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Leonardo Fernandez Meyer

**Esquizofrenia e violência: teoria e avaliação psicométrica através do
*Historical, Clinical and Management 20 (HCR-20)***

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Centro de Ciências da Saúde – CCS
Universidade Federal do Rio de Janeiro –UFRJ

Esquizofrenia e violência: teoria e avaliação psicométrica através do
Historical, Clinical and Management 20 (HCR-20)

LEONARDO FERNANDEZ MEYER

Dissertação de Mestrado submetida ao Corpo Docente do
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Orientador:

ALEXANDRE MARTINS VALENÇA,

Coorientador:

JOSÉ GERALDO VERNET TABORDA, Ph.D.
(in memoriam – UFCSPA)

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Aprovada por:

Prof. Alexandre Martins Valença. Presidente da Banca

Professor Associado do Departamento de Psiquiatria e Saúde Mental da Universidade Federal Fluminense-UFF. Pós -Doutorado

Prof. Antônio Egídio Nardi

Professor Titular do Departamento de Psiquiatria e Medicina Legal da Universidade Federal do Rio de Janeiro-UFRJ. Pós-Doutorado.

Prof. Elie Cheniaux

Professor de Psiquiatria da Universidade do Estado do Rio de Janeiro-UERJ. Pós-Doutorado.

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RESUMO

Introdução: Comportamento violento, esquizofrenia e transtornos psicóticos orgânicos possuem correlações bem estabelecidas. Também conhecida como avaliação de risco de violência (ARV), o tema obteve significativo avanço científico com o desenvolvimento de instrumentos psicométricos, como o *Historical, Clinical and Management 20*. O constructo de comportamento violento possui elementos psicopatológicos passíveis de verificação empírica (objetiva). **Objetivos:** Os três artigos incluídos no texto objetivam verificar: elementos correlacionados com comportamento violento em portadores de esquizofrenia internados em um hospital psiquiátrico clínico, através do *Historical, Clinical and Management 20*, similaridades do comportamento violento em esquizofrênicos e em portadores de transtornos psicóticos orgânicos, bem como aspectos relativos à teoria do conhecimento em psicopatologia, aplicados ao constructo de comportamento violento. **Resultados:** O *Historical, Clinical and Management 20* demonstrou eficácia na verificação de comportamento violento em portadores de esquizofrenia e suas especificidades nesta população. Os fatores determinantes para o comportamento violento nos transtornos psicóticos orgânicos parecem ser compartilhados com os verificados na esquizofrenia. Os elementos psicopatológicos do constructo de comportamento violento não apresentam limitações significativas à sua verificação empírica. **Conclusão:** O *Historical, Clinical and Management 20* apresentou eficácia similar àquela verificada em pesquisas com populações psiquiátrico-forenses. O uso do instrumento em ambientes clínicos deveria ser estimulado.

Palavras-chave: agressividade, comportamento violento, HCR-20, Psicopatologia, Esquizofrenia.

ABSTRACT

Introduction: Violent behavior schizophrenia and organic psychotic disorders have well established correlations. Also named risk assessment of violence, the theme gained significant advances through the development of psychometric instruments, such as the *Historical, Clinical and Management 20*. The construct of Violent behavior contains psychopathologic elements, which can be empirically verified (objectively). **Objectives and Method:** the three papers included in text intent to verify: elements related with Violent behavior in schizophrenic individuals admitted in a clinical psychiatric hospital, through the *Historical, Clinical and Management 20*, similarities of violent behavior in schizophrenia and in organic psychiatric disorders, as well aspects related to Knowledge Theory in Psychopathology applied to Violent behavior. **Results:** *Historical, Clinical and Management 20* was reliable to verify violent behavior in schizophrenic individuals and its specificities in this population. Determinant factors of violent behavior in schizophrenia seems to be shared with organic psychotic disorders. Psychopathologic elements of violent behavior construct do not have significant limitation for empirical research. **Conclusion:** *Historical, Clinical and Management 20* show efficiency on distinguishing violent and nonviolent schizophrenic individuals and identifying characteristics of each group. The use of this instrument in clinical settings should be encourage.

Key word: aggressiveness, violent behavior, HCR-20, psychopathology, schizophrenia

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LISTA DE SIGLAS

AVR – Avaliação de risco de violência (risk assessment of violence)

CC – Calcificação cerebral (cerebral calcification)

CV – comportamento violento (violent behavior)

CR – ruminação cognitiva (cognitive rumination)

CT – tomografia computadorizada (computerized tomography)

DSM-IV – Manual Diagnóstico e Estatístico de transtornos Mentais, 4º edição

EER – Escala de resposta ruminativa (Ruminative response scale)

HCR-20 – Historical, Clinical and Management 20

OAS – Overt Aggressive Scale

MOAS – Modified Overt Aggressive Scale

SCID 1 – Entrevista Clínica Estruturada para o DSM-IV

1- Introdução

Comportamento violento (CV) e doença mental possuem correlações bem estabelecidas. (Monahan *et al.* 2001; Otto & Douglas 2010; Webster *et al.* 1997) Entre as patologias psiquiátricas mais pesquisadas e relacionadas ao desfecho, destacam-se as psicoses, o retardo mental e os transtornos de personalidade, marcadamente dos tipos antissocial e o *borderline*. Cada um destes diagnósticos possui especificidades em relação ao tipo CV perpetrado. Por exemplo, portadores de retardo mental e esquizofrenias tendem a praticar atos violentos reativos (impulsivos), ou seja, sem o planejamento prévio dos meios necessários para executá-lo, predefinição da vítima ou o esclarecimento acerca de suas motivações internas. Portadores de transtorno de personalidade antissocial tendem a praticar atos de violência previamente planejados e com características de crueldade. (Rosner 2001; Taborda *et al.* 2012).

Ao revés, portadores de transtorno de personalidade antissocial (psicopatia) costumam planejar previamente seu CV, bem como eleger potenciais vítimas e os meios necessários para a execução das agressões. Este tipo de agressividade comumente possui características de crueldade e são potencialmente mais danosos às vítimas. (Rosner 2001; Taborda *et al.* 2012)

Reconhecida na literatura como avaliação de risco de violência (ARV), o tema tem suas origens na psiquiatria forense e no direito criminal. (Taborda *et al.* 2012). Um exemplo de sua aplicação está no exame de cessação de periculosidade. Tradicionalmente realizada através do exame psiquiátrico-clínico, a ARV obteve significativo avanço técnico-científico, a partir da década de 90. (Taborda *et al.* 2012, Otto & Douglas 2010).

O *McArthur Study* foi o primeiro estudo com bases metodológicas seguras no tema. (Monahan *et al.* 2001) Pesquisas posteriores seguiram suas influências e culminaram no desenvolvimento de instrumentos psicométricos para a ARV, cujos benefícios incluem a introdução de parâmetros objetivos complementares ao método clínico, capazes de reduzir a influência da subjetividade do entrevistador na avaliação e de nortear a verificação de fatores sabidamente relacionados ao CV. (Taborda *et al.* 2012, Otto & Douglas 2010) O primeiro instrumento de destaque no tema foi o *Psychopathic Checklist Revised* (PCL-R), que foi seguido por outros como: o *Historical, Clinical and Management 20* (HCR-20), o *Violence Risk Appraisal Guide* (VRAG) e o *Overt Aggressive Scale* e o *Modified Overt Aggressive Scale* (MOAS). Cada uma das escalas possui objetivos, metodologias e limitações próprias. Os instrumentos foram produzidos, em sua maioria, a partir de demandas judiciais e com populações psiquiátrico-forenses (Otto & Douglas 2010).

A ARV possui correlação direta com a psiquiatria clínica, marcadamente em ambientes de emergência e intrahospitalares. (Taborda *et al.* 2012, Crocker *et al.* 2009) É comum a médicos e

profissionais de saúde, em ambientes clínicos, serem confrontados com presença de CV em seus pacientes, com a necessidade de produção de pareceres técnicos e da adoção de estratégias terapêuticas específicas e realização de tomadas de decisão, todas no sentido de minimizar este risco específico. (Taborda *et al.* 2012, Meyer *et al.* 2015 (submetido)) Nesse sentido, faz-se igualmente necessária a pesquisa em ARV em ambientes psiquiátricos clínicos e forenses. Atualmente, a maioria dos trabalhos publicadas no tema é realizada em populações e *settings* forenses.

