

Methods

Study design and sample

The study was performed between January 2014 and May 2014, on patients diagnosed with schizophrenia at the Psychiatric Hospital of the Cross (HPC)-Lebanon, the oldest and largest psychiatric institution in Lebanon and the Middle East, and on normal subjects. Normal subjects were chosen randomly from the general population. A total of 100 participants, 50 patients and 50 controls, were enrolled in the study. In addition, patients' demographic and clinical data were collected from patient reports saved at HPC. Patients were diagnosed with schizophrenia according to DSM-IV by psychiatrists of the hospital. Patients with mental retardation, any acute or chronic medical disease, schizoaffective disorder, substance abuse, or patients who have undergone electro-convulsive therapy (ECT) in the previous 6 months, were excluded from the study. Normal subjects with any mental retardation, medical condition, or substance abuse were also excluded. Both samples were matched for sex and age. Males and females were also matched for age, duration of illness and neuroleptic dose. Written informed consent was obtained from all participants before the study was initiated. The study received the approval from the institutional review board of the hospital.

Tools

Patients' demographic characteristics and medical history were collected from the patient files. All subjects' neurological soft signs were examined by a senior psychiatrist at the hospital. The neurological evaluation scale (NES)⁹ was used for this purpose. NES is a structured scale which includes 26 items in four subscales (motor coordination, sensory integration, sequencing of complex motor acts and others). Each item is rated on a scale of 0-2 (0 = relatively normal, 1 = some disruption, 2 = major disruption). The motor coordination subscale includes information about tandem walk, rapid alternating movements, finger-thumb opposition and the finger-to-nose test. The sensory integration subscale includes information about audiovisual integration, stereognosis, graphesthesia, extinction and right/left confusion. Sequencing of motor acts investigates the fist-ring test, the fist-edge-palm test, the Ozeretski test and rhythm-tapping test B. Others include adventitious overflow, the Romberg test, tremor, memory, mirror movements, rhythm tapping test A, synkinesis, convergence, gaze impersistence, glabellar reflex, snout reflex, grasp reflex and sucking reflex (Buchanan & Heinrichs, 1989). We created a total of all soft signs by adding all the score of all the signs (walk, Romberg, overflow, tremor, audiovisual, stereogenesis, graphesthesia, FR, FEP, Ozeretski, memory, rhythm A, rhythm B, RAM, FT opposition, mirror, extinction, RL confusion, synkinesis, convergence, gaze, finger, glabellar, snout, grasp, suck). Chlorpromazine equivalents of the neuroleptic medication that the patients were taking at the time of the study were calculated based on the method of Andreasen et al.¹⁰.

Statistical analysis

Data analysis was performed on SPSS software, version 22. Two sided statistical tests were used; Chi-2 and the Fischer's exact tests for dichotomous or multinomial qualitative variables and student's t test for quantitative variables of normal distribution and homogeneous variances. A p-value of less than 0.05 was considered as statistically significant.

Results

Socio-demographic characteristics

Fifty-two percent of the normal subjects were females versus 58% in the schizophrenia group. Half of the non-schizophrenia patients were aged between 41-50 years, compared to 40% aged between 41-50 years in the schizophrenia group (Table I). All patients were clinically stable.

Table II displays the gender differences in the duration of illness and the total daily dose of chlorpromazine equivalent in patients with schizophrenia. The results

TABLE I. Sociodemographic characteristics of the participants.

Factor	Non schizophrenia	Schizophrenia	p-value
Gender			0.546
Male	24 (48%)	24 (48%)	
Female	26 (52%)	26 (52%)	
Age in years			0.528
20-30	5 (10%)	3 (6%)	
31-40	15 (30%)	19 (38%)	
41-50	25 (50%)	20 (40%)	
51-60	(10%)	8 (16%)	

showed that there were no significant gender difference in the duration of illness ($p = 0.27$) or in the total daily dose of medication doses (1041 ± 544 vs 1450 ± 1175 ; $df = 35.85$; $p = 0.118$).

Regarding the glabellar reflex, a significantly higher percentage of males having four or five blinks or more than six partial blinks and those with 6 or more full blinks (87.5% and 88.9%) as compared to females (12.5% and 11.1%) in the schizophrenia group ($p = 0.001$). In addition, there was a significant difference for the glabellar reflex and the snout sign between persons with schizophrenia versus those without schizophrenia in favor of those with schizophrenia ($p = 0.006$ and $p = 0.025$). As for the suck sign, a significant difference was found between patients with schizophrenia compared to those without schizophrenia (32% vs 10%) (Table III).

Discussion

In the present study our male schizophrenia patients scored higher than females in terms of the glabellar reflex soft sign.

We used the Neurological Evaluation Scale⁹ for the NSS calculation, which has been used in many previous studies. Our results were in line with those of other studies. Any possible involvement of neuroleptic medication effects can be excluded since to many studies succeeded in proving the absence of any effect on soft signs the medication might have^{11 12}. One previous study has succeeded in associating the increase in male schizophrenia soft sign scores with obstetric complications, and the increase in female schizophrenia score with genetic history⁴. However, the study didn't discuss any gender difference in the soft sign scores themselves.

The caudate nucleus was shown to play roles in emotion control and decision control^{9 13}, which are both known to be abnormal in schizophrenia¹⁴. Another study has suggested that striatal-cortical dysconnectivity may underlie the effects of dopamine dysregulation on the pathophysiologic mechanism of psychotic symptoms¹⁵. Therefore we think that the glabellar reflex soft sign, which is at least in part controlled by the caudate¹⁶ might suggest a difference in brain pathology between the genders, that might involve the caudate. This needs to be confirmed by future studies. We think that focusing on the caudate and other basal ganglia must be the first step towards understanding the possible gender differences characterizing schizophrenia. However other brain structures might govern those gender differences, like the prefrontal cortex, brainstem or the limbic system. In schizophrenia, higher NSS were associated with reduced cortical thickness and LGI in fronto-temporo-parietal brain areas¹⁷. We presume that detecting those brain differences can explain the clinical gender differences governing schizophrenia, and can go further towards a new gender based classification. Any classification that is based on solid scientific facts will ultimately enhance the diagnosis and the treatment of schizophre-

TABLE II. Gender differences for the duration of illness and the daily dose of chlorpromazine equivalent in patients with schizophrenia.

		Gender		p-value
		Female	Male	
		Frequency (%)	Frequency (%)	
Duration of illness in years	< 10	10 (41.7%)	5 (19.2%)	0.270
	10-20	7 (29.2%)	14 (53.8%)	
	20-30	6 (25.0%)	6 (23.1%)	
	30-40	1 (4.2%)	1 (3.8%)	
	Mean \pm SD	Mean \pm SD		
Daily dose of chlorpromazine equivalent		1041 \pm 544	1450 \pm 1175	0.118

TABLE III. Differences in developmental reflex scores between the genders.

