



Mental Health of Disabled Palestinian Adults in the Gaza Strip

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Authors' contributions

This work was carried out in collaboration between all Authors. Authors AAMT, KAQ, HP and DH designed the study, wrote the protocol, and with help of staff of author KAQ data was collected. Authors AAT, KAQ, PV wrote the first draft of the manuscript. Authors HP and DH managed the literature searches. Author AAMT and PV analyses of the study performed the spectroscopy analysis and wrote the final draft.

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ABSTRACT

Aim: The aim of the study was to investigate the prevalence of mental health problems among disabled people, and Psychological problems in association with other sociodemographic factors.

Methods:

Subjects: The sample responded to the interview were 416 participants with response rate of

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100%, it consisted of 263 males (63.21%) and 153 females (36.79%). The age ranged from 19-70 years with mean age was 33.56 years. The results showed that 222 of participants had physical disability (53.4%), and 194 had other disability (vision, multiple, mental, hearing, and speech disability) (46.6%).

Measures: The participants were interviewed with self-reported questionnaire: including sociodemographic scale, Beck Depression Inventory, General Health Questionnaire, and Brief Symptom Inventory.

Results: The results showed that the mean psychological symptoms was 81.19, somatization mean = 11.05, obsessive compulsive symptoms mean was 10.84, interpersonal sensitivity mean = 6.56, depression mean was 9.59, anxiety mean was 10.50, hostility mean was 7.63, phobic anxiety mean was 7.9, paranoid mean was 7.26, and psychosis mean was 6.86. For differences between the two groups, participants with other disability showed statistically significant paranoia symptoms than those with physical disability. The results showed that there were no statistically significant differences in psychological symptoms in both physical and other disability according to sex. However, for general sample, disabled females reported more anxiety than males.

According to GHQ-28, 54% of the sample (316) said that their feelings about general health were worse to very worse. Also, 89.1% said that they found themselves wishing they were dead and away from it all and 74.2% found at times they couldn't do anything because their nerves were too bad more than usual. The study showed than mean GHQ-28 was 12.12, somatization mean was 3.21, anxiety mean was 3.31, social dysfunction mean was 3.34, and depression mean was 2.27.

The result showed that 42.6% of the physically disabled adults were rated as psychiatric morbidity cases according to GHQ-28 scale compared to 37.3% of other disability.

Also, there were no significant differences in mental health according to GHQ scale and subscales (somatization, anxiety, depression, and social function) and participants with physical or other disability.

The most common depressive symptoms were: self-criticism (28.2%) and irritability (24.2%). Our results showed that 10.1% of participants with physical disability had moderate to severe depression compared to 6.6% with other disability. There were no statistically significant differences between the two groups in prevalence of depression.

Conclusion and Clinical Implications: This is the first study of disabled people in the Gaza Strip which showed that 42.6% of the physically disabled adults were rated as psychiatric morbidity cases compared to 37.3% of participants with other disability that 10.1% of participants with physical disability had moderate to severe depression compared to 6.6% with other disability. These findings highlight the need for training of the staff working in such target group to enable them of early detection of those with mental health problems and being able to deliver community mental health interventions such as counseling and support therapy for them and their families. Also, more supervision from the specialized organizations working in the field of mental health to support the staff working in different organizations working with such group to increase the level of networking and referral system for cases need more psychological intervention.

Keywords: Physical; other disability; psychological problems; depression; Gaza strip.

1. INTRODUCTION

In May 1976, the WHO adopted a resolution at the 29th World Health Assembly to approve the publication, for trial purposes, of the International Classification of Impairments, Disabilities and Handicaps (ICIDH) [1]. This ICIDH classification scheme was proposed as a supplement to the ICD and is illustrated by the disablement model [1]; 1) Impairment: Any loss or abnormality of psychological, physiological or anatomical structure or function; 2) Disability Any restriction or lack (resulting from an impairment) of ability to

perform an activity in the manner or within the range considered normal for a human being; 3) Handicap: Disadvantage for a given individual, resulting from an impairment or a disability that limits or prevents the fulfillment of a role that is normal (depending on age, sex, social, and cultural factors) for that individual.