Para a realização apropriada da ARV, em ambientes clínicos ou forenses, é necessário conhecimento teórico apropriado e experiência do examinador, a utilização de técnicas de exame adequadas (diversa da técnica clássica adotada no exame psiquiátrico), realização de exames e a aplicação de instrumentos psicométricos, se disponíveis, complementares à avaliação clínica. (Taborda *et al.* 2012).

Para a pesquisa empírica segura em psiquiatria, que incluam elementos psicopatológicos, faz-se necessário atentar para aspectos relativos a teoria do conhecimento em psicopatologia (Jaspers 1997, Fuchs *et al.* 2013). Em linhas gerais, pode-se afirmar que objetos de pesquisa psicopatológicos são, eminentemente, de natureza fenomenológica, cujas características são diversas daqueles verificados na natureza. Entre as principais demandas deste tipo de objeto de pesquisa estão: a definição conceitual clara e precisa do objeto de pesquisa em tela (CV), aplicação de metodologias apropriadas e verificação das possibilidades de conhecimento científico seguro na matéria. Esse assunto será abordado com maiores detalhes a seguir (1.3- Teoria do conhecimento, Psicopatologia e CV).

1.1- Historical, Clinical and Management 20 (HCR-20)

O HCR-20 é um *checklist* composto por 20 itens relacionados ao CV em portadores de transtornos mentais. Cada item pontua 0 (característica ausente), 1 (característica parcialmente presente) e 2 (característica presente). O escore total varia de 0 a 40, escores mais próximos aos extremos possuem maior confiabilidade, se comparados com valores médios. (Webster *et al.* 1997)

O instrumento é subdividido em três sub-escalas: histórica, clínica e de risco. A sub-escala histórica é constituída por 10 itens relacionados ao passado (linha de vida) do paciente, relacionados com CV. Também conhecidos como fatores estáticos do HCR-20, estes itens correspondem a elementos biográficos comumente verificados em portadores de transtornos mentais violentos. O escore da sub-escala histórica não costuma ter alteração em avaliações consecutivas do instrumento.

As sub-escalas clínica e de risco correspondem aos fatores dinâmicos do HCR-20. Respectivamente, as sub-escalas representam o momento presente da avaliação (exame psiquiátrico) e fatores ambientais relacionados com CV. Cada uma é composta por cinco itens. (Webster *et al.* 1997)

O escore destas sub-escalas varia de acordo com o momento do exame e têm seu valor preditivo cronologicamente reduzido, a partir do momento da avaliação. Os autores do instrumento sugerem a aplicação do HCR-20 a cada seis meses. (Webster *et al.* 1997; Otto & Douglas 2010)

O HCR-20 foi desenvolvido com populações e em ambientes psiquiátrico-forenses. (Webster *et al.* 1997) O instrumento é bem aceito pela comunidade científica, está validado em diferentes idiomas (incluindo o português) e para o uso em pacientes em tratamento psiquiátrico em instituições clínicas. Seus objetivos principais são a verificação do risco de CV, em termos probabilísticos (baixo, médio e alto), auxiliar nas tomadas de decisão de especialistas com pacientes potencialmente violentos e na elaboração de estratégias terapêuticas focadas na redução deste risco específicos. Em termos práticos, o último objetivo mencionado demonstra ser da maior relevância, por objetivar a reinserção de pacientes psiquiátricos violentos na comunidade.

1.2- Esquizofrenia, transtornos psicóticos orgânicos e comportamento violento

A esquizofrenia é uma das patologias psiquiátricas mais associadas com CV e ao comportamento delitivo. (Singh *et al.* 2012, Douglas *et al.* 2009, Tengstrom *et al.* 2001) Diferentes fatores contribuem para o desfecho, por exemplo: uso de substâncias psicoativas, comportamento pré mórbido, características fenomenológicas da sintomatologia apresentada, presença de suporte pessoal e/ou familiar e de tratamento psiquiátrico prévio e/ou atual.

O uso de substâncias psicoativas, em particular, é fortemente relacionado com CV. (Fazel *et al.* 2009; Douglas *et al.* 2009, Dumais *et al.* 2011) Diferentes razões são atribuídas neste sentido, como por exemplo: a reagudização de sintomas psiquiátricos pelo seu consumo, prejuízo na adesão do tratamento e a exposição do indivíduo a situações de risco (aquisição de drogas ilícitas, a frequência de ambientes e convívio com pessoas afetos ao consumo de álcool e drogas). (Frésan *et al.* 2003; Fullan *et al.* 2003)

Em relação aos sintomas psicóticos, alterações do comportamento e volição (impulsividade) são apontados como os principais determinantes psicopatológicos ao desfecho violento. (Appelbaum *et al.* 2000, Bjorker 2002, Stompe *et al.* 2004) Delírios e alucinações são menos relacionados ao desfecho, entretanto, fatores como: aceitação e concordância do indivíduo em relação ao conteúdo delirante, bem como sua familiaridade e credibilidade em relação ao conteúdo delirante e às alterações sensoperceptivas. (Bjorker 2002, Stompe *et al.* 2004).

Transtornos psicóticos orgânicos compartilham grande parte dos sintomas esquizofrênicos associados ao CV. (Gray *et al.* 2007; Meyer *et al.* 2013) Sintomas como impulsividade, comportamento desorganizado, ausência de intimidade do paciente com a sintomatologia produtiva (nos casos agudos)

e déficit mnêmico, costumam contribuir para o desfecho negativo. (Meyer *et al.* 2013) Em especial, os distúrbios do metabolismo do cálcio e do fósforo estão correlacionados com a gênese de CV, principalmente nas fases pré-demenciais. (Meyer *et al.* 2013)

O tipo de violência perpetrada varia nos portadores de esquizofrenia. (Tengström *et al.* 2001; Simon & Tardiff 2008) Pacientes com o surgimento de CV posterior o surgimento da doença tendem a manifestá-lo durante a episódios de reagudização da doença, a agressividade costuma ser reativa (sem planejamento prévio), costumam responder melhor ao tratamento convencional e a praticar seus atos contra familiares (Tengström *et al.* 2001, Simon & Tardiff 2008). Já aqueles com manifestação de CV prévio ao surgimento da patologia, costumam possuir traços anormais de personalidade (antissocial), planejar os atos praticados, praticar violência com características de crueldade e a escolher previamente suas vítimas, com maior probabilidade desta não pertencer ao círculo familiar do indivíduo (Tengström *et al.* 2001).

Singh sugere maior consistência do HCR-20, na ARV, em portadores de esquizofrenia e retardo mental, se comparados aos transtornos de humor e de personalidade (singh *et al.* 2011). O HCR-20 também se destaca em confiabilidade, comparado a outros os instrumentos semelhantes, na predição de CV em pacientes esquizofrênicos (singh *et al.* 2011). Estes resultados podem ser enviesados, pois muitos trabalhos mencionam a existência de participantes esquizofrênicos em suas amostras, entretanto, não os apresentam de maneira escrutinizada (Dolan *et al.* 2010). Trabalhos realizados com amostras exclusivas de portadores de esquizofrenia tendem a apresentar resultados mais fidedignos (Dumais *et al.* 2010).

1.3- Teoria do conhecimento, Psicopatologia e comportamento violento

A teoria do conhecimento (Epistemologia) corresponde a um ramo da Filosofia da Natureza dedicado a verificação das possibilidades de conhecimento seguro em determinada matéria, ou relativo a determinado objeto. A Epistemologia é correlacionada ao empirismo, hermenêutica, metafísica, lógica e relações de causalidade. Entre seus principais teóricos destaca-se Descartes, com sua obra *Discurso do Método* (Descartes 2001), cuja influência pode ser verificada nas Ciências Naturais e em seus critérios de cientificidade.

A Psicopatologia é uma ciência cujas fundações teóricas estão nas ciências naturais e humanas. Assim, por possuir natureza diversa das ciências naturais puras, faz-se necessário maior rigor crítico na pesquisa empírica na matéria. Jaspers salienta esse argumento na parte inicial de sua obra *Psicopatologia Geral* (Jaspers 1997), bem como as limitações de conhecimento inerentes aos seus objetos de pesquisa. Os principais elementos incluídos pelo autor para a pesquisa empírica em psicopatologia os são: identificação objetiva do objeto de pesquisa; sua definição conceitual precisa;

adoção de diferentes metodologias, se possível, na investigação (casuística, hermenêutica, estatística, genética, neuroimagem e exames laboratoriais); experimentação; e testagens psicométricas.

