Short Communication

The role of functional capacity in the prediction of occupational status in schizophrenia

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Dear Editor

According to the World Health Organization, schizophrenia stands as one of the most disabling conditions around the world (WHO, 2011). Disability refers to the lack of achievement of lifetime milestones of adults, such as marriage, parenthood, housing or employment. Previous studies have explored the relationship between achievement of adult milestones and symptoms or cognitive status. This latter, as measured by neuropsychological tests, is a main determinant of disability in schizophrenia (Green, 1996). Nonetheless, due to the lack of face validity, it has been considered insufficient to predict disability, especially in clinical trials. Thereby, functional capacity (FC), a measure of everyday functioning, is recommended as a co-primary instrument for neuropsychological tests in cognitive enhancement trials in schizophrenia (Buchanan et al., 2005). Previously, Mausbach et al. (2008a) examined and provided evidence for the usefulness of the UCSD Performance-based Skills Assessment (UPSA-1), a FC measure, for predicting residential independence in patients with chronic schizophrenia. Also, it has been demonstrated that higher scores in the UPSA-1 predict accurately “community responsibility” (Mausbach et al., 2008b; Cardenas et al., 2008). Concerning occupational status, Mausbach et al. (2010) investigated the relationship between scores in a brief version of UPSA (UPSA-B) and employment, along with other indicators of “real-world” functioning, both in bipolar disorder and schizophrenia patients. In general, higher scores in this instrument were found in participants who were employed, but this association disappeared when symptoms of psychopathology were taken into account.

To our knowledge, no studies concerning FC and achievement of lifetime milestones in adults were conducted in developing countries. This study aims at investigating the relationship between FC and occupational status in a Brazilian sample of community-dwelling patients with schizophrenia.

We enrolled 75 stable and community-dwelling patients with schizophrenia, according to the DSM-IV-TR criteria and confirmed through the MINI-Plus (Amorim, 2000). All participants invited were previously instructed about the study design and objectives. Those who agreed to be enrolled provided a written informed consent, in accordance to the requirements of the Ethics Committee for Research (Fundação Hospitalar do Estado de Minas Gerais – FHEMIG). Individuals answered socio-demographic questions of a semi-structured questionnaire, including the current occupational status. Functional capacity was assessed through the Brazilian version of the UPSA (UPSA-1-BR) (Mantovani et al., 2015), including all five subdomains, as follows: comprehension and planning, financial skills, communication, mobility and household managing. Individuals were separated in two groups, considering the current occupational status: Working Group (currently working or retired [service retirement]) and Not-working Group (unemployed or permanently disabled due to mental illness [disability retirement]). Independent sample t-test was employed to verify functional capacity differences between these two groups. Effect sizes (Cohen’s d) were calculated by dividing the mean difference between groups by a pooled standard deviation (sd) from the two groups.

Seventeen individuals integrated the Working Group (WG), while 58 individuals were allocated in the Not-working Group (NWG). Participants enrolled in this study had a mean age of 41.0 (SD 12.1) years and a mean age of disease onset of 27.6 (SD 9.9) years, were mostly men (61.3%) and were receiving typical (45.3%), atypical (44%) or more than one anti-psychotic class (10.7%). No differences among groups were identified concerning these variables. UPSA-1-BR mean scores and statistical analysis between the two groups were shown in Table 1:

As shown by the results, our sample is quite representative of the disabling nature of schizophrenia. It is composed by mid-age individuals who in average became ill when people are usually beginning a career (third decade of life), and currently are mostly unemployed or retired due to mental illness (77.3%). FC, as measured by the UPSA-1-BR mean total score, failed to distinguish occupational status. However, the communication and mobility subdomains mean scores did differed...
Contrasting to previous data that show a predictive rule of UPSA-1 total financial abilities, may be indicative of the nature of jobs achievable for communication and mobility competences, instead of planning or over occupational status. The relationship between work capacity and occupation, suggesting an association of these variables may reduce the ability of UPSA-1-BR to discriminate. The significant underrepresentation of the WG in our sample, which confirms the clear occupational disability among patients with schizophrenia in our environment, may also be a possible explanation for the lack of correlation of UPSA-1-BR total score and the occupational status. When considering only the correlated subdomains, it is worth to note that our findings on mobility (Cohen’s $d$ 0.52) and communication (Cohen’s $d$ 0.57) competences are underpowered and must be interpreted with caution. Furthermore, the cross-sectional design of our study does not allow us to conclude if the competences are a prerequisite to work, or a consequence of training and exposure to demanding situations. Hence, future prospective research, controlled for symptoms, with a larger and more uniform sample, could help disentangle the question whether disabled patients with schizophrenia should receive psychosocial treatment focusing on communication and mobility skills prior to work reference, or if occupational placement should be seen itself as a sort of psychosocial treatment for these functional domains, maybe serving as an axis for the achievement of others adult lifetime milestones.

Conflicts of interest

The authors have no conflict of interest related to the topic of this article.

Ethical approval

The Ethics Committee for Research (FHEMIG, 034-B/2010; CAAE 0038.0.287.000–10) approved the study.

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Table 1

|                      | WG   | NWG  | p-Value | Effect size  |
|----------------------|------|------|---------|--------------|
| Comprehension and planning | 14.1 (3.7) | 14 (3.8) | 0.057    | 0.950        |
| Financial skills     | 12.1 (4.2) | 9.9 (5.1) | 1.576    | 0.119        |
| Communication        | 12 (5) | 9.4 (4.1) | 2.177    | 0.033* 0.57 |
| Mobility             | 16.2 (3.4) | 13.9 (5.2) | 2.203    | 0.033* 0.52 |
| Household managing   | 13.2 (7.1) | 13.2 (7.4) | 0.031    | 0.975        |
| Total score          | 67.6 (17) | 60.5 (17.5) | 1.487    | 0.141        |

WG: working group. NWG: not-working group. n: subjects. sd: standard deviation. UPSA-1-BR: UCSD Performance-based Skills Assessment, Brazilian version 1.

* Indicates statistical significance.