	Subjects without schizophrenia			Patients with schizophrenia			P-value		
	Female	Male	Total	Female	Male	Total	Males vs females in the non-schizophrenia group	Males vs females in the schizophrenia group	Non-schizophrenia vs schizophrenia group
Glabellar									
Three or fewer blinks	23 (52.3%)	21 (47.7%)	44 (88.0%)	22 (66.7%)	11 (33.3%)	33 (66.0%)	0.221	0.001	0.025
Four or five full blinks or more than six partial blinks	3 (75.0%)	1 (25.0%)	4 (8.0%)	1 (12.5%)	7 (87.5%)	8 (16.0%)			
Six or more full blinks	0 (0.0%)	2 (100.0%)	2 (4.0%)	1 (11.1%)	8 (88.9%)	9 (18.0%)			
Snout									
No contraction	26 (52.0%)	24 (48.0%)	50 (100.0%)	21 (48.8%)	22 (51.2%)	43 (86.0%)	N/A	0.769	0.006
Any contraction	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (42.9%)	4 (57.1%)	7 (14.0%)			
Grasp									
No flexion of fingers	25 (51.0%)	24 (49.0%)	49 (98.0%)	23 (52.3%)	21 (47.7%)	44 (88.0%)	0.332	0.134	0.131
Mild flexion	1 (100.0%)	0 (0.0%)	1 (2.0%)	0 (0.0%)	4 (100.0%)	4 (8.0%)			
Marked flexion	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (50.0%)	1 (50.0%)	2 (4.0%)			
Suck									
No movement	23 (51.1%)	22 (48.9%)	45 (90.0%)	14 (41.2%)	20 (58.8%)	34 (68.0%)	0.706	0.159	0.007
Any sucking or pursing	3 (60.0%)	2 (40.0%)	5 (10.0%)	10 (62.5%)	6 (37.5%)	16 (32.0%)			
Total score	1.80 ± 3.46	1.00 ± 2.22	1.42 ± 2.93	16.29 ± 6.70	15.84 ± 7.85	16.06 ± 7.25	0.329	0.830	< 0.001

nia. For example, if male schizophrenia was shown to be basal ganglia related, medications that target the basal ganglia must be the mere focus when treating a male schizophrenia patient.

Although it has been shown by many studies that NS-Ss are not affected by antipsychotic medication^{12,18}, we thought that when comparing a single soft sign between two groups, it would be mandatory to show that the two samples match for medication doses. Nevertheless neuroleptic medication might affect the severity of a neurological soft sign. In fact, no significant difference in chlor-

promazine equivalent doses was found between genders. Although we couldn't compute the year-dose equivalents of patients, we think that the glabellar reflex gender difference is independent of how long each patient has been on a certain dose, because all the patients of our study were chronic schizophrenia patients who have been on constant doses of neuroleptics for a relatively long period of time. In addition to medication doses, both males and females were matched for age and duration of illness for there were no significant statistical differences in these parameters between the two samples.

Limitations

Being a hospital-based observational study, there are some possible limitations, mainly the influence of the environment on the mood of the patients and consequently on their performance. A selection bias is possible since the patients were recruited from one psychiatric hospital. In addition, our inability to compare daily Chlorpromazine doses between the genders would be another limitation.

Conclusions

Until recently, many clinical gender differences characterizing schizophrenia remain neurologically unexplained. The difference in glabellar reflex that we detected might be valuable, and its etiology might be confirmed through accurate imaging methods, like

Magnetic Resonance Imaging or Functional Magnetic Resonance Imaging, which we think is valuable. We believe that gender differences might improve our understanding of schizophrenia, and might translate into a clinical classification of “male schizophrenia” versus “female schizophrenia” in the future.

Competing interests

The authors declare that they have no conflicts of interest to disclose.

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The provision of mental health services to immigrants and refugees in Italy: the barriers and facilitating factors experienced by mental health workers

Summary

Objective

To explore the barriers and facilitating factors to the provision of mental health services to immigrants and refugees by exploring the experiences of mental health workers (MHWs.)

Method

A qualitative study was performed in May 2013 in a city in the Emilia Romagna region. Participants were recruited using purposive sampling and 14 semi-structured interviews were performed with MHWs. Framework Analysis was used to interpret the data.

Results

Five facilitating factors were identified: language skill of patients, involvement of patients' family, specialist cultural psychiatric services, voluntary services and organisation of the mental health system.

Five barriers were identified: patients' perceptions, lack of family support, cultural knowledge of MHWs, language skill of MHWs and funding of the mental health system.

Conclusions

The barriers and facilitating factors identified reflect findings from research in both European and non-European countries. Nevertheless, the results of this study highlight the fact that a national mental health policy for immigrants and refugees needs to be implemented alongside cultural competence training programmes and specialist cultural psychiatric services.

Key words

Italy • Immigrants • Refugees • Mental health workers

Key concepts

For the purpose of this study, immigrants were defined as people who:

- originate from a country outside the European Union (EU);
- (EU as of 2013);
- Have acquired citizenship in Italy;
- Have chosen freely to emigrate out of his/her country of origin.

(Appendix 1 shows the countries that are members of the 2013 EU)

For the purpose of this study, refugees were defined as people who:

- originate from any country in the world;
- have acquired refugee status in Italy;
- have been forced to flee out of his/her country of origin.

This study did not include immigrants without citizenship as they have different entitlements to the Italian National Health Service (INHS) in comparison to immigrants with citizenship and refugees^{1,2}. EU immigrants and asylum seekers were not included, as it was deemed that the scope of this study would then be too wide.

Introduction

Migration and mental health

Immigrants and refugees have an increased risk of suffering from mental health disorders due to the challenging experiences that they encounter during the migration process, see Table I³⁻⁶.

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Migration in Italy

During the last three decades, Italy has become a popular destination for non-EU immigrants and refugees due to the collapse of the Soviet Union and political unrest in Northern Africa⁷.

The majority of non-EU immigrants and refugees settle in Central and Northern Italy⁸. In 2012 there were 3,637,724 non-EU immigrants holding residence permits and 58,060 refugees^{9,10}.

The Italian government is yet to implement a programme that collects data about the health of migrants⁷.

Mental health disorders of migrants

Migrant groups are all at increased risk of developing mental health conditions, however the rates of mental health conditions are often twice as high in refugee populations in comparison with economic migrants⁴. Several studies have shown that immigrants and refugees suffer from somatization disorder, post-traumatic stress disorder, psychotic disorder, anxiety disorder, and depression^{11–17}.

Immigrants and refugees experiences of mental health services

In Italy, immigrants and refugees are entitled to access mental health services^{1,2,18}. Research has shown that they encounter barriers when accessing services, for example: individual health beliefs and discrimination from health workers^{1,7,19–27}. Furthermore, mental health funding that specifically addresses immigrants' and refugees' mental health needs has not been implemented²⁴.

Mental health workers experiences of providing care to immigrants and refugees

In Italy, there is limited research about the experiences of mental health workers (MHWs) in the provision of care to immigrants and refugees²⁵. Studies in Europe,

however, show that MHWs face barriers when providing care^{28,29}. For example a United Kingdom (UK) study reports that MHWs face funding issues and receive insufficient cultural training²⁹. Evidently, more research is needed regarding the experiences of MHWs in the provision of care to immigrants and refugees in Italy.

Method

Study site

The study was conducted in the city of Bologna (located in the Emilia Romagna region in Northern Italy).

In Bologna there are two specialist cultural psychiatric services: the Bologna Transcultural Psychosomatic Team (BoTPT) and a Cultural Consultation Centre (CCC)^{18,30}.

The BoTPT is a multidisciplinary study and research Centre of the Department of Medical and Surgical Sciences- Bologna University. The team provides consultations in partnership with the Department of Mental Health of Bologna designed to identify the mental and psychosocial needs of migrants and to direct them to appropriate services. The consultation includes psychiatrist researchers, psychologists, medical doctors, students, psychiatry registrars and medical anthropologists, and if needed, a cultural mediator joins the team¹⁸. In addition, the BoTPT delivers training and support activities to informal carers, general practitioners, psychiatrists and mental health operators social workers, medical students and psychiatric trainees. Training is specially directed to social and voluntary workers working with asylum seekers and traumatized immigrants^{31,32}.