1.1 The International Classification of Functioning, Disability and Health

International Classification of Impairments, Disabilities and Handicaps (ICIDH) reinvented

our understanding of health and disability [2] and standardized language to facilitate communication. Endorsed by the World Health Organization in 2001 as the international standard to describe and measure these concepts, the International Classification of Functioning, Disability and Health is a classification system that addresses each individual's status in a holistic framework. The International Classification of Functioning, Disability and Health includes domains of Body Functions and Structures as well as Activities and Participation. These domains are complemented by the contextual factors of Environmental and Personal Factors.

The specifics of the International Classification of Functioning, Disability and Health domains are straightforward. Functioning (what one does) is counterbalanced by disability (how one is limited) and these concepts together embody health.

Body Functions and Structure refers to physiology (including psychological functions) and anatomy of the body respectively and abnormalities of these are referred to as impairments, examples of which would include muscle weakness, poor attention span, periventricular leukomalacia or joint contracture. Body functions and structures are often the target of medical interventions in efforts to improve overall health.

The World Health Organization's Terminology and Classification: Application to Severe Disability". Body functions and structure refers to physiological and psychological functioning of body systems and body structure (e.g., anatomical parts such as organs, limbs, and their components). Similar to impairment level used in ICDH, individual level activities refers to execution of a task or activity; similar to disability level used in the ICDH. Society level participation (Individual and society level) Refers to an individual's involvement in a life situation; is significantly different from the handicap concept used in the ICDH in that the emphasis is on the interaction between the individual and the environment, and the person's self-control and autonomy [2].

1.2 Mental Health of Disabled People

The reported occurrence of mental health problems is approximately 2 to 3 times increased in people with Intellectual Disabilities compared to the general population [3,4]

However, occurrence figures vary greatly between studies. The point prevalence of mental health disorders (psychotic, affective, and anxiety disorders) according to the Diagnostic and Statistical Manual of Mental Disorders (DSM) or International Statistical Classification of Diseases and Related Health Problems (ICD) classification criteria ranges from 7% to 23% in some studies, and when behavior disorders are included the percentages are often more than doubled [5].

In study of general outpatient normative 1,155 adults who had not previously been referred for diagnosis. Using the Psychiatric Assessment Schedule for Adults with Developmental Disabilities to establish prevalence rates, they found that 20% of the total sample had psychopathological problems [6].

Some mental disorders have more impact than others, adjusted for gender, age and mental and/or physical comorbidity, the five mental disorders with the strongest impact were: dysthymia, major depressive episode, PTSD, panic disorder and social phobia. The impact of mental vs. physical disorders on quality of life is rather specific, with mental disorders impacting on 'mental' quality of life and physical disorders on 'physical' quality of life. (v) Overall, the impact of mental disorders on disability and quality of life seems similar or stronger than the impact of common chronic physical disorders [7].

Others, reported that the prevalence of serious psychological distress, as assessed by the dichotomously coded Kessler 6 (K6) scale of nonspecific psychological distress, is nearly 7 times higher among adults with disabilities compared to those without [8].

Recently, in study of adults with intellectual disabilities located in the English midlands, south Wales and central Scotland, who had been identified as having problems with anger control, their key-workers and home carers all rated the service users' trait anger, using parallel versions of the same instrument (the Provocation Inventory). In addition, service users completed a battery of mental health assessments (the Glasgow Depression Scale, Glasgow Anxiety Scale and Rosenberg Self-Esteem Scale), and both groups of caregivers completed a battery of challenging behaviour measures (the Hyperactivity and Irritability domains of the Aberrant Behavior Checklist and the Modified Overt Anger Scale). Results Participants had high levels of mental health problems

(depression: 34%; anxiety: 73%) and severe challenging behaviour (26%) [9]. Depression is the leading cause of disability worldwide and a major contributor to the global burden of disease [10]. Dysthymia is characterized by less severe depressive symptoms than major depressive disorder (MDD) [11].