A variedade de elementos atrelados necessariamente à pesquisa empírica em psicopatologia ilustra sua complexidade. Entre os mencionados no parágrafo anterior, a definição conceitual dos objetos psicopatológicos de pesquisa destaca-se em relevância, se comparado aos demais. Isso se deve, como aponta Jaspers, a própria natureza do objeto psicopatológico: caracteristicamente imaterial e fenomenológico. Ao revés do verificado nas ciências naturais, nas quais o objeto de pesquisa é mais facilmente identificado e dotado materialidade.

Nem todos os objetos de pesquisa em psiquiatria apresentam tal dificuldade, que é mais evidente naqueles essencialmente psicopatológicos (psicopatológicos puros). Outros constructos psiquiátricos, como a ARV, possuem elementos diversos daqueles psicopatológicos puros, como por exemplo: fatores ambientais, biográficos (ex.: CV prévio, desajustamento precoce), comportamentais (estilo de vida), familiares, de suporte social e terapêuticos, cujas características se assemelham mais àquelas verificadas nos objetos de pesquisa das ciências naturais. Todos estes têm especificidades que se aproximam daquelas verificadas nos objetos de pesquisa das ciências naturais, que são mais adequados à experimentação e aplicação dos critérios de cientificidade classicamente aceitos.

No caso do HCR-20, seus itens e sub-escalas são compostos por elementos correlacionados com CV, cujas as especificidades se assemelham as verificadas nas ciências naturais. Os itens *Históricos* tratam de eventos biográficos que remetem ao CV. Os itens *Clínicos* abordam fatores dinâmicos relacionados ao tratamento, com definições conceituais claras e objetivas (contidas no manual) e são passíveis de serem objetivamente verificados (ex.: resposta ao tratamento, atitudes negativas). Os itens de *Risco* se referem a fatores ambientais dinâmicos, fortemente correlacionados ao desfecho e compartilham das mesmas características dos itens *Clínicos* já mencionadas.

Em contrapartida, constructos essencialmente psicopatológicos, como por exemplo a ruminação cognitiva, apresentam uma maior complexidade para executar sua pesquisa empírica. Ao revés do verificado com a ARV através de instrumentos psicométricos, como o HCR-20, o uso dessa metodologia apresenta maior limitação no caso de constructos essencialmente psicopatológicos. (Meyer *et al.* 2015) Além disso, objetos de pesquisa essencialmente psicopatológicos apresentam exigências teóricas de maior rigor conceitual e hermenêutico, devido à sua natureza mista situada entre as ciências naturais e humanas.

Dessa maneira, pode-se inferir e justificar a maior adequação do constructo de ARV para a pesquisa empírica através de instrumentos psicométricos. (Meyer 2015) No mesmo sentido, os resultados empíricos obtidos por instrumentos psicométricos como o HCR-20 mostram-se de maior

confiabilidade e menos problemáticos, se comparados àqueles obtidos com os instrumentos psicométricos elaborados à pesquisa de elementos essencialmente psicopatológicos, como a *Escala de Resposta Ruminativa* (EER). (Meyer *et al.* 2015)

2 – Fundamentos Teóricos

A presente dissertação aborda o conceito de CV, sua validade relativa à teoria do conhecimento e verificação empírica, em portadores de esquizofrenia, através de instrumentos psicométricos (HCR-20 e MOAS). Os fundamentos teóricos adotados nesta dissertação advêm de duas origens: i) elementos contemporâneos relacionados ao CV, em portadores de transtornos mentais, e sua pesquisa empírica, marcadamente através de instrumentos psicométricos, como o HCR-20; ii) elementos psicopatológicos e fenomenológicos classicamente aplicados à psiquiatria, por Karl Jaspers.

No primeiro caso, os elementos incluídos no HCR-20 são sabidamente relacionados ao CV em portadores de transtornos mentais (Monahan et al. 2001, Webster et al. 1997). Suas características intrínsecas (ontológicas) são caracteristicamente naturais, ou seja, passíveis de verificação prática (empírica) (Jaspers 1997). No segundo, trata-se dos fundamentos teóricos em Psicopatologia, das possibilidades de verificação empírica dos fenômenos psíquicos e da obtenção de conhecimento científico seguro. Os fundamentos da Psicopatologia, originários das ciências humanas e da natureza, impõem restrições e especificidades à pesquisa empírica no tema (Jaspers 1997).

Tal complexidade é melhor verificada, por exemplo, em constructos essencialmente psicopatológicos quando faz-se necessária sua definição conceitual, principal elemento utilizado na identificação do objeto de pesquisa (Jaspers 1997, Fuchs 2013). No caso do CV, em especial nos elementos incluídos no HCR-20, tal dificuldade é menos evidente, já que são factíveis de apreensão objetiva (Webster et al. 1997). Mesmo em relação aos elementos psíquicos incluídos, sua verificação está correlacionada, diretamente, com o desfecho violento, o que facilita sua objetificação.

A definição conceitual de CV adotada na pesquisa foi agressividade física dirigida a terceiros, ao patrimônio e/ou autoagressividade (Otton & Douglas 2011, Webster 1997). Estes elementos são compartilhados na definição adotada pelo HCR-20 e outros instrumentos psicométricos (Otton & Douglas 2011). Em síntese, sua verificação consiste na análise de elementos ambientais, biográficos e clínicos, relacionados ao desfecho violento, em um determinado caso. Nesse sentido, verifica-se a validade positiva deste constructo (CV) para a pesquisa empírica, justamente pela possibilidade de sua individuação, identificação, definição conceitual natural (empírica), experimentação, replicação e, conseqüente, estabelecimento de relações de causalidade (Jaspers 1997).

A validade negativa do constructo CV é verificada a partir das suas relações epistemológicas, ou seja, das limitações inerentes ao objeto de pesquisa e possibilidades de obtenção de conhecimento científico seguro, a partir de sua pesquisa. Nesse sentido, o constructo de CV compartilha das mesmas características inerentes aos objetos de pesquisa classicamente adotados pelas Ciências Naturais (Jaspers 1997).

3 – Objetivos

Os objetivos principais desse trabalho foram:

- a) verificar os elementos relacionados ao CV em portadores de esquizofrenia, internados em um hospital psiquiátrico clínico, a partir do HCR-20;
- b) verificar similaridades, destas características, com o CV perpetrado por portadores de transtornos psicóticos orgânicos;
- c) verificar elementos relacionados a teoria do conhecimento em psicopatologia.

4 – Materiais e Método

Três publicações científicas representam principal material produzido para atingir os objetivos pretendidos. As revisões bibliográficas realizadas, individualmente em cada artigo, foram reunidas e utilizadas nesta dissertação na discussão dos resultados.

O primeiro artigo “*Calcificações cerebrais e transtorno esquizofreniforme*”, publicado no *Jornal Brasileiro de Psiquiatria* (2013), aborda o CV contra terceiros em um paciente portador de transtorno psicótico secundário à calcificação cerebral (CC) difusa por hipoparatiroidismo secundário (MEYER L.F., JOZEF F., TABORDA J.G.V., *et al.* Cerebral calcifications and schizophreniform disorder. *Jornal Brasileiro de Psiquiatria*. 2013; 62 (1): 81-4)

O segundo artigo “*Phenomenological aspects of the cognitive rumination construct*”, aceito para publicação na revista *Trends Psychiatry Psychotherapy* (2015), é uma revisão bibliográfica que discute aspectos a teoria do conhecimento em psicopatologia a partir do uso de instrumentos psicométricos utilizados na pesquisa empírica de ruminação cognitiva (CR) na pesquisa empírica de constructos essencialmente psicopatológicos (MEYER L.F., TABORDA J.G.V., DA COSTA F.A., *et al.* Phenomenological aspects of the cognitive rumination construct. *Trends Psychiatry Psychother.* 2015).

O terceiro artigo (submetido à *Revista Brasileira de Psiquiatria*, 2015) “1” corresponde a um estudo piloto sobre a verificação de CV, através do HCR-20, em pacientes esquizofrênicos internados em um hospital psiquiátrico clínico. O objetivo principal foi comparar com o instrumento pacientes com comportamento violento e sem comportamento violento, à época da admissão hospitalar.