The Cultural Consultation Centre (CCC) started in 2010 as an experimental project in partnership with the Department of Mental Health of Bologna, the Centre for International Health, the Department of Social Anthropology of Medical Knowledge of Bologna University and professionals in the field of ethnopsychiatry and social care³³.

The CCC is based on a multidisciplinary approach to the psycho-social distress that immigrants, refugees and members of ethno-cultural communities experience. The CCC acts as a consultation liaison service with the aim of transferring knowledge and supporting health and social workers in the evaluation and assistance of migrants.

Sampling

Expert sampling was used to recruit participants and elicit the views of those with specific experiences or expertise in providing care to immigrants and refugees. This was achieved by targeting MHWs in both Community Mental Health Centres (CMHCs) and mental health hospitals who had extensive experience of working with immigrants and refugees or who worked for the CCC or BoTPT.

TABLE I. Stages of migration and related mental health risk factors (da Carta, et al., 2005, Lindert et al., 2008, Bhugra et al., 2011, mod.)^{3,4,6}.

Migratory stage	Risk factors
Pre-migration	Persecution in country of origin Experiences of violence or war
Migration	Extensive application process to obtain citizenship or refugee status Poor travelling conditions
Post-migration	Cultural bereavement Loss of status or family contact Poor or lack of employment Acceptance by new nation

Participants

Overall thirteen consultant psychiatrists and one psychiatry registrar were recruited from seven facilities: five CMHCs and two inpatient hospitals. Five of the fourteen participants worked in either the BoTPT or the CCC. The mean age of participants was 46.4 years and the mean time participants had worked in Bologna was 11.3 years. Due to the selection criterion the majority of participants were recruited from CMHCs, as MHWs at CMHCs are responsible for coordinating treatment programmes for patients; therefore have regular patient contact^{19,34}.

Data collection

The study was conducted in May 2013 and semi-structured interviews were used to collect data. Interviews were held at CMHCs and the psychiatry institute. The main researcher who conducted all of the interviews only spoke English; four interviews were conducted in English and ten interviews required an interpreter. In total three interpreters were used, all of which had no conflicts of interest. All participants were provided with an information sheet and an explanation of the key concepts of the study. Only one question guide was used and leading questions were not included. All interviews were audio recorded and field notes were documented.

Data analysis

Interviews were transcribed and six interviews (two per interpreter) were back-translated by an independent interpreter. No discrepancies were reported. Data was analysed using Framework Analysis^{35,36}. Firstly data familiarisation was performed and then a coding framework was developed, which included a-priori themes from the question guide and themes that emerged from the data^{35,36}. The data was then indexed, and each time the coding framework was modified all of the transcripts that had been indexed were re-analysed^{35,36}. Charting was then performed, which involved data being summarised under relevant³⁶. Finally, the data was organised into charts and interpreted. All data was independently analysed by the lead researcher.

Ethical considerations

Ethical approval was obtained from Leeds University (UK) and the lead consultant psychiatrist. Consent forms were translated into Italian and back-translated to ensure consistency. Written consent was obtained from all participants.

Results

Facilitating factors

Patient level

Language

Ten participants stated that if the patient was able to speak Italian then this was a facilitating factor as translators were then not required for appointments and to build a relationship.

“... they often learn Italian quickly, and then it is not necessary to involve the translator in the relationship, and this is good ...” (Interviewee 14- BoTPT worker)

Family support

Four participants stated that family support was a facilitating factor and that good relationships had been established with family members.

“I have good relationships with families, they are often very helpful...” (Interviewee 13- BoTPT worker)

Provider level

Specialist cultural psychiatric services

Eight participants; five of which worked at either the BoTPT or the CCC, stated that the specialist cultural psychiatric services were a facilitating factor. All of the psychiatrists working within the BoTPT or the CCC, explained how the teams provided them with support to deliver appropriate care.

“... The BoTPT is very helpful; if you have a problem with an immigrant patient; you can ask the team to help you with the problem” (Interviewee 11- BoTPT and CCC worker)

“If I have difficulties I can request a consultation with the CCC ... and I can discuss the case with the Experts” (Interviewee 7)

Voluntary services

Eight participants said that the voluntary services, such as ethnic community support groups, helped to facilitate care provision. Participants explained how the services provided them with an opportunity to learn valuable information and support when discharging immigrant patients.

“From 2007 we have meetings every month with workers from volunteer services ... they give us information so we can learn how to better care for immigrants” (Interviewee 9- BoTPT worker)

“When the patient was discharged from hospital we contacted a community group to help him ... it would have been difficult without them” (Interviewee 14- BoTPT worker)

Five participants, however, said that they had not worked with any of the voluntary services, and one participant was unaware of any voluntary services existing.

“I don’t know if voluntary services exist, do they exist?” (Interviewee 3)

The six participants that did not describe voluntary services as a facilitating factor did not have contact with either the BoTPT or CCC. This indicates that there are different knowledge levels among the participants about voluntary services.

System level

Organisation of the mental health system

All fourteen participants referred to the organisation of the mental health system when discussing facilitating factors. Participants said that the registration and appointment systems were well-coordinated.

“Registration services are good, it works very well ... I can easily organise appointments with immigrant patients” (Interviewee 12)

“The appointment system is good ... consultations can easily be arranged with refugee patients” (Interviewee 6)

In addition, ten participants said that the mental health service had established a good working relationship with the local health authority (LHA).

“There is good communication with us and the LHA... if medical fees are a problem we can talk to them and organise for immigrants to be excused...” (Interviewee 5)

See Table II for a summary of the facilitating factors found.

Barriers

Patient level

Patients’ perceptions

All fourteen participants stated that immigrant and refugee patients’ perceptions of mental health and MHWs caused difficulties when providing care. In addition, all fourteen participants stated that it was difficult to establish doctor-patient relationships with immigrants or refugees because of their misconceptions of MHWs.

“The development of the doctor-patient relationship is more difficult and a problem ... immigrants have different expectations and ideas of psychiatrists” (Interviewee 12)

In addition, all of the participants explained how immigrants’ and refugees’ perceptions of mental health caused difficulties when discussing symptoms.

“Immigrants don’t understand mental health ...” (Interviewee 8)

“... Some immigrants consider depression as a punishment of gods. It is very difficult to talk with immigrants about this issue” (Interviewee 7)

Family involvement

Ten participants explained that it was difficult to provide care to immigrant and refugee patients, because they did not receive the necessary family support. Eight participants stated that it was difficult to involve families because they did not live in Italy.

“... There are immigrant patients that are alone, they don’t have family in Italy, which then makes it difficult for me of course, because they don’t have support” (Interviewee 6)

TABLE II. Summary table: Facilitating factors.

Health system level	Facilitating factor	Number of participants who mentioned factor
Patient	Language	10
	Family support	4
Provider	Specialist cultural psychiatric services: Specialist services provide support to deliver appropriate care	8
	Voluntary services: Provide support and information	8
System	Organisation of mental health system	14
	Registration and appointment systems	
	Good working relationship with local health authority	10

One participant mentioned that lack of family involvement had caused difficulties when checking immigrant patients were adhering to their medication programmes.

“... Because I can't speak with immigrants' families I cannot make sure that medications are taken correctly, this is an issue ...” (Interviewee 4)

Provider level

Language skills of mental health workers

All fourteen participants expressed that they faced language barriers during consultations with immigrants and refugees. The majority of participants explained how language barriers caused issues when attempting to determine an accurate diagnosis.