The aim of the study was to investigate the prevalence of mental health problems among disabled Palestinian adults and association with socio-demographic variables.

2. METHODS

2.1 Participants and Procedure

This was a stratified random sample, which composed of adults with disability that was based on the records of the database of both the National Society for Rehabilitation (NSR) and Palestinian Medical Relief Society (PMRS), whereas the Gaza Strip was divided into 5 governorates (the North, Gaza, Mid Zone, Khan Younis, and Rafah), noting that the selected persons were from the active cases and inactive cases in the period 2005-2009. The sample size was determined by the intention to reach a 95% confidence level. The sample responded to the interview were 418 participants with response rate of 100%, it consisted of 264 males (63.2%) and 154 females (36.8%). The age ranged from 19-70 years with mean age was ($M = 33.56 + 12.4$). The original sample consisted of 430 adults, and the drop out was thus 3.3% consisting of 14 participants who did not complete the questionnaires with response rate of 96.7%. The field worker was conducted by 25 community workers who had been working and give support for such target group for long time and they were familiar with them in the community. They were trained for 4 hours on this research objective and were introduced to the questionnaires for this study. For data collection, they visited the families according to prepared lists of number of participants selected to the data base of the Non-Governmental Organizations working with such group. The field workers presented an information letter to the participants, and if agreed, they obtained a written permission for participation. Subjects were interviewed individually in their homes and each interview lasted approximately 60 minutes. Participants were also informed that they were free to withdraw from the study at any time. The data collection was done between September and October 2009.

2.2 Instruments

2.2.1 Sociodemographic data

The participants demographic data was collected by questionnaire include sex, age, class, and place of residence.

2.2.2 Characteristics of disability data

This scale asked about type, duration, cause of disabilities, and rehabilitation status.

2.2.3 Beck depression inventory [12]

The original form of (BDI-II) contains 21 items and aims to assess the severity of depression. It also clarifies some of the cognitive aspects of depression. The Arabic version of the scale was used in the current study. The severity of depression is classified on the basis of the total score. In a normal community sample, a BDI score <20 suggests no or minimal depression, 21 to 31 represents mild to moderate depressive affects, 32 to 41 is moderate to severe, and ≤ 42 indicates a severe level of depression. The reliability of the Arabic version used in this study was ascertained (Cronbach's $\alpha = 0.88$, split half = 0.81).

2.2.4 General health questionnaire [13]

Women maternal mental health ratings were based on the General Health Questionnaire (GHQ-28). It covers severe depression and suicidal risk, anxiety and insomnia, social dysfunction, and somatic symptoms (59). Emphasis is on changes in condition, so items compare the present mental state to the person's normal mental health status. GHQ-28 scores above the cut-off of 4/5 are considered to be possible psychiatric 'cases'. This scale had been validated in Arabic culture and showed reliability and validity. The internal consistency of the scale calculated using Cronbach's α , was $\alpha=0.91$ and split half was 0.88 [14]. In this study the Cronbach's α was $\alpha=0.88$ and split half was 0.74.

2.2.5 Brief Symptom Inventory [15]

The BSI is a 53-item self-report symptom inventory designed to assess the psychological symptom patterns of psychiatric, medical, and community non patient respondents. It provides scores in nine primary symptom dimensions and

three global indices. Internal consistency for the nine dimensions is very good, with alpha coefficients ranging from a low of .71 to a high of .85 and test-retest reliability coefficients ranging from .68 to .91. Cronbach's alphas for the current sample were as follows: somatization (.85), obsessive compulsive (.92), depression (.90), Psychoticism (.79), anxiety (.90), hostility (.84), and phobic anxiety (.88). In this study the Cronbach's alpha =0.95 and split half was 0.90.