5- RESULTADOS

Artigo 1 (publicado no Jornal Brasileiro de Psiquiatria)

Cerebral calcifications and schizophreniform disorder

Calcificações cerebrais e transtorno esquizofreniforme

Leonardo Fernandez Meyer^{1,2,3}, Flávio Jozef², José Geraldo Vernet Taborda⁴, Marco Antonio Alves Brasil¹, Alexandre Martins Valença^{2,5}

ABSTRACT

Objectives: Discuss pathophysiological aspects of cerebral calcifications (CC) and highlight its importance related to the occurrence of neuropsychiatric syndromes. **Method:** Single case report. **Result:** Man 52 years old, 20 years after going through a total thyroidectomy, starts showing behavioral disturbance (psychotic syndrome). He was diagnosed as schizophrenic (paranoid subtype) and submitted to outpatient psychiatric treatment. During a psychiatric admission to evaluate his progressive cognitive and motor deterioration, we identified a dementia syndrome and extensive cerebral calcifications, derived from iatrogenic hypoparathyroidism. **Conclusion:** The calcium and phosphorus disturbances, including hypoparathyroidism, are common causes of CC. Its symptoms can imitate psychiatric disorders and produce serious and permanent cognitive sequelae. The exclusion of organicity is mandatory in any psychiatric investigative diagnosis in order to avoid unfavorable outcomes, such as in the present case report.

Keywords

Basal ganglia calcification, organic psychosis, Fahr's disease, dementia, schizophreniform disorder, calcium and phosphorus metabolism disturbances, hypoparathyroidism.

Palavras-chave

Calcificação dos gânglios da base, psicose orgânica, doença de Fahr, demência, transtorno esquizofreniforme, distúrbios do metabolismo do cálcio e fósforo, hipoparatiroidismo.

1 Universidade Federal do Rio de Janeiro (UFRJ), Hospital Universitário Clementino Fraga Filho (HUCFF), Rio de Janeiro, RJ, Brazil.

2 UFRJ, Instituto de Psiquiatria (IPUB), Rio de Janeiro, RJ, Brazil.

3 Centro Psiquiátrico Rio de Janeiro, Rio de Janeiro, RJ, Brazil.

4 Universidade Federal de Ciências da Saúde de Porto Alegre (UFCSPA), Porto Alegre, RS, Brazil. 5 Universidade Federal

Fluminense (UFF), Niterói, RJ, Brazil.

RESUMO

Objetivos: Discutir aspectos fisiopatológicos das calcificações cerebrais (CC) e ressaltar sua importância na ocorrência de síndromes neuropsiquiátricas. **Método:** Relato de caso individual.

Resultado: Homem 52 anos de idade, 20 anos após tireoidectomia total, iniciou com alteração comportamental (síndrome psicótica), foi diagnosticado como portador de esquizofrenia paranoide e encaminhado para ambulatório de psiquiatria. Durante internação psiquiátrica, para avaliação de importante deterioração cognitivo e motora, foi verificada a vigência de síndrome demencial e extensas CC, secundários a hipoparatiroidismo iatrogênico. **Conclusão:** Os distúrbios do metabolismo do cálcio e do fósforo, incluindo o hipoparatiroidismo, são causas frequentes de CC. Seus sintomas podem mimetizar transtornos psiquiátricos e provocar sequelas cognitivas permanentes. A exclusão de organicidade é mandatória durante toda investigação diagnóstica na psiquiatria, a fim de evitar desfechos desfavoráveis, como no presente relato de caso.

INTRODUCTION

Cerebral calcifications (CC) are not uncommon and can occur in several clinical conditions. Historically recognized as Fahr's syndrome, they can vary in presentation from accidental findings to severe neuropsychiatric syndromes¹⁻⁴. Researchers have found that lesions are usually located at the basal ganglia and cerebellum and may reach the internal capsule and the thalamus, regardless the etiology^{1,3}. The reason for this tropism is unknown, but recent findings suggest that cellular and histochemical specificities, such as vascular permeability and the presence of other electrolytes (iron, zinc and magnesium), may contribute to the process³⁻⁵. CC development is slow and may remain asymptomatic for long periods of time^{3,4}.

The principal causes of CC are shown in table 1. Pathologies most statistically associated to CC are calcium and phosphorus metabolic disturbances (endocrinopathies and genetic syndromes)^{3,4}. Even though uncommon, hypoparathyroidism is a possible cause of severe psychiatric disturbances, whether these be related or not to CC⁵. Parathormone (PTH) deficiency results in a reduction in serum calcium levels and an increase in serum phosphate levels, thus producing mineral deposits in the skin, retina and ce-rebrum¹. Clinical symptoms of calcium imbalance previously demonstrated include: tetany, Chvostek sing (facial muscle cramps), laryngeal stridor, muscle stiffness, movement disturbances (freezing), and seizures¹⁻⁵. The last of which may be the only manifestation of this condition¹.

Table 1. Causes associated to cerebral calcification

Parathormone metabolism, calcium and phosphorus		Without sistemic involvement
Injured	Preserved	
Hypoparathireoidism	Down syndrome	Idiopathic
Primary	Neuromyopathies mitochondrial	Fahr's disease
Post-surgical	Systemic lupus erythematosus	Diffuse neurofibrillary Tangles with calcification
External radiation	Acute lymphocytics leukemia	Aging/physiological
Hypomagnesemia	Revesz syndrome	
Pseudohypoparathyroidism	Infections: CMV, HIV, neurotoxoplasmosis, EBV	
Hyperparathyroidism	Toxicosis: Lead e CO	

EBV: Epstein-Barr virus; CO: carbon monoxid; CMV: citomegalovirus; HIV: human immunodeficiency virus.

Neuropsychiatric syndromes are commonly seen when CC are secondary to hypoparathyroidism and tend to be serious problems¹⁻⁴. Acute conditions, such as *delirium*, may derive from electrolytic disturbances, especially in post-surgical and toxic forms¹. Cognitive deterioration is the most common psychiatric symptom resulting from hypoparathyroidism¹. Mood disorders (anxiety, panic attacks, depression and *neurasthenia*) are frequent and may be the first clinical manifestations of this condition. Symptoms are intermittent, with periods of spontaneous remission^{1,3}. The onset of psychotic symptoms tends to occur later and seem to be associated with the calcification of the basal ganglia³. Hypothyroidism is commonly part of greater global cognitive impairment, in post-surgical hypoparathyroidism.

The objective of this case report is to present some neuropsychiatric aspects related to CC in patients with calcium and phosphorus disturbances. In this case report, the patient was admitted to a psychiatric hospital, with a prior diagnosis of schizophrenia. After clinical investigation, the case revealed to be post-surgical hypoparathyroidism with extensive CC. The psychiatric Institution authorized the publication of data gathered for this study.

CASE REPORT

A few weeks after his divorce in 2005, a 52-year-old man began to show signs of behavioral disorder, specifically social withdrawal, functional impairment and aggressiveness, associated to psychotic symptoms (persecutory delusions and hallucinations involving imperative voices). He was diagnosed as schizophrenic (paranoid subtype) and achieved satisfactory symptomatic control during outpatient psychiatric treatment, at that time. However, from 2006 onwards, he developed cognitive impairment and movement disorders. These symptoms weakened his adherence to treatment and resulted in several psychiatric hospitalizations, always triggered by psychotic relapse symptoms (delusions, hallucinations and psychomotor agitation). Yet his response conventional antipsychotic therapy was positive.

In June 2009, the patient was admitted to a psychiatric hospital to better evaluate the general deterioration of his condition. He was dehydrated, malnourished, showed psychomotor retardation, choreoathetotic appendicular and orolingual movements, myoclonias, pancerebellar ataxia, pyramidal signs, paratonia and Chvostek sign. A clinical exam of other organic systems came up normal, except for hypotension (100/70 mmHg). The laboratory investigation came up normal, except for: PTH < 3 pg/ml; TSH = 64,5 μ UI/ml; T4-L = 0,15 ng/dl; Ca⁺⁺ = 0,65 mmol/L and phosphorus = 47 mg/dl. The cranial CT scan revealed extensive CC (Figure 1).