“Often immigrants and refugees do not speak Italian... so I have problems; sometimes you think you see major symptoms, but actually they are not ...” (Interviewee 10- CCC worker)

One participant even said that they could not provide psychotherapy due to language issues.

“Because of language difficulties immigrants do not receive psychotherapy” (Interviewee 3)

Thirteen participants mentioned that they used interpreting services to help them overcome language barriers. When participants were questioned about their experiences eight participants said that they had encountered issues. The most common issue, expressed by six participants was that interpreters did not always accurately interpret patients' responses.

“Psychiatry is made of words... and I find that interpreters can sometimes miss important aspects” (Interviewee 2)

“... The main problem is language, even if there is an interpreter, they miss something sometimes” (Interviewee 1)

Seven out of the eight participants who expressed that they had issues when using the interpreting services did not work at either the BoTPT or the CCC; indicating that participants who work at the BoTPT or the CCC may have better working relationships with interpreters.

Cultural knowledge of mental health workers

Nine participants said that their personal lack of cultural knowledge made it difficult to provide care to immigrants and refugees.

“I don't have any special cultural knowledge, and this is a problem... I treat immigrants the same way as I treat Italian people” (Interviewee 4)

All fourteen participants stated that they had not received any cultural training during their undergraduate medical education, as it was not recognised as an essential part of their education.

“I received no cultural training at University... back then it was not important...” (Interviewee 5)

Ten participants mentioned that the LHA did provide four annual lectures about health related issues, which sometimes included topics about immigrants' mental health. Nevertheless, the majority of participants suggested that more training was needed.

“...There are conferences provided by the LHA about ethnopsychiatry...” (Interviewee 13- BoTPT worker)

“Training is very important... an organised training programme is needed here...” (Interviewee 1)

Participants who worked at either the BoTPT or the CCC did not mention personal cultural knowledge as a barrier; indicating that they may be more confident in their abilities to provide care to immigrants and refugees.

System level

Mental health funding

Twelve participants stated that the absence of mental health funding specifically for immigrants and refugees was an issue. Most participants explained that the main drawback was that there were no funding specifically for the provision of mental health care.

“The problem is that there is no specific funding strategies for immigrants...so there are no funding plans for them...” (Interviewee 11- BoTPT and CCC worker)

“... There are no funding strategies for the care of immigrant patients... which is why the health service does not fund the BoTPT...” (Interviewee 9- BoTPT worker)

See Table III for a summary of the barriers found.

Discussion

Facilitating factors

Over half of the participants explained how the BoTPT and CCC provided them with the support needed to deliver care for immigrants and refugees. Other studies have shown similar findings; such as a study in Cana-

TABLE III. Summary table: barriers.

Health system level	Barrier	Number of participants who mentioned factor
Patient	Patients' perceptions:	
	Patients' perceptions of mental health and mental health workers	14
	Difficult to establish doctor-patient relationship with immigrants and refugees	14
	Lack of support from patient families	10
Provider	Language:	
	Language barriers during consultations	14
	Issues with interpreters	8
	Mental health workers' cultural knowledge:	
	Lack of cultural knowledge	9
	Lack of cultural education during undergraduate medical education	14
System	No specific mental health funding for immigrants and refugees	12

da which shows that MHWs and General Practitioners, found a CCC helpful when treating immigrants³⁷.

Six participants, however, did not mention specialist cultural psychiatric services as a facilitating factor. This could be because these participants may have not frequently come into contact with the BoTPT. In addition, these participants may have been unaware of the CCC, as it was only recently established in 2010.

Consequently, some immigrants and refugees may be receiving inadequate care. Clearly, more specialist cultural psychiatric teams are needed in Bologna and so it is recommended that a transcultural team and CCC are established in all CMHCs and inpatient hospitals. Funding should be obtained from the LHA and a monitoring system should be implemented to evaluate the performance of each BoTPT and CCC. This recommendation should be feasible if funding is secured as both services are already established. The main task required would be to recruit professionals to deliver the new services.

All the participants stated that the organisation of the mental health system was a facilitating factor. It is important to consider that participants may have stated that the organisation of the mental health system was a facilitating factor because they wanted to portray the system as a well-managed organisation rather than the reality of daily practice. In addition, patient level facilitating factors may have not been mentioned because participants wanted to project a positive image of the mental health system; therefore participants may have only chosen to vocalise facilitating factors at provider and system levels. Information about service delivery and immigrant and refugee patients' experiences is required to corroborate these findings.

Barriers

All participants expressed that immigrants' and refugees' perceptions of mental health and MHWs caused

difficulties when providing care; for example when developing the doctor-patient relationship. Thus this barrier could potentially affect the quality of treatment provided. In addition, a UK study reports that providers were less likely to identify Punjabi patients with depressive symptoms because of the way Punjabi patients' express their symptoms³⁸. Clearly, it would be valuable to perform a qualitative study to find out about immigrants' and refugees' knowledge, attitudes, and experiences of mental health and mental health services in Italy. The data from this study could be used to develop culturally relevant training programmes for MHWs. The majority of participants also identified family involvement as a barrier; which may affect success rates of treatment and rates of recovery. There is limited evidence however to support this finding; further research about family members' experiences and involvement with mental health services is needed to validate this finding.

MHWS' language skills and lack of cultural knowledge were also identified as barriers to providing care, and literature across Europe highlights this issue^{23 25 39}. Both of these barriers could result in immigrants and refugees receiving inaccurate diagnoses. More research is indicated regarding MHW's experiences and immigrants' and refugees' knowledge, attitudes, and experiences of mental health care.

Cultural training was not provided to any participants during their undergraduate education. Although, this can be explained by the fact that the majority of participants attended university between the 1970s and 1990s; during this period of time immigration to Italy was only just beginning⁷. Cultural training, therefore, would not have been perceived as an essential aspect of medical education.

Optional courses about immigrants' and refugees' mental health are now provided by the BoTPT to un-

dergraduate and postgraduate students; nevertheless, it is vital to establish an annual cultural competence training programme for all MHWs who have contact with immigrants and refugees. The programme could be delivered by the BoTPT and CCC. Cultural competence training has been successful in Australia and Canada; reports show that MHWs are more responsive to immigrants' and refugees' needs after receiving training^{37,40}. All participants stated that the absence of a mental health funding specifically for immigrants and refugees was a barrier; the main drawback identified was the absence of funding guidelines. Similarly, a Canadian study reports that MHWs face difficulties providing care to immigrants and refugees due to limited mental health policies⁴¹. It is vital therefore that the Italian government implements national mental health funding specifically for immigrants and refugees. The implementation of funding would allow resources to be allocated to the mental health sector to meet the needs of immigrants and refugees; allowing further research and cultural competence training programmes to commence. The INHS is regionally and locally managed, therefore, implementing a national funding strategy will be challenging¹. Nevertheless, evidence from Spain and the UK shows that it is possible to establish national mental health policies and funding strategies for immigrants and refugees²⁴.

Limitations

A major limitation was that an interpreter was required, which may have caused relevant data to be lost, as it can be difficult for an interpreter to constantly translate everything a respondent says. To minimise the effect of this limitation, an independent interpreter back-translated six interviews. No discrepancies were reported. Time restriction was another major limitation as it prevented data saturation and respondent validation being achieved; ideally, it would have been preferable to interview a range of MHWs^{42,43}. In addition, investigator triangulation was not achieved due to time constraints and consequently the coding framework used to perform the analysis could not be verified; in an attempt to compensate the lead researcher strived to perform a thorough analysis^{42,43}.