2.3 Statistical Analysis

The Statistical Package for the Social Sciences (SPSS) Version 20 was used to analyze the data. The frequencies of categorical data were presented. Differences between two groups were measured by t independent test such differences in mental health and sex of physically and other disability. While, differences between three groups were measured by One Way ANOVA such as differences in physical disability other types of disability and other sociodemographic variables.

3. RESULTS

3.1 Sociodemographic Characteristic of the Study

The sample responded to the interview were 418 participants with response rate of 100%, it consisted of 2643 males (63.2%) and 154 females (36.8%). The age ranged from 19-70 years with mean age was 33.56 (SD=12.4). According to place of residence, 12% were from North Gaza, 30.1% were from Gaza, 28.7% were from Middle area, 19.1% were from Khan Younis, and 10% were from Rafah area (south of Gaza). According to type of residence, 50.1% live in cities, 34% live in villages, and 15.9% live in camps. In looking for the family monthly income, 39.7% had no income, 46.9% of the families monthly income was less than 250 US \$ per month, 10.8% earned 251-500 US \$, and only 2.6% earned more than 501 US \$.

3.2 Characteristics of Disability

The results showed that 222 of participants had physical disability (53.4%), and 194 had other disability (vision, multiple, mental, hearing, and speech disability) (46.6%). According to cause of

disability, 10.1% reported that their disability was attributed to heredity factors, 24.76% due to congenital problem, 8.25% due to road traffic accidents (RTA), 7.28% due to home accidents, and 29.61% due to last Gaza war. According to time of disability, 60.7% reported that their disability was back to several years, 16.3% was back to less than one year, and 22.9% was before 6 months of the study. Regarding the rehabilitation status of cases, 56.3% of the disabled persons were currently active cases with both societies, and 43.7% were closed.

Table 1. Sociodemographic characteristic of the study sample (N = 416)

Variable	N	%
Sex		
Males	263	63.2
Females	153	36.8
Total	416	100.0
Age		
	Mean =33.46 years	
Address		
North Gaza	50	12
Gaza	126	30.1
Middle area	120	28.7
Khan Younis	80	19.1
Rafah area	42	10
Education		
Uneducated	71	17.1
Elementary	70	16.8
Primary	108	26
Secondary	89	21.4
Vocational	3	0.7
Diploma	27	6.5
University	48	11.5
Place of residence		
City	205	50.1
Village	139	34
Camp	65	15.9
Family monthly income		
No income	165	39.7
Less than 1000 NIS	195	46.9
1001-2000 NIS	45	10.8
More than 20001 NIS	11	2.6
Job		
Student	25	6.5
Unemployed	232	60.6
Employee	37	9.7
House wife	46	12
Simple worker	43	11.2

Table 2. Characteristics of sample disability

Type of disability	N	%
Physical	222	53.4
Visual	101	24.3
Multiple	37	8.9
Mental	23	5.5
Hearing	21	5
Speech	12	2.9
Total	416	100
Cause of disability		
War	102	29.61
Congenital	30	24.76
Others	122	19.90
Inherited	42	10.19
Road traffic accidents	34	8.25
Home accidents	82	7.28
Duration of disability		
Less than 6 months	94	22.9
Less than one year	67	16.3
More than one year	249	60.7
Rehabilitation state of the case		
Active	220	56.3
Not active	171	43.7

3.3 Differences in Means and Standard Deviations of Psychological Symptoms (BSI and subscales) of Physical and Other Disabilities

As shown in table, the results showed that the only differences in psychological symptoms was in paranoia, participants with other disability showed statistically significant paranoia symptoms than those with physical disability ($t = -2.07, p = 0.04$).