While taking the psychiatric examination, the patient remained awake, with hypoprosia, temporal and spatial dis-orientation, hypokinesia and upper stereotyped movements. He showed no response to external stimulation nor to simple verbal commands and sometimes became restless when hearing his name. He was unable to speak complete words, babbled unspecific sounds and did not seem to understand the examiner's questions. A decrease in displays of affectivity and inaccessible memory were also verified. No hallucinatory attitude was observed. The application of neurocognitive tests such as MMSE (Mini Mental State Exam), were unsuccessful because of his global cognitive deterioration.

An investigation of his prior medical history revealed a Papilliferous Carcinoma of the Thyroid, treated with total re-section in 1986. His post-surgical control and treatment in an outpatient endocrinological clinic was irregular and the patient

abandoned the treatment altogether, at the onset of psychiatric symptoms. It has been verified family history of schizophrenia on his maternal grandparents.

During his psychiatric admission (17 days), the patient received adequate nutritional support, the correction of electrolytic disturbances and calcium and phosphorus reposition (1 g/day and 10 µg/day, respectively). He also started T4-L reposition (12,5-25 mg/day) and his insomnia was success-fully treated with clonazepam. Despite the treatment ad-opted, cognitive deficits reminded, such as severe dementia syndrome (aphasia, alogia, temporal and spatial disorientation and movement disorders). In light of the complexity of the case, he was transferred to a general hospital. His final diagnosis, after clinical investigation, was Dementia in hypercalcemia (Dementia in other specified diseases classified elsewhere, F – 02.8, by ICD-10).

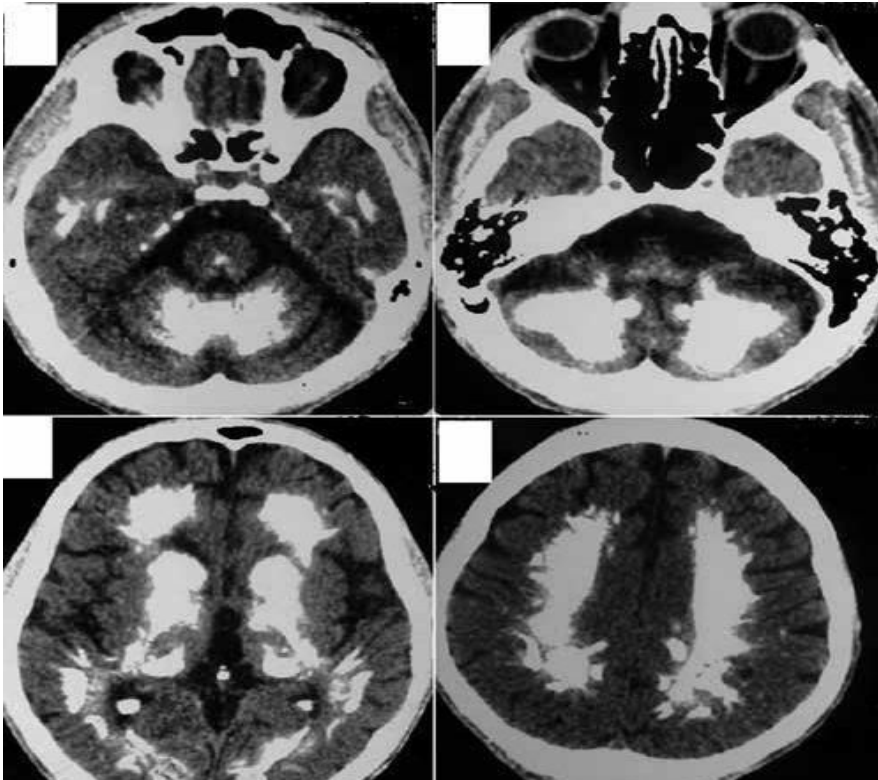


Figure 1. Brain CT revealing extensive calcification of: A) Cerebellar anterior lobe; midbrain; temporal periventricular white matter. B) Cerebellar white matter, including inferior cerebellar peduncles; cerebellar amygdale. C) White matter of frontal, parietal and occipital gyri, including U-fibers; internal capsule; caudate, lentiform and thalamus nuclei; choroid plexus and pineal. D) centrum *semiovale*.

Our case report seeks to highlight the importance of excluding general medical and/or substance related conditions whenever a psychiatric condition appears. We also look into an extreme case of extensive CC, derived from iatrogenic hypoparathyroidism. The “*exclusion of substance/general medical condition*”, proposed by DSM-IV and ICD-10, is mandatory for all psychiatric diagnoses, even though clinical components and family history are standard of primary mental dis-orders.

The patient’s initial clinical manifestations consisted in a delusional-hallucinatory syndrome, with characteristics of paranoid schizophrenia, and he also had a positive family history of mental disorder. The atypical characteristics of his syndrome were the absence of a premorbid personality and the late onset, in his fifties. The post-surgical hypoparathyroidism and the period of time that elapsed until the onset of psychiatric symptoms are compatible with the patient’s clinical condition, as well as the laboratory and imaging find-ings^{1,3-5}. However, it’s likely that hypothyroidism contributed to the patient’s cognitive-motor neurological condition. Seizures and signs of tetany could be seen in most of the cases described^{3,4,6,7}, yet our patient only manifested the latter.

Despite the protective effect of the blood-brain barrier, the sub cortical nuclei are vulnerable to impregnation by minerals such as copper (Wilson’s disease), iron (neurodegeneration associated with pantothenate kinase) and calcium^{3,4,8}. CC occurs in several clinical conditions (Table 1) and may commonly be classified as part of three main groups: Idiopathic, Familial and especially calcium and phosphorus metabolic disorders¹. Among the latter, the more prominent metabolic disorder are the results of endocrine etiologies, such as hypoparathyroidism, including the most regularly occurring post-surgical/iatrogenic type^{3,5}. Calcifications are usually located at the basal ganglia, dentate, thalamus and semi oval center¹. Extensive CC and/or CC located in other cerebral locations are rare, such as in the case report presented here^{3,6,7,9,10}. In cases of primary hypoparathyroidism, calcifications tend to be diffuse, while in secondary hypoparathyroidism they tend to be more localized³.

Recent histochemical studies have revealed the presence of other chemical elements in these lesions such as copper, zinc, magnesium, aluminum, potassium, iron and calcium. These elements surround the organic matrix and lead to mineralization³. Special attention should be given to iron, which is found in higher concentrations in these CC regions and apparently increases local dopaminergic neurotransmission³.

Clinical manifestation seems to vary according to the patient's age at the onset of the calcification process: from 20 and 40 years of age symptoms are predominantly manifested as schizophreniform psychosis, with no neurological signs³. When the onset occurs after 49 years of age, the psychosis is often accompanied by disorders of movement and dementia³. Psychotic symptoms characterized by paranoid delusions, auditory hallucinations (sometimes musical), complex visual hallucinations, hiker behavior and catatonic states, were reported within this age range^{3,5}. The extension of the calcification and the severity of the neuropsychiatric symptoms are directly correlated, even though they bear no relationship to any specific kind of symptomatology³. Our patient developed belated psychiatric symptoms and had already been diagnosed with dementia, close to the kind of outcomes found in literature on the subject^{6,11}. In most patients the prognosis is negative, with permanent cognitive and behavioral damage^{6,7,11,12}. Similar case reports have been found for patients with Fahr's disease⁶.

Treatment of the underlying cause, when possible, can improve neuropsychiatric symptoms, yet rarely stops the progression of CC³⁻⁵. Clinical intervention in electrolytic disturbances and intoxications is mandatory. The theoretical benefit of using chelating agents (deferoxamine, penicillamine) has not been proven by clinical studies up to this date^{2,4}. In cases of hypoparathyroidism, calcium reposition (1-2 g/day), together with vitamin D (calcitriol, cholecalciferol) is recommended, in order to maintain serum calcium levels at 8-8.5 mg/day and urinary calcium under 200 mg/day^{2,4}. The psychotic symptoms may not respond to antipsychotic medication. Lithium carbonate is recommended for refractory patients¹.

CONCLUSION

Mental disorders derived from organic causes are generally reversible, if the appropriate treatment is started early on in the process. Metabolic disturbances linked to calcium and phosphorus are potential causes of severe neuropsychiatric syndromes and permanent cognitive damage. Excluding organicity is mandatory in any psychiatric diagnosis investigation.