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In addition, participants may have given responses that they thought would be viewed favourably by the lead researcher, a phenomenon known as social desirability^{44,45}. To avoid social desirability bias occurring participants were encouraged to respond freely.

Conclusions

The results of this study provide a foundation for further investigations regarding the experiences of MHWs in the provision of care to immigrants and refugees in Italy. Nevertheless, it cannot be ignored that the findings of this study have highlighted that a national mental health funding strategy specifically for immigrants and refugees needs to be implemented in Italy. Furthermore, cultural competence training programmes, Transcultural Psychiatric Teams and Cultural Consultation Centres need to be established across mental health facilities, and more research needs to be performed.

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Contributors

Georgina Griffiths: Performed all 14 interviews, analysed data, and composed manuscript.
Ilaria Tarricone: oversaw research study and provided guidance, also helped to compose the manuscript.

Conflict of interest

None to declare.

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Validation of the Arabic Geriatric Depression Scale (GDS-5) among the Lebanese Geriatric Population

Summary

Objective

Translate the Geriatric Depression Scale (GDS- 5 items) to Arabic for use in elderly patients in Lebanon, to check its validity and reproducibility compared to the original version of the questionnaire.

Methods

This case-control study was conducted between June and August 2016 and included 500 patients aged more than 60 years old.

Results

Strong positive correlations ($p < 0.001$ for all items of the scale) were found between each item of the scale and the total scale. The mean inter-item correlation for our scale was 0.49, higher than that of the original scale (0.36). The internal consistency reliability (Cronbach's alpha) for the total GDS scale was $\alpha = 0.734$, compared to 0.83 and 0.901 for the Arabic GDS-15 and GDS-30 respectively.

Conclusions

These preliminary results suggest that the Arabic version of the GDS has promising psychometric properties and can be used to estimate the overall severity of depression in the elderly population of Lebanon. Because it is short and easy to administer, it is recommended to be used as a routine screening test to identify depression among older adults in all Arabic-speaking populations, including the Gulf and most North African countries, and in all Arab immigrants around the world.

Key words

GDS • Short • Geriatric • Arabic • Elderly

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Introduction

Worldwide, depression is considered as a significant public health concern and one of the illnesses with the greatest burden for persons, relatives, and the general public^{1,2}. It is also considered the most prevalent mood disorder among elderlies³. It is predicted to be the second leading cause of disability by the year 2020 according to the World Health Organization⁴. On the basis of previous studies of geriatric depression in many countries, the prevalence of depressive disorders is 12.9-21.2% in the community setting⁵ and 26.0-37.7% in geriatric homes⁶, whereas it is estimated to be about 22.4% among the elderly population of Iran⁷. In Lebanon, the percentage of persons with major depression was 9.9%⁸. Projecting lifetime risk to age 75 years gave a risk of major depression of 17.2%⁸.

Another problem in the assessment of geriatric depression and other dis-

orders experienced by the aged is that the elderly are typically more resistant to psychiatric evaluation than younger patients^{9 10}. Consequently, one needs to design the items comprising a scale to fit this population. There are numerous depression rating scales currently available. These have been subject to several reviews¹¹⁻¹³ and include: Hamilton Rating Scale for Depression (HRS-D), Zung Self-Rating Depression Scale (SDS), Beck Depression Inventory, Phenomena of Depression Scale, Grading Scale for Depressive Reactions, Psychiatric Judgment of Depression Scale, NIMH Collaborative Depression GDS, SAD-GLAD, Verdum Depression Rating Scale, CES-D, SCL-90 Profile of Mood States, and the MMPI Depression Scale. The Short Form is easier to use by physically ill and mildly to moderately demented patients who have short attention spans and/or feel easily fatigued¹⁴.

In Lebanon, the Arabic version of the GDS 15¹⁵ and 30¹⁶ were both validated among elderlies. This study aimed at examining the psychometric properties of the Arabic version of the GDS-5 version of this scale among Lebanese population, assess its validity and reliability among institutionalized and non-institutionalized geriatrics.

Methods

Study design

This case-control study was conducted between June and August 2016. All patients were 60 years and above. Two-hundred and fifty cases were chosen from three nursing homes in three districts in Lebanon. After receiving approval from the nursing homes' administration, the questionnaire was distributed to the patients, after obtaining a verbal informed consent. On the other hand, 250 controls were randomly chosen from the general population.

Geriatric Depression Scale

The GDS was translated from English to Arabic through an initial translation and back translation process. The English version was translated into Arabic by a mental

health specialist, then this translation was translated again into English by another specialist. Upon completion of this process, the translators compared the English versions of GDS to determine whether the variables had the same meaning. One trained person was responsible for the data collection, via a personal interview with each patient. This person was independent of the study.

The GDS contains 5 dichotomic, self-report items used for scoring, that tap into common topical concerns of depression among older adults and help clinicians identify areas of concern for the patient¹⁷. Participants were asked to rate symptoms of depression by indicating if they had experienced each symptom during the past week or not. Possible scores range from 0 to 5.

Sample size calculation

Using the Epi info program for the calculation of the minimal sample size needed for our study, with an acceptable margin of error of 5% and an expected frequency of depression of 9.9%¹⁸ for 4 million inhabitants in Lebanon, the results showed that we need 274 cases to be enrolled in the study¹⁹.

Statistical analysis

Data analysis was performed using the SPSS software, version 22. To confirm the Geriatric Depression Scale questionnaire construct validity in the Lebanese population, a factor analysis was launched for the 5 items of the questionnaire, using the principal component analysis technique, with a varimax rotation since the extracted factors were found to be significantly correlated. The Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett's test of sphericity were ensured to be adequate. The retained number of factors corresponded to Eigenvalues higher than one. Moreover, Cronbach's alpha was recorded for reliability analysis for the total score and for subscale factors.

Results

GDS validity checking

Out of all the items asked in the questionnaire, all vari-

TABLE I. Factor analysis of the GDS scale, with the loading factor for each item of the scale.

Question	Item	Answer	Loading factor
Factor 1			
Do you prefer to stay home, rather than going out and doing new things?	12	Yes/no	0.891
Do you feel pretty worthless the way you are now?	17	Yes/no	0.792
Do you often get bored?	4	Yes/no	0.720
Are you basically satisfied with your life?	1	Yes/no	-0.603
Do you often feel helpless?	10	Yes/no	0.544

ables could be extracted from the list, with no items that over-correlated to each other ($r > 0.9$), having a low loading on factors (< 0.3) or because of a low communality (< 0.3).

The factor analysis for the GDS was run over the whole sample (Total = 500). The total GDS scale converged over a solution of 1 factor, explaining a total of 58.11% of the variance. A Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy of 0.624 was found, with a significant Bartlett's test of sphericity ($p < 0.001$). A high Cronbach's alpha was found for the whole scale 0.734.

Discussion

Validation of the GDS scale

In the current study, we were able to validate the Arabic version of the GDS (5 items) questionnaire, intended specifically for use among the elderly in Lebanon. Results provide initial evidence supporting the reliability and validity of the scale as a screening instrument for depression in this population. The findings showed that the reliability estimate of the new translated measure (Cronbach's alpha) was adequate and similar to reliability data for the English version¹⁷. Thus, the scale can be used in the Lebanese geriatric population.

Validity

To assess validity, the relationship between the Arabic and the English versions of the GDS was done using the correlation coefficients. In fact, strong positive correlations ($p < 0.001$ for all items of the scale) were found between each item of the scale and the total scale. The mean inter-item correlation for our scale was 0.49, higher than that of the original scale (0.36).