3.4 Differences in Psychological Symptoms between Participants with Physical and Other Disabilities and Sociodemographic Variables (BSI-53)

In order to find differences in gender and psychological symptoms, independent t test was conducted in which total mental health problems and subscales were entered separately as the dependent variable and sex of physical and other disability as independent variable. The results showed that there were no statistically significant differences in psychological symptoms according to sex (Males vs. Females was 80.94 vs. 87.37) ($t = -1.14, p = 0.26$). Also, there were no statistically significant differences in psychological symptoms according to sex in participants with other disability (Males vs.

Females was 82.25 vs 87.32) ($t = -0.90, p = 0.37$).

3.5 Differences in Psychological Symptoms Using GHQ-28 and Socio-demographic Variables

In order to find differences in gender and psychological symptoms scored by GHQ-28, independent t test was conducted in which total mental health problems and subscales were entered separately as the dependent variable and sex of physical and other disability as independent variable. The results showed that there were no significant differences in mental health according to GHQ scale and participants with physical disability. Also, were no significant differences in mental health according to GHQ scale and subscales (somatization, anxiety, depression, and social function) and participants with other disability.

3.6 Differences in Prevalence of Mental Health Problems between Participants with Physical and Other Disabilities Using GHQ-28

Using the previous cut-off point of the GHQ-28 (4/5), the result showed that 42.6% of the physically disabled adults were rated as psychiatric morbidity cases compared to 37.3% of other disability.

3.7 Differences in Depression Level between Participants with Physical and Other Disability Adults

Using the established cutoff score on the BDI-II [16] where a score <20 = no depression, 21-31 = mild depression, 32-41 = moderate depression, and 42 and above = severe depression. Chi square test was conducted. The study showed that 26% of participants with physical disability had no depression compared to 25.1% with other disability, 17% of participants with physical disability had mild depression compared to 15.2% with other disability, 7.4% of participants with physical disability had moderate depression compared to 4.9% with other disability, 2.7% of participants with physical disability had severe depression compared to 1.7% with other disability. There were no statistically significant differences between the two groups in prevalence of depression ($\chi^2 = 1.602, df = 3, p = 0.65$).

Table 3. Differences in means and standard deviations of psychological symptoms (BSI and subscales) of physical and other disabilities

		Mean	SD	Mean difference	t	p
Somatization	Physical disability	11.38	6.65	0.66	1.00	0.32
	Other disability	10.72	6.54			
Obsessive compulsive	Physical disability	10.62	4.67	-0.44	-0.90	0.37
	Other disability	11.05	5.13			
Interpersonal sensitivity	Physical disability	6.47	4.26	-0.21	-0.51	0.61
	Other disability	6.68	4.04			
Depression	Physical disability	9.37	5.57	-0.36	-0.62	0.53
	Other disability	9.73	5.91			
Anxiety	Physical disability	10.64	5.00	0.20	0.38	0.71
	Other disability	10.45	5.60			
Hostility	Physical disability	7.89	4.54	0.56	1.29	0.20
	Other disability	7.33	4.17			
Phobic anxiety	Physical disability	7.69	4.50	-0.32	-0.71	0.48
	Other disability	8.02	4.65			
Paranoia	Physical disability	6.79	4.47	-0.91	-2.07	0.04
	Other disability	7.70	4.38			
Psychoticism	Physical disability	6.61	4.56	-0.41	-0.94	0.35
	Other disability	7.02	4.25			

Table 4. Differences in Means and standard deviation of the GHQ-28 of physical and other disabilities

		Mean	SD	Mean Difference	t	p
GHQ-Total	Physical disability	12.36	7.59	.81	.61	.42
	Other disability	11.75	7.53			
Somatization	Physical disability	3.19	2.44	.02	.01	.98
	Other disability	3.19	2.48			
Anxiety	Physical disability	3.32	2.47	.28	.07	.78
	Other disability	3.25	2.37			
Social dysfunction	Physical disability	3.56	2.31	2.11	.50	.04
	Other disability	3.05	2.50			
Depression	Physical disability	2.29	2.15	.14	.03	.89
	Other disability	2.26	2.11			