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Artigo 2: Trends in Psychiatry and Psychotherapy

Review Article

Phenomenological aspects of the cognitive rumination construct

Aspectos fenomenológicos relacionados ao construto de ruminação cognitiva

Leonardo Fernandez Meyer,^{1,2} José Geraldo Vernet Taborda,³ Fábio Antônio da Costa,⁴ Ana Luiza Alfaya Galego Soares,⁵ Kátia Mecler,² Alexandre Martins Valença^{1,6}

Abstract

Objective: To evaluate the importance of phenomenological aspects of the cognitive rumination (CR) construct in current empirical psychiatric research.

Method: We searched SciELO, Scopus, ScienceDirect, MEDLINE, OneFile (GALE), SpringerLink, Cambridge Journals and Web of Science between February and March of 2014 for studies whose title and topic included the following keywords: cognitive rumination; rumination response scale; and self-reflection. The inclusion criteria were: empirical clinical study; CR as the main object of investigation; and study that included a conceptual definition of CR. The studies selected were published in English in biomedical journals in the last 10 years. Our phenomenological analysis was based on Karl Jaspers' General Psychopathology.

Results: Most current empirical studies adopt phenomenological cognitive elements in conceptual definitions. However, these elements do not seem to be carefully examined and are indistinctly understood as objective empirical factors that may be measured, which may contribute to misunderstandings about CR, erroneous interpretations of results and problematic theoretical models.

Conclusion: Empirical studies fail when evaluating phenomenological aspects of the cognitive elements of the CR construct. Psychopathology and phenomenology may help define the characteristics of CR elements and may contribute to their understanding and hierarchical organization as a construct. A review of the psychopathology principles established by Jasper may clarify some of these issues.

Keywords: Psychopathology, phenomenology, cognitive rumination.

Resumo

Objetivo: Verificar a importância de aspectos fenomenológicos relacionados ao construto de ruminação cognitiva (RC) nas pesquisas empíricas psiquiátricas atuais.

Método: Foram pesquisadas as bases de dados SciELO, Scopus, ScienceDirect, MEDLINE, OneFile (GALE), SpringerLink, Cambridge Journals e Web of Science, entre fevereiro e março de 2014, buscando artigos cujo tópico ou título contivessem os seguintes termos-chave: ruminação cognitiva; escala de resposta ruminativa; e autorreflexão. Os critérios de inclusão foram: estudos clínicos empíricos; RC como principal objeto de pesquisa; e estudos que incluíssem uma definição conceitual de RC. Foram considerados apenas artigos em inglês publicados em periódicos biomédicos nos últimos 10 anos. Nossa análise fenomenológica se fundamentou na Psicopatologia Geral de Jaspers.

Resultados: Os conceitos de RC atualmente encontrados nas pesquisas empíricas utilizam majoritariamente elementos fenomenológicos em suas definições. Entretanto, esses elementos cognitivos são indistintamente entendidos como elementos objetivos (empíricos), passíveis de mensuração, e não parecem ser cuidadosamente examinados. Este fato pode contribuir para uma compreensão enganosa sobre RC, além de favorecer a interpretação errônea de resultados e a elaboração de paradoxos teóricos problemáticos.

Conclusão: As pesquisas empíricas atuais sobre RC falham ao avaliar os aspectos fenomenológicos inerentes ao construto de RC. A psicopatologia e o método fenomenológico podem ajudar a definir características relacionadas aos elementos da RC, bem como contribuir para a sua compreensão e organização hierárquica enquanto construto. Um retorno aos princípios da psicopatologia, nos moldes de Jaspers, poderia trazer esclarecimentos ao tema.

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¹ Institute of Psychiatry, Universidade Federal do Rio de Janeiro (UFRJ), Rio de Janeiro, RJ, Brazil. ² Instituto de Perícia Heitor Carrilho (IPHIC), Rio de Janeiro, RJ, Brazil. ³ Universidade Federal de Ciências da Saúde de Porto Alegre (UFCSPA), Porto Alegre, RS, Brazil. ⁴ Colégio Pedro II, Rio de Janeiro, RJ, Brazil. ⁵ Centro de Políticas em Saúde do Trabalhador (CPST), UFRJ, Rio de Janeiro, RJ, Brazil. ⁶ Universidade Federal Fluminense (UFF), Niterói, RJ, Brazil.

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Introduction

Cognitive rumination (CR) is generally defined as recurrent and repetitive thoughts about one's feelings and quests that intrude consciousness.¹⁻³ The associations of CR with psychiatric disease and psychopathological symptoms have been the focus of an increasing number of empirical studies.¹⁻⁴ Their findings have led to the development of psychometric scales, such as the Ruminative Response Scale (RRS). These instruments provide data for statistical analyses in studies about CR and for the exploration of possible correlations with specific psychiatric symptoms.^{5,6}

CR should be examined rigorously to limit and define it unambiguously as an object of scientific study. Current concepts adopt phenomenological descriptions of cognitive elements, more adequate for clinical investigations than for empirical study settings.^{1,2,6-9}

Karl Jaspers' efforts to study psychopathology played a major role in the development of diagnostic classifications and in clinical (psychic) examination techniques.¹⁰⁻¹⁵ According to Jaspers, psychopathology is the science of abnormal conscious psychological phenomena, and phenomenology, the method to investigate these phenomena, which are experienced by the examinee and presented to the examiner through the examinee's narratives and behavior.¹⁰⁻¹² Psychic phenomena are presented to and understood by the examiner as cognitive performances. For teaching purposes, they are divided into objective performances, such as attention, formal logic, thought patterns, memory, speech disturbances and psychomotor function, and subjective performances, such as affect and mood, thought content, volition and self-awareness.¹⁰⁻¹⁶ In this sense, they are ongoing aspects of empathy and intuition that allow patients and examiners to share common aspects of reality.¹⁰⁻¹⁶

This study evaluated the extent to which the phenomenological aspects of the CR construct have been used in current empirical psychiatric studies. It also analyzed findings using the phenomenological approach developed by Jaspers.

Method

Figure 1 summarizes the steps of our literature review of studies about CR. We searched SciELO, Scopus, ScienceDirect, MEDLINE, OneFile (GALE), SpringerLink, Cambridge Journals and Web of Science between February and March of 2014 for studies whose title or topic had the following terms: ((cognitive rumination) AND (rumination response scale)) or ((cognitive rumination) AND (self-reflection)).

Inclusion criteria were: original clinical studies; CR as their main object of investigation; clear conceptual definition of CR; written in English; and published in a biomedical journal in the last 10 years. Because of the pioneering nature of the studies about CR conducted by Nolen-Hoeksema et al., we selected their studies despite their publication date whenever all the other inclusion criteria were met. We excluded articles not in English, editor comments, letters, case reports and literature reviews about CR. We also excluded clinical empirical studies in which the main object of study was not CR or that did not provide a clear conceptual definition of CR.

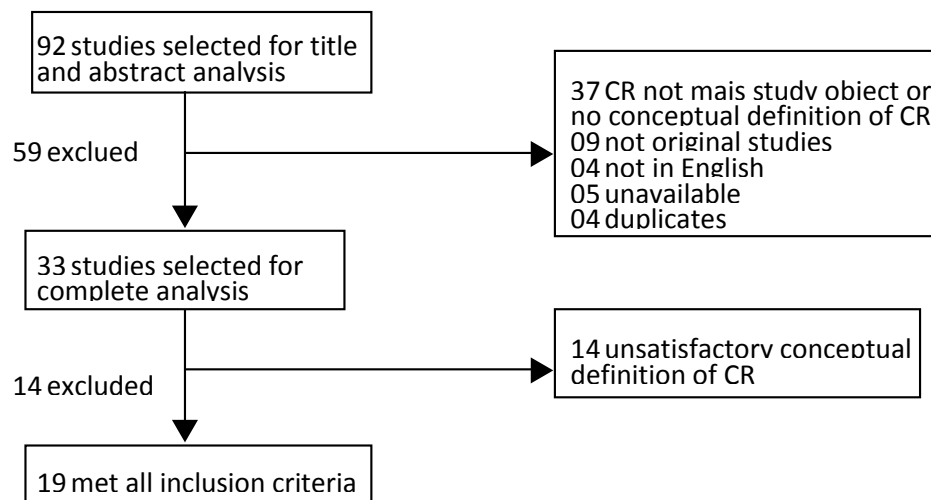
Our analysis followed the phenomenological approach described by Jaspers.¹⁰⁻¹⁶ We used both English and Portuguese translations of *Allgemeine Psychopathologie* to avoid misinterpretations of the original.¹⁰⁻¹²

We applied the cross-sectional phenomenological method, including its positive and negative perspectives. The positive perspective represents the conscious expressions of CR that uncover its ontic aspects, gathered through direct observation of psychic phenomena.¹⁰⁻¹⁶ The negative perspective refers to delimitations of rumination in finite totalities, to its correlation with another psychic totality and to its organization in the context of the psychic whole.¹⁰⁻¹⁶

According to Jaspers, phenomenological understanding may be static and genetic.^{10-12,16} Static understanding is restricted to present observation and objective description of the psychic phenomena as presented to and understood by the examiner's perception. Psychic phenomena may, therefore, be identified using three approaches: behavior observations, interviews and self-report.¹⁰⁻¹² Additional empirical elements include neurochemical and neuroanatomical factors, whenever observed.¹⁰⁻¹²

Genetic understanding, described in the second part of Jaspers' book, concerns the comprehension of motivation or causation that is associated with the sequence of psychic events. Our analysis of CR did not take into consideration the psychological (genetic) explanations and was limited to its static phenomenological elements.