Another issue to be discussed is the construct validity. It consisted of comparing the initial GDS with our version of the questionnaire using Cronbach's alpha reliability coefficient and factor analysis. The internal consistency reliability for the total GDS-5 scale was $\alpha = 0.734$, whereas validation studies of the short version of the GDS-15 have all reported a high internal consistency reliability with Cronbach's α ranging from 0.77 to as high as 0.94 (Fountoulakis et al., 1999; Lam et al., 2004; Friedman et al., 2005; Malakouti et al., 2006), compared

to 0.83 and 0.901 for the Arabic GDS-15¹⁵ and GDS-30¹⁶ respectively.

The original GDS form was invented and tested for self-administration¹⁷. The interviewer- and self-administered versions of the English scale were significantly correlated, as demonstrated by Cannon et al.²⁰. However, considering the high level of education among the Arab elderly, and since older patients may require the visual or concentration abilities to fill-out self-rated scales accurately, the Arabic GDS is expected to be more frequently administered by clinicians in real practice. Future studies should be conducted in Arabic speaking countries to assess whether the clinician-administered version of the Arabic GDS is as applicable and trustworthy as the self-administered one.

Limitations

Although the preliminary results of this study are promising, further research should explore the psychometrics of the Arabic GDS in future larger studies, including older adults with psychiatric conditions. Future studies should also investigate the extent to which self-report administration is comparable to oral administration of the GDS. However, since this scale was studied on nursing home geriatrics and elderlies living in their own houses, our results can be extended to the general population.

Conclusions

These preliminary results suggest that the Arabic version of the GDS-5 has promising psychometric properties. Based on this study, health care professionals and researchers can readily use the GDS-5 score to estimate the overall severity of depression in geriatric patients in Lebanon. Because it is short and easy to administer, it is recommended to be used as a routine screening test to identify depression among older adults in all Arabic-speaking populations, including the Gulf and most North African countries, and in all Arab immigrants around the world.

Conflict of interest

None to declare.

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Is involuntary psychiatric hospitalization a measure for preventing the risk of patients' violent behavior to self or others? A consideration of the Italian regulation

Summary

Objectives

The authors focus on the issue of involuntary psychiatric hospitalization as a possible measure for preventing a patient from harming himself or others. The possibility that a mental disorder could induce people with mental illness to have violent behavior is still debated in Italy, and patients' dangerousness is not a criterion for involuntary hospitalization. Nonetheless in several other member states of the European Union and in the USA, involuntary commitment is an acknowledged procedure to prevent this risk. Implications of the Italian jurisprudence for evaluating the psychiatrists' alleged malpractice will be discussed, including the practical implications of psychiatrists' duty of care.

Methods

The authors will first survey the legal framework of involuntary psychiatric hospitalization also providing examples of regulations. A critical discussion of data of recent research on involuntary psychiatric hospitalization will follow, underlining possible interactions and conflicts between concepts such as mental capacity, duty of care, professional liability, and patients' dangerousness.

Conclusions

Although the Italian regulation for civil commitment does not include danger to self or others, nor mental capacity evaluation criteria, the clinical practice and the jurisprudence advocate their consideration.

Key words

Capacity to consent • Mental illness • Violent behavior • Duty of care • Involuntary hospitalization

Introduction

Informed consent is a fundamental prerequisite of medical treatment and is widely recognized as such by the legislation of the European Union¹. In Italy, as in most democratic states, there are a few possible exceptions to the duty of obtaining patients' informed consent, including some medical emergencies and "natural incapacity". This latter concept relates to mental incapacity to take decisions concerning specific purposes, e.g. inability to discern a proposed treatment. People affected by mental disorders are moreover protected by the Law 833 of 1978 under articles 33, 34, and 35, which determines the conditions for patients' involuntary hospitalization/treatment, and community-based compulsory treatment.

In the present work we will focus on involuntary psychiatric hospitalization and treatment in Italy. The legal regulation concerning involuntary psychiatric hospitalization requires three concurrent circumstances: 1) the patient is suffering from "psychic alterations" that require immediate treat-

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ment; 2) the patient refuses treatment; and 3) the patient cannot be adequately treated by other non-hospital based means. This procedure allows treatment and compulsory admission of patients; however, two medical certificates are required (proposal and confirmation) – neither of which should be issued by a psychiatrist. The decision is issued by the city's mayor and a judge acts as a further guarantor. Maximum length of initial placement is 7 days, which can be extended upon a motivated medical decision certifying the persistence of the 3 criteria above ².

The Italian regulation for civil commitment no longer considers danger to oneself or others as a prerequisite, superseding the Royal Decree 36 of 14 February 1904, which allowed the admission to psychiatric hospitals of those recognized as being of “sick mind” and dangerous to oneself or others ³. In accordance with international bioethical guidelines, which identified in the principles of autonomy and self-determination the inviolable rights of patients, Italian Law 833 substantially provided freedom of care to the mentally ill ⁴. Nonetheless we must consider that, in most Western countries, psychiatric involuntary hospitalization is still among the main measures to prevent the risk of self or other-directed violent behaviors due to mental illness ⁵.

Psychiatric patients' disease awareness and treatment adherence usually show a significant degree of variability throughout time, and can change in relation to the disease course, as well as in relation to psychopathological features. This implies that clinical features and competency could vary accordingly and that the same patient could be judged competent or incompetent at different moments. Robust data exists, however, indicating the lack of a clear association between psychiatric diagnoses and mental capacity and competency ⁶.

Nevertheless, some psychopathological characteristics, e.g. acute mania or catatonia, can affect capacity to consent to the extent that it might be abolished. Lack of consent and need for treatment are prerequisites of the Italian involuntary psychiatric hospitalization regulation (Trattamento Sanitario Obbligatorio, TSO).

The approach aimed at evaluating TSO candidate patients raises two kinds of issues due to its dichotomy: on the one hand, the clinical approach; on the other hand, the medical-legal and forensic implications. The clinical approach should rely on a functional analysis of patients' psychic abilities underlying informed consent through standardized and validated procedures. The medical-legal approach should, on the other hand, assess consent or dissent validity, as well as consider its possible changes ⁷. Cognitive dysfunction and psychopathological features have long been considered factors associated with impaired informed consent

decision-making ⁸⁻¹³. Specifically, they could compromise the ability to understand, appreciate, reason and express treatment choices ¹⁴.

In real-world clinical practice, however, psychiatrists often struggle with the decision to involuntarily hospitalize a patient. This might be due to the difficulty in balancing the need for hospitalization – which is associated with psychopathology severity and behavioral alterations – with the patient's right to decline hospitalization, which might be challenging in the presence of resilience and preserved cognitive functioning, despite severe psychopathology.

Recent data emerging from empirical studies on capacity to consent to treatment in acute psychiatric hospitalization questioned the inevitable correlate of mental incapacity in those patients involuntarily hospitalized for and acute mental disorder ¹⁵. These findings prompted an ongoing discussion on regulations for involuntary commitment, as well as possible tools useful to measure decision-making capacity in coercive clinical settings, such as the MacArthur Competence Assessment Tool for Treatment (MacCAT-T) ¹⁶, that will be the focus of the present work.

Involuntary hospitalization and treatment: examples of regulations

In 2004, Dressing & Salize reviewed compulsory admission criteria in European Union member states and found some shared approaches, although they underlined inconsistency among different legislative and procedural details ¹⁷. The need for cross-national harmonization of regulations concerning involuntary psychiatric hospitalization has also been invoked, but no shared vision in this field has been defined in the EU countries ¹⁸. In general two types of regulations for involuntary commitment exist: a) those requiring mental illness and danger, and b) those requiring mental illness and need for-treatment; with some countries (Denmark, Finland, Greece, Ireland, United Kingdom, Portugal) providing both possibilities ¹⁷.