Table 5. Differences in prevalence of mental health problems between participants with physical and other disabilities using GHQ-28

		N case	Case	Total
Physical disability	No.	44	178	222
	%	10.5	42.6	53.1
Other disability	No.	40	156	196
	%	9.6	37.3	46.9
Total	No.	84	334	418
	%	20.1	79.9	100.0

$$\chi^2 = 1.602, df = 3, p = 0.65$$

Table 6. Differences in depression level between participants with physical and other disability adults

	No depression (less than 20)	Mild depression (21-31)	Moderate depression (32-41)	Severe depression (above 42)
Physical	106	69	30	11
	26.0	17.0	7.4	2.7%
Other disability	102	62	20	7
	25.1	15.2	4.9	1.7%
Total	208	131	50	18
	51.1	32.2	12.3	4.4%

4. DISCUSSION

In the Palestinian territories, people with disability (PWDs) have been challenging with harsh socio-economic situation and political uncertainty. Though legislation is a significant sign of acknowledging the needs for people with disability (PWDs), but lack to financial resources, continuation of occupation, imposing extreme siege on people's mobility on Gaza in particular deny access to travel freely abroad, lack of good infrastructure in all important sectors either in public or private, all these factors make the situation unique in Palestine.

The prevailing disability for adults (65.6% of the sample) shows that 34.77% was attributed to heredity and congenital; this is attributed to the first-degree-cousin consanguinity (26.61% of recorded people with disability are close-relatives and 12.7% from same tribe or family, compared to 26.34% non-relatives).

Study of genetic diseases in Arab countries suggested that genetic diseases may be responsible for two-thirds of childhood blindness in Arab societies, ranging from 47 percent in Tunisia to 86 percent in Kuwait [17]. It is, internationally estimated that 50 percent of hearing impairment in infants is due to genetic factors. The other factors cause disability are referred to 29.6% for war, 7.28% for home accidents, and 8.25% for road traffic accidents; [18], suggested a high rate of accident-related disability in Arab countries.

Our study participants with other disability showed statistically significant paranoia symptoms than those with physical disability. The results showed that there were no significant differences in mental health according to GHQ scale and participants with physical and other disability. For GHQ-28, the result showed that 42.6% of the physically disabled adults were rated as psychiatric morbidity cases compared to 37.3% of participants with other disability. The results showed that there significant differences in mental health according to GHQ scale and causes of disabilities. Physically disabled people had more general mental health problem than visually disabled and less than those with multiple causes people with hearing disability had less somatization than those with mental disability and multiple causes, visually impaired people had less somatization than those with physically disabled people had more somatization than visually disabled and less than those with multiple causes, people with hearing

disability had less somatization than those with mental disability and multiple causes, visually impaired people had less somatization than those with mental disability and multiple disability.

Our study consistent with another study which found that if challenging behaviour and autistic spectrum disorders are included, over 40% of the adult population with intellectual disabilities can be said to have additional mental health needs [19]. In another study, Morgan and colleagues [20] cross linked Western Australian psychiatric and disability registers to identify the prevalence of psychiatric disorder and service use in people with Intellectual disability (ID) in two birth cohorts, 1950–1964 and 1965–1979. Overall 31.7% of people with ID had a psychiatric disorder. Schizophrenia, but not mood disorders, was overrepresented among people with ID, at 3.7–5.2%, for the younger and older birth cohorts, respectively. Our results showed that 10.1% of participants with physical disability had moderate to severe depression compared to 6.6% with other disability.

Our study consistent with other studies which suggested that adults with intellectual disability are four to six times more likely to experience a depressive disorder in their lifetime than are adults without intellectual disability [21]. In study of 49 young adults with Down syndrome. All were on a contact list of the Down Syndrome Research Program, The University of Queensland and all had previously had measures of intelligence conducted in adulthood and received a diagnosis of intellectual impairment. Found that depression was the most prevalent diagnosis, confirming the relative susceptibility of those with Down syndrome to this disorder in contrast to other diagnoses [22].