Figure 1 - Flowchart of review of literature about cognitive rumination (CR)



Results

Our results are presented in two sections. First, we describe the phenomenological aspects of the main CR concepts used in current empirical studies. After that, we analyze the phenomenological aspects inherent to the CR construct, according to Jaspers' phenomenology.

We chose this presentation pattern because of the complexity of the theme and the impossibility of presenting results simultaneously. The results are discussed and interrelated below.

Rumination in current research and phenomenology

Our final sample had 19 studies about CR. Table 1 summarizes the main CR concepts used in the studies selected and their phenomenological aspects. All definitions were close to the original: persistent and recurring thoughts that unintentionally enter consciousness.⁵ One author proposed a slightly different definition in the RRS: the process of thinking perseveringly about one's feelings and problems, and not the specific contents of thoughts.¹ Both definitions include characteristically phenomenological elements: persistent and recurring thoughts, process of thinking perseveringly, feelings and thought contents. They refer to transient cognitive states, such as thought, affect and volition.

In another study, CR was defined as the style of thinking repetitively about negative emotions, focusing on symptoms of distress and worrying about meanings of distress.⁷ Here, CR was described identically and simultaneously as a pattern of response (default response) to depressive mood, as a predisposing factor to mental disorders and as a sign of phenomenological elements of specific clinical symptoms.

For the CR definitions used in psychometric scales, appropriate terms were carefully chosen to respond to the needs of empirical studies.^{1-9, 17-26} This approach reduces CR to an object of empirical investigation exclusively.

CR was also associated with other psychopathological constructs: maladaptive cognitive styles, dysfunctional attitudes, hopelessness, pessimism, self-criticism and depression.¹⁻³ Phenomenological dissimilarities between these constructs were not analyzed, and they were not classified hierarchically.³⁻⁷ All were ontologically

identical, equivalent and horizontally distributed, and there was no definition of hierarchical differences between them.¹⁻⁹ These characteristics may have resulted in misconceptions that, in turn, led to theoretical disagreement, erroneous theoretical models and flawed interpretations of results.^{3-7,17,20,21,23-25}

The analysis of studies in our final sample suggested the existence of causal links between neurophysiological and neuroanatomical findings and CR.^{17,20,22} These findings are based on the existence of hypothetical cerebral systems that may be responsible for activating and inhibiting specific types of human behaviors (response styles). Electroencephalographic findings showed hippocampus augmentation and neocortex activation during CR activity.¹⁷ Functional magnetic resonance results showed hyperactivity in anterior medial cortex in patients with CR activity when compared to controls.²⁰ Decreases of cortisol response levels were less frequently found among depressive patients.²²

Phenomenology contemplates and situates of all these empirical findings within psychopathology, as they are indispensable phenomenological elements and must be analyzed whenever found.^{10-14,16} Misconceptions arise when they are interpreted as the full representation of their object of study (CR).¹⁰⁻¹² This may be explained by the nature of psychopathological objects, which rejects their reduction to exclusively objective or natural concepts, as further stated in the next section.

Our results also revealed hypothetical paradoxes between theoretical models of CR, such as the self-absorption paradox.²⁷ In this case, CR and self-reflective activity are compared as similar mental processes, but outcomes are ambiguous. This issue will be elaborated further in the Discussion section.

Table 1 - Main definitions of cognitive rumination and their phenomenological aspects

Author	Definitions of cognitive rumination	Phenomenological aspects
Andersen et al. ¹⁷	The class of conscious thoughts that revolve around an instrumental theme.	Thought content disturbance (instrumental theme); formal logic thought disturbance (circular thinking); neurobiological findings (electroencephalographic changes).
Arney et al. ⁸	Characteristic manner in which individuals respond to their own symptoms of distress or depressed mood.	Pattern of psychopathological behavioral response.
Bagby et al. ⁴	Repetitive focus on the fact that one is depressed, on one's symptoms of depression, and sometimes on meanings and consequences of depression symptoms.	Mood disturbance (depression); thought content disturbance (meanings and consequences).
Brinker & Dozois ¹⁸	Self-focused thoughts on depressed mood and possible causes and consequences of that mood.	Mood disturbance (depressed mood) thought content disturbance (self-focused thoughts), possible causes and consequences of depression.
Hasegawa et al. ¹⁹	Repetitive and passive thinking about one's symptoms of depression and possible causes and consequences of these symptoms.	Mood disturbance (depression); formal logic thought disturbance (repetitive and passive thinking); thought content disturbance (causes and consequences of depression).
Johnson et al. ²⁰	Type of self-referential processing.	Neurobiological findings (medial cortex activation); formal logic thought disturbance (pattern of mental processing); thought content disturbance (self-referential).
Joormann et al. ²	Trait-like response style that perpetuates depressive symptoms.	Pattern of psychopathological behavior response (response style).
Kocovski & Rector ²¹	Element of post-event processing that follows anxiety-provoking situations.	Cognitive pattern of response that occurs in stressful situations.
Kuehner et al. ²²	Passive focus of one's attention on one's mood, which includes passive focus of one's attention on one's dysphoric symptoms and aspects of self and repetitive thinking about possible causes and consequences of one's symptoms and negative self-aspects.	Attention disturbance (hyperprosexia); mood disturbance (dysphoric symptoms, negative self-aspects); formal logic thought disturbance (repetitive thinking); thought content disturbance (repetitive thinking about possible causes).
McLaughlin & Nolen-Hoeksema ²³	Response to distress in which individual passively and perseveringly thinks about upsetting symptoms and causes and consequences of these symptoms.	Pattern of behavior response (pattern of response to distress); formal logic thought disturbance (passive and persevering thoughts); thought content disturbance (thinking about upsetting symptoms).
Miranda & NolenHoeksema ⁹	Repetitive focus on causes, meanings and consequences of one's depressed mood.	Mood disturbance (depression); formal logic thought disturbance (repetitive focus); thought content disturbance (causes, meanings and consequences).
Moberly & Watkins ⁶	Repetitive focus on the fact that one is depressed, on one's symptoms of depression, and on causes, meanings and consequences of depression symptoms.	Mood disturbance (depression); formal logic thought disturbance (repetitive focus); thought content disturbance (meanings and consequences).
Nolen-Hoeksema & Morrow ⁵	Repetitive focus on the fact that one is depressed, on one's symptoms of depression, and on causes, meanings and consequences of depression symptoms.	Mood disturbance (depression); formal logic thought disturbance (repetitive focus); thought content disturbance (meanings and consequences).
Nolen-Hoeksema ⁷	Response to distress that involves repetitive and passive focus on symptoms of distress and on possible causes and consequences of these symptoms.	Pattern of behavior response (mode of response to distress); formal logic thought disturbance (repetitive and passive focus).
Nolen-Hoeksema et al. ¹	Response style of repetitive and passive	Pattern of behavior response (response style); formal logic thoughts about negative emotions, and focus on thought disturbance (repetitive and passive thinking); symptoms of distress and worry about meaning thought content disturbance (focus on symptoms of distress and worry about meaning of distress).
Schoofs et al. ²⁴	Response or coping style involving repetitive	Pattern of behavior response (response and coping self-focused thought on one's negative feelings, style); mood disturbance (negative feelings); formal logic their antecedents or consequences; thought disturbance (repetitive thought and self-focused).
Thomsen et al. ²⁵	Self-focused repetitive thoughts associated with negative outcomes.	Formal logic thought disturbance (repetitive thoughts); thought content disturbance (self-focus).