Significant heterogeneity exists as concerns placement duration, guarantee institutions, whether a psychiatrist is required for initial assessment, and if involuntary admission and treatment are legally defined as different modalities ^{17 18}.

For example, in France Law no. 90-527 of 27 June 1990, which was modified by Law of 4 March 2002, regulates psychiatric involuntary hospitalization, providing two types of involuntary commitment. The first scenario is a) commitment at the request of a third party (*Hospitalisation à la Demande d'un Tiers*, HDT). Requests for HDT frequently come from a family member and imply that 1) there must be a mental disorder,

2) there is no patient consent for hospitalization, and 3) there is a need for immediate care and constant surveillance in a hospital setting. HDT prerequisites must be ascertained by two independent doctors. The second scenario is b) commitment by the public authorities (*Hospitalisation d'office*, HO). HO implies that 1) there must be a mental disorder, 2) the patient needs care, and 3) there must be a threat to the safety of individuals or a serious threat to public order. Commitment by the public authorities can be issued in emergency and non-emergency situations. In the former the mayor, or, in Paris, the commissioner of police, may order temporary emergency measures. In non-emergency conditions HO are issued by the prefect of police in Paris or by the prefect in other départements, upon the presentation a detailed medical certificate. The certifying doctor must ascertain that there is need for immediate care and that the patient's condition seriously compromises the safety of individuals and public order¹⁹. A judge acts as guarantor of the protection of the subject's rights. The patient can resort to the president of the Tribunal de Grande Instance for the withdrawal of the measure. From 2011, a new law offers the possibility of day-hospital involuntary treatment for patients who are not considered "dangerous". A judge acts as a guarantor in this case.

In England and Wales involuntary hospital admission and detainment for assessment or treatment are regulated by the Mental Health Act 1983 and the Mental Capacity Act 2005, which were amended by the Mental Health Act 2007. Section 2 of the Mental Health Act 1983 defines criteria to admit and detain a person in hospital for assessment for up to 28 days, while Section 3 defines criteria used to admit and detain a person in hospital for treatment, for up to 6 months. An application for hospital admission for treatment can be issued when the subject suffers from a mental disorder which requires hospitalization, to protect the patient's health, or to protect other people from possible threats. The procedure requires certification of two independent physicians and an assessment by an approved mental health professional.

In Spain the Ley De Enjuiciamiento Civil (8 January 2000), Book IV, Title I; Chapter II, Article 763 regulates involuntary commitment. Similar to the Italian regulation, the Spanish law does not provide, among criteria for hospitalization, the risk to third parties; it focuses on the need for treatment criterion, instead. A psychiatrist assessment is mandatory for initial hospitalization; moreover, a judge must be informed about the patient's condition every six months.

In Germany, the state and federal laws regulating involuntary commitment of individual require the presence of serious mental pathology. The condition must

moreover constitute immediate personal or public threat. A psychiatrist's opinion is not required for the initial assessment but is requested for confirmation of the involuntary hospitalization. The procedure is issued by a judge who guarantees the patients' rights. Persistence of involuntary treatment could follow involuntary hospitalization.

In Sweden the law for compulsory psychiatric care and the law for forensic psychiatric care of January 1991 and January 1997, regulate involuntary hospitalization of psychiatric patients. The Swedish regulation poses more emphasis on patients' capacity evaluation, and lack of insight. Three conditions are required: 1) the patient must suffer from a serious mental disorder; 2) there is need for full time psychiatric care; and 3) the patient must refuse the necessary care and, because of her/his mental disorder the patient is unable to express an informed decision. A medical certificate is required to activate the compulsory procedure. Involuntary psychiatric admission lasts for 4 weeks, a judge may authorize compulsory assistance for additional four months, then for six months.

Excluding Italy, Spain and Sweden, all European Union countries include, to some extent, an evaluation of possible danger for patients or others. All regulations require that involuntary commitment is temporary, nonetheless there is wide variability as concerns duration; Denmark, France, Portugal and Spain do not provide a maximum initial involuntary placement duration¹⁷. A jurisdictional authority, usually a judge, must act as a State authority guarantor in most countries.

In the USA, each state acts autonomously, however potential dangerousness for the patient or others is a widespread criterion for involuntary commitment²⁰. Involuntary hospitalization precedes a more accurate assessment, which can then result in subsequent continuation of hospital or non-hospital-based involuntary treatment. The last phase is guaranteed by a judge's supervision^{21 22}.

Empirical data on patients' capacity to consent in involuntary psychiatric hospitalization

In recent years researchers have shown a particular interest in the evaluation of psychiatric patients' capacity to consent to treatment in acute and, also, in coercive settings. The existence of specific instruments tailored to perform a standardized assessments of treatment decision-making capacity, such as the MacCAT-T, allowed the collection of growing empirical data in this field. A clinical approach such as that provided by the MacCAT-T allows for a useful methodology to study the effect of different legal regulations in determining the

characteristics of patients who are treated or hospitalized involuntarily.

A recent longitudinal multicenter study from our research group focusing on treatment decision-making capacity of involuntarily treated and hospitalized psychiatric patients, showed that in some cases decisional capacity was beyond presumable expectations^{23,24}. Specifically, almost 20% of 131 enrolled patients scored within the high range of the 4 MacCAT-T subscales, thus showing good understanding of their diagnosis and treatment implications, adequate evaluation of their clinical condition, satisfactory reasoning abilities, as well as the capacity to express a clear and non-ambivalent treatment choice. In patients affected by bipolar disorders this percentage reached 32%, while those affected by schizophrenia spectrum disorders had significantly poorer decision-making capacity.

Beyond delineating possible diagnosis-related implications, these data raised concerns as to whether and how involuntary commitment based on mental-illness and need for treatment criteria guarantees adequate ethical standards. In other words, is a non-capacity based regulation for civil commitment sufficient to warrant a forced psychiatric hospitalization?

The dissent to hospitalization expressed by the patients recruited in the study was considered non-influential, as the Italian law permits such medical evaluation, nonetheless a significant percentage of patients evaluated with reliable methods showed adequate capacity to dissent to hospitalization/treatment. This seems to allow for further consideration of residual paternalism or for the surreptitious introduction of variables not included in a regulation based just on a need for treatment, specifically *dangerousness*. The existence of involuntarily treated acute psychiatric inpatients showing good functional abilities/mental capacity, moreover raises doubts about the possibility that there was room for treating those patients with less coercive approaches.

In interpreting this evidence we must however consider that also other variables, besides those identified by the law, could have influenced a psychiatrist's decision in favor of involuntary commitment. It is conceivable that other than a defensive medicine approach, some contingent and context-related features, including pressures from family members, health-care operators or from civil society, could have played a role. Another possible factor which could account for those results is possible danger to self or others due to the patient's behavior. Even though the Italian regulation does not consider patients' dangerousness among criteria for civil commitment, it seems conceivable that upon concrete predictability of threats or violence, psychiatrists might decide for commitment anyway. This hypothesis seems to be confirmed

by the findings of the follow-up of our multicenter study which showed that discharged patients undergoing a new involuntary admission within 6 months had had significantly more episodes of violence (20% vs 3.8%) and criminal justice issues (20% vs 1.9%).

This interpretation, which deserves further in-depth analyses, however underlines a possible contrast between the existing Italian jurisprudence¹ that obligates the psychiatrist to impede possible damage to patient or other, and the regulation for civil commitment which does not refer to dangerousness.