In study of cross-sectional data from the 2007 Behavioral Risk Factor Surveillance System were used for this study (U.S. adult population). Severity of psychological distress was assessed using the Kessler 6 scale of nonspecific psychological distress. Logistic regression analyses were performed to estimate predicted marginal and prevalence ratios. Nine percent of adults had mild to moderate psychological distress and 3.9% had serious psychological distress. The overall prevalence of moderate psychological distress was more than twice as high and the prevalence of severe psychological distress was almost 7 times higher among adults with disability compared with those without disability [23]. In a study of eighty-four adults with

mild and concomitant impairments in adaptive behavior) were recruited from 11 disability service providers in the Rocky Mountain region of the USA between 2007 and 2009. The study found that adults with mild ID self-reported a higher frequency of affective and cognitive depressive symptoms than staff reported on the informant questionnaire. Also, older adults with mild ID were reported by staff to exhibit a higher frequency of somatic depressive symptoms than younger adults with mild ID [24].

4.1 Study Implications

This study is the first studies done in the Gaza Strip to evaluate prevalence of mental health problems among disabled adults. The study showed that participants with other disability showed statistically significant paranoia symptoms than those with physical disability. For other psychological problems rated by GHQ-28 the result showed that 42.6% of the physically disabled adults were rated as psychiatric morbidity cases compared to 37.3% of participants with other disability. Our results showed that 10.1% of participants with physical disability had moderate to severe depression compared to 6.6 % with other disability. These findings highlight the need for training of the staff working in such target group to enable them of early detection of those with mental health problems and being able to deliver community mental health interventions such as counseling and support therapy for them and their families. Also, more supervision from the specialized organizations working in the field of mental health to support the staff working in different organizations working with such group to increase the level of networking and referral system for cases need more psychological intervention. There are needs to do training for handicapped people in the field of stress management and how to deal with their feelings of inferiority and low self-esteem by training courses through different community based organizations. There is need to keep data base in different organizations including the mental health profile and other disability data concerning the adults with disability.

5. CONCLUSION

This is the first study of disabled people in the Gaza Strip which showed that 42.6% of the physically disabled adults were rated as psychiatric morbidity cases compared to 37.3% of participants with other disability. For depression the study showed that 10.1% of

participants with physical disability had moderate to severe depression compared to 6.6% with other disability.

Such findings showed that this target population in need for more psychological help service providing local community based organizations.

CONSENT

All authors hereby declare that study had been examined and approved by the appropriate ethics committee and have therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. World Health Organization. International Classification of Impairments Disabilities and Handicaps (ICIDH). Geneva, Switzerland: WHO; 1980.
2. World Health Organization Kerker BD, Owens PL, Zigler E, Horwitz SM. Mental health disorders among individuals with mental retardation: Challenges to accurate prevalence estimates. Public Health Reports. 2004;119:409-417. (WHO). ICF. International Classification of Functioning, Disability and Health. 2001. Geneva. Available: <http://www.who.int/icf>
3. Gustafsson C. Intellectual disability and mental health problems. Evaluation of two clinical assessment instruments, occurrence of mental health problems and psychiatric care utilisation. Uppsala, Sweden: Acta Universitatis Upsaliensis; 2003. Faculty of Medicine.
4. Kerker BD, Owens PL, Zigler E, Horwitz SM. Mental health disorders among individuals with mental retardation: Challenges to accurate prevalence estimates. Public Health Reports. 2004; 119:409-417.
5. Deb S, Thomas M, Bright C. Mental disorders in adults with intellectual disability 1: Prevalence of functional psychiatric illness among a community-based population aged between 16 and 64 years. Journal of Intellectual Disability Research. 2001;45:495-505.
6. Taylor JL, Hatton C, Dixon L, Douglas C. Screening for psychiatric symptoms: PAS-