Phenomenology and CR

Psychopathology is the science of the abnormal conscious manifestations of psychic life.¹⁰⁻¹² Its aim is not the absolute comprehension of human beings or their psyche, but the investigation of abnormal conscious psychic phenomena.¹⁰⁻¹² One of its fundamental theoretical features is the analysis of psychic elements using different and complementary perspectives.¹⁰⁻¹⁴

Among these perspectives, we have the description of psychic phenomena, in the form of psychic examinations and self-narratives, as well as statistical analysis, case studies, genetic aspects, and neurochemical and neurobiological findings.¹⁰⁻¹² Each perspective has its own specificities, limitations and intercorrelations.¹⁰⁻¹² The foundation of phenomenology, as a research method, is the atheoretical description of psychic phenomena as they are presented to the examiner.¹⁰⁻¹² This method provides access to its object of investigation, abnormal conscious psychic phenomena, which may then be appropriately accessed and grasped as a psychopathological object to be further examined using complementary perspectives.¹⁰⁻¹⁴

Psychic capacities, or cognitive performances, may be distinguished only for teaching and analytical purposes.¹⁰⁻¹² The psyche may be defined as a totality, or a whole, that has multiple and indistinguishable intercorrelations between its parts, the psychic elements. The context of reality, where psyche belongs and in which it participates, also determines and contributes to its change and signification along time. The psychic whole is not the sum or articulation of its parts; in fact, psychic elements, together with other elements that go beyond the scope of this study, compose an individual's transient whole.¹⁰⁻¹²

In phenomenology, statistical analyses of psychic phenomena may be appropriately applied. Any statistical analysis implies a previous theoretical hypothesis and some objective knowledge about the object under study, which is, in this case, psychic phenomena.¹⁰⁻¹² The boundaries of statistics are its own limitations in measuring psychic phenomena as empirical elements and the impossibility of reaching causal associations based on statistic results only.¹⁰⁻¹²

Cognitive performances, such as memory and psychomotor functions, have characteristics that make them more suitable to the application of statistical methods

than affect and thought.¹⁰⁻¹² In CR, only the formal logic aspects of thought disturbances are objective, as their contents are subjective phenomena. When investigating subjective performances, statistical analysis may lead to miscomprehensions because of inappropriate identification or appropriation of cognitive performance subtypes.

Meaningful objective phenomena are sensitive phenomena and manifestations of psychic life.^{10,12} Objective performances can be assessed directly by the examiner's sensory perception. CR objective performances correspond to: 1) formal logic thought disturbance - repetitive, perseveration; 2) concentration and vigilance disturbances - diminished concentration; lack of attention to secondary themes not related to the main subject; 3) psychomotor activity - agitation; 4) speech disturbances; and 5) memory disturbances - paramnesias.^{10,12} Except for the first item (formal logic thought disturbances), none of these elements are necessary for CR identification, and all can be signs of and randomly found in other clinical presentations, depending on the disorder and the moment when the examination is performed.¹⁰⁻¹²

The assessment of subjective performances must rely on empathy and intuition elements primarily.¹⁰⁻¹⁶ Subjective and objective performances do not share the same characteristics; the former are exclusively expressed through "as if" descriptions that will only be understood if the examinee's psyche is interpreted.¹⁰⁻¹² In CR, subjective performances correspond to: 1) thought content - monothematic, persevering, overvalued, delirious or delusional ideas; 2) affect or mood - sadness, pessimism, apprehension; and 3) volition - will inhibition.¹⁰⁻¹⁴ These are similar to objective performances, when present. Thought content is the main subjective characteristic of the CR construct.¹⁰⁻¹²

The correct understanding of data obtained by means of clinical examinations must be analyzed according to the hierarchy inherent to the psychic whole, which is defined by psychopathology.¹⁰⁻¹² The phenomenology of formal logic thought in CR is similar to that found in other psychopathological phenomena, and includes thought persevering, speech stereotypes and mussionation. In all, repetitive thoughts lead to dysfunction of other cognitive performances.¹⁰⁻¹² Speech disturbances may be present. The limited variability of themes associated with CR may be associated with

experiences, affective and volitional states and intellectual capacity, as in other psychiatric disorders.¹³⁻¹⁵

Semiology indicates that repetitive thoughts, which may have different presentations, are found in cases of several psychiatry disorders.¹⁰⁻¹⁴ Verbigeration, defined as the repetition of short sentences, embolalia, which is the repetition of short sentences lacking lexical meaning, and mussionation, the soundless repetition of sentences using lip movements only, are examples found in early stages of psychotic disorders.¹⁰⁻¹² Repetitive thoughts occur in severe dementia, when the cognitive repertoire is limited, and in psychoactive substance intoxication.¹⁰⁻¹² A restricted repertoire is a common characteristic of obsessive-compulsive, developmental, mood and psychotic disorders.¹⁰⁻¹²

The analysis of phenomenological specificities reveals that CR shares its main characteristics with the psychiatric disorders listed in the paragraph above. The psychic whole has a variable presentation, which confirms the plasticity and the countless possible articulations of psychic phenomena.¹⁰⁻¹² This finding disproves the idea that cognitive comprehension is the result of a prior combination of supposedly basic neuropsychiatric mechanisms.¹⁰⁻¹²

CR may be better defined as a psychopathological construct that refers to phenomenological elements understood in their context of presentation.¹⁰⁻¹⁴ This characteristic is also present in other psychopathological constructs.¹⁰⁻¹⁵ Psychopathological understanding demands the elaboration of ideal types to organize and shape all the meaningful psychic phenomena grasped.¹¹⁻¹⁴ These characteristics are useful for clinical and psychic examinations, for use in manuals of diagnostic classification and for empirical studies.^{10-12,28,29}

Discussion

Current trends of research about CR prioritize suitable conceptual definitions that respond to the empirical need of natural sciences. They disregard, however, the psychopathological specificities of CR, which leads to miscomprehension and misconceptions about the object of study about CR.

The focus of this study is phenomenology and CR.¹⁰⁻¹² Phenomenology classifies and situates empirical psychic elements within the field of comprehension of the psychic totality, including statistical analysis.¹⁰⁻¹² Its appropriate application demands the identification of objective performances of the psychic phenomena under analysis, whenever available. The formulation of a theoretical model of psychopathology depends on the meaningful comprehension, or genetic understanding, that should be acquired from subjective phenomena and that cannot be statistically analyzed as objective phenomena.¹⁰⁻¹²

Phenomenology offers a safe methodological perspective to avoid these misconceptions. In the use of its positive perspective, the elements of psychic phenomena are uncovered through identification, description, experimentation and analysis of the participant's cognitive functions.¹⁰⁻¹² The negative perspective carries the intrinsic limitations of phenomenology and ensures that knowledge will be reliable.¹⁰⁻¹² It marks the borders and limits of the psychic phenomena under analysis for the identification and investigation of totalities.¹⁰⁻¹² Current advances in neuroscience, such as topographic, encephalographic, neurochemical and statistical analyses, have produced new fundamental data, which should be analyzed in light of psychopathological foundations to assure that meaningful connections will be established.

Empirical studies about CR may benefit from phenomenological analysis. The positive perspective may identify objective psychic elements of CR by examining descriptions of the phenomena presented, considering their specificities and avoiding the indistinct naturalization of all its elements. The negative perspective may set limits to the CR construct and define its hierarchical position in psychopathology. This analysis defines an important task for neuroscience: to formulate appropriate scientific criteria to investigate the subjective performance of psychic phenomena, considering their nature and specificities.

A starting point for this investigation may be the foundations of psychopathology hermeneutics.^{10-12,30} This analysis may enable the formulation of appropriate theoretical models using appropriate concepts, which would result in the definition of the objects of empirical research. The self-absorption paradox is an example of misunderstanding of identical cognitive processes, supposedly present in both CR and in self-reflective mental activity.^{26,27} The distinction is usually made by analyzing outcomes, which are classified as favorable in self-reflective activity and unfavorable in CR.^{26,27}

This issue does not apply when the psychopathological approach is adopted.¹⁰⁻¹² As mentioned above, the shared