Involuntary psychiatric hospitalization as an obligation to protect the patient

The "duty of care" that weighs on the Italian psychiatrists, as well as mental health operators, implies the duty of protecting the patient (Italian Criminal Supreme Court, Number 9739 of 1 December 2004 "the operators of healthcare facilities, doctors and paramedics, are all under a duty of care towards patients, which derives and is an expression of the solidarity obligation ratified by articles 2 and 32 of the Italian constitution, whose health they serve to protect against any hazards that threaten the integrity; and this obligation of protection lasts for the whole time of the work shift").

An extensive interpretation of such duty of care has raised wide debate, as well as concerns and criticisms among health care operators, especially due to some Supreme Court verdicts involving Italian psychiatrists. Further concern originated from reparation requests deriving from a wide juridical interpretation of the operator's duty of care. It is not the aim of the present work to discuss the appropriateness of such interpretation (for an in-depth discussion see Felthous et al.)⁵. It must be underlined, however, that the *Italian Society of Psychiatry*²⁵ has recently issued a document stating that a broad interpretation of the duty of care could apply especially to those acutely-ill, incapable patients requiring involuntary commitment. The issues in the field, at this point, can be summarized in the following questions:

1. Must the psychiatrist consider the problem of patients' likely violent behavior due to psychopathological reasons?

¹ Italian Criminal Supreme Court n. 10795, 2008 the psychiatrist has "a legal obligation to prevent the event of damage of the patient, or those inflicted to others"; Italian Criminal Supreme Court n. 4107, 2009: "the observance of the precautionary rules exempts from liability for foreseeable but not preventable risks, only if the person (i.e. the psychiatrist) has strictly adhered not only to the common precautionary rules, but also to those rules with which compliance was required by those circumstances that increase the risk and thus require the adoption of additional and stricter precautionary measures".

2. Can we consider the patient at imminent risk of a violent conduct to self or others because of his/her psychopathological condition, "a danger to self and / or others"?
3. Must the psychiatrist act only in a therapeutic perspective when confronted with situations represented in the previous paragraph?
4. In the absence of consent to treatment, could involuntary psychiatric hospitalization represent an appropriate therapeutic measure in certain situations?

We think that the answer can be positive to all the questions posed. The decision not to include patients' *dangerousness* in the regulation for civil commitment, as is the case in Italy and a few other European countries, does not exempt the psychiatrist from implementing all possible therapeutic measures to prevent danger to self or others due to a violent act.

In terms of liability, the more clear and transparent the decision-making process justifying the intervention, the lower the chances of charges of negligence arising. Forced hospitalization in psychiatric practice must be considered itself as a necessary therapeutic option also in order to cover the risk of possible violent acting out to self or others, which can be traced to psychopathological reasons.

Besides juridical implications, the relationship between psychiatric disorders and violence is a cultural issue and has long been debated among psychiatrists with practical implications in real-world clinical settings. We believe that the debate is far from being concluded. Italian psychiatrists undoubtedly perceive the issue of patients' violent behavior, as more than 50% have experienced verbal or physical aggression²⁶; even so this phenomenon is likely to be underestimated²⁷.

The difficult balance between the patient's right to refuse a treatment and the medical duty to treat incapable patients needing urgent interventions could, however, find a correct response by an evidence-based approach. For example, a standardized assessment of patients' capacity to consent/dissent to treatment, to be repeated during the hospitalization period, would be a recommendable procedure to apply routinely. A clear documentation of violent behaviors, or threats to self or others' safety due to psychopathological reasons should likewise be part of routine procedures, especially in those incapable patients who are involuntarily hospitalized or treated. Such detailed procedures could also hypothetically discourage defensive medicine approaches.

Further complexity derives from the wide inclusion criteria for civil commitment provided by Italian Law 833; indeed, it does not require a psychiatric diagnosis, nor the use of standardized classification systems (ICD or DSM). The use of a narrower criterion and the support

coming from the use of international classification systems, as well as the documentation of mental capacity status of patients undergoing involuntary commitment is advisable. It is worth mentioning that the Italian National Federation of the Medical Orders has just recently (April 2016) advocated the acknowledgment of informed consent as a medical act to be included as an indicator of "humanity, quality and efficacy for good clinical practice" in every health care service.

Compulsory treatment choices, outpatient commitment and compulsory evaluation

In accordance with current bioethical and legal doctrine, involuntary psychiatric hospitalization should be considered a last resort treatment option, and should be limited to those cases in which all the requirements expressly indicated by Law 833 of 1978 are satisfied and documented. In such conditions, involuntary commitment constitutes an approach undertaken in the interest of the patient; however, it should be realized as a measure to protect patients' rights and dignity.

The presence of psychopathology associated with threats or violent behavior and imminent risk of damage to patient or others, especially in the presence of incapacity to consent to treatment, can reasonably motivate involuntary hospitalization. We deem that such approach applies also to a regulation not specifically mentioning patient's *dangerousness*, because involuntary commitment is a measure suitable to reduce the risk of damage associated with violent behavior due to psychopathology. We do not include in this framework violent behavior clearly consequent to crime or psychopathy even though they might not be distinguished in emergency settings.

To avoid possible litigation and defensive medicine approaches the psychiatrist decision-making process should be clearly stated in the medical certification, thus permitting an unambiguous *ex ante* reconstruction in case of legal controversy. It is conceivable that the lack of dangerousness as a criterion included in Law 833 of 1978 discourages physicians to document its presence in certifications supporting involuntary commitment. Such approach could be controversial in the light of the duty of care exposing physicians and psychiatrists to possible professional liability due to omitted or implemented compulsory procedures.

On the other hand, a possible non-hospital based compulsory psychiatric treatment or outpatient commitment (*TSO extraospedaliero*)²⁸, which is still an underused approach in Italy, might prove useful in those situations in which a short coercive approach, e.g. antipsychotic injective treatment, might rapidly improve psychopathological and behavioral characteristics of patients with-

out being too intrusive – possibly avoiding hospitalization in some situations.

Outpatient commitment in Italy requires the city mayor's approval following medical certification. The non-hospital based compulsory psychiatric treatment might also prompt the introduction of long-term rehabilitation programs in which the improvement of patients' capacity to give informed consent to treatment could be a therapeutic outcome. In this view the longitudinal evaluation of treatment decision-making capacity should be introduced as a routine clinical approach, together with therapeutic adherence and insight-improving strategies, to reduce perceived and actual coercion.

The implementation of non-hospital-based compulsory psychiatric treatment is an intrinsically less coercive approach than involuntary commitment, as it lacks the obvious limitation of personal freedom to move outside the hospital. The Italian Law 833 of 1978 provides that treatment should be preceded by a preliminary approach aimed at obtaining patients' consent to treatment, and could be activated in the absence of patients' consent, once appreciated psychopathological features constitute a possible threat. As in other coer-

cive approaches, the psychiatrist who intervenes will ponder the decisional balance between intervention or non-intervention, documenting it in a clear and transparent way.

Conclusions

Although the Italian regulation for civil commitment does not include danger to self or others, nor mental capacity evaluation criteria, the clinical practice and the jurisprudence advocate their consideration. Compulsory treatment/hospitalization could prevent danger or damage to self or others due to psychopathological features. Outpatient commitment, a less intrusive approach than compulsory hospital admission, should be considered with more attention by Italian psychiatrists.

Conflict of interest

The authors declare no conflict of interest, nor financial relationships with any organisations that might have an interest in the submitted work.

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