- ADD checklist norms for adults with intellectual disabilities. *Journal of Intellectual Disability Research*. 2004;48: 37–41.
7. Alonso J, Angermeyer MC, et al. Disability and quality of life impact of mental disorders in Europe: Results from the European study of the Epidemiology of Mental Disorders (ESEMED) project. *Acta Psychiatr Scand*. 2004;109(420):38-46.
 8. Okoro CA, Strine TW, Balluz LS, Crews JE, Dhingra S, Berry JT, Mokdad AH. Serious psychological distress among adults with and without disabilities. *International Journal Public Health*. 2009; 54(1):52–60.
 9. Rose J, Willne P, Shea DJ, Jahoda A, Gillespie D, Townson J, Lammie C, Woodgate C, Kroese B, Felce D, MacMahon P, Rose N, Stimpson A, Nuttall J, Hood K. Different factors influence self-Reports and third-party reports of anger by adults with Intellectual Disabilities. *Journal of Applied Research in Intellectual Disabilities*. 2013;26:410–419.
 10. World Health Organization (WHO). Depression; 2013. Geneva. Available:<http://www.who.int/media/centre/factsheets/fs369/en/index.html> (accessed 19.05.15)
 11. American Psychiatric Association. Diagnostic and statistical manual of mental disorders: Text Revision DSM-IV-TR, fourth ed. American Psychiatric Association, Arlington, VA; 2000.
 12. Beck JG, Stanley MA, Zebb BJ. Effectiveness of the Hamilton anxiety rating scale with older generalized anxiety disorder patients. *Journal of Clinical Geropsychology*. 1999;5(4):281-290.
 13. Goldberg D, Bridges KW. Screening for psychiatric illness in general practice: the general practitioner versus the screening questionnaire. *Royal College of General Practice*. 1987;37:15-18.
 14. Thabet AA, Vostanis P. The validity and reliability of arabic version of general health questionnaire in the Gaza Strip. *Palestinian Medical Journal*. 2005;1(1):33-36.
 15. Derogatis LR, Melisaratos N. The brief symptom inventory: An introductory report. *Psychological Medicine*. 1983;13:595–605.
 16. Gareeb M. BDI-II. Angloegyptian Library. Cairo: Egypt; 2000.
 17. Goma A. Genetic eye diseases and genetic counselling services in Egypt. *Community Eye Health Journal*. 2007;20: 11-17.
 18. Hakim G, Jaganjac N. A note on disability issues in the Middle East and North Africa. World Bank document, Human development department, Middle East and North Africa Region; 2005. Available:<http://siteresources.worldbank.org/DISABILITY/Resources/Regions/MENA/MENADisabilities.doc> (Retrieved June 5, 2008)
 19. Cooper SA, Smiley E, Morrison J, Williamson A, Allen J. Mental ill-health in adults with intellectual disabilities: Prevalence and associated factors. *British Journal of Psychiatry*. 2007;190:27–35.
 20. Morgan VA, Leonard H, Bourke J, Jablensky A. Intellectual disability co-occurring with schizophrenia and other psychiatric illness: Population-based study. *British Journal of Psychiatry*. 2008;193: 364–372.
 21. Richards M, Maughan B, Hardy R, Hall I, Strydom A, Wadsworth M. Long-term affective disorder in people with mild learning disability. *The British Journal of Psychiatry*. 2001;179:523–527.
 22. Mallardo M, Cuskelly M, White P, Jobling B. Mental health problems in Adults With Down Syndrome and their association with life circumstances. *Journal of Mental Health Research in Intellectual Disabilities*. 2014;7:229–245.
 23. Okoro CA, Dhingra S. Severity of psychological distress among adults with and without disabilities. *Social Work in Public Health*. 2014;29:671–685.
 24. Mileviciute I, Hartley SL. Self-reported versus informant-reputed depressive symptoms in adults with mild intellectual disability. *Journal of Intellectual Disability Research*. 2015;59(2):158–169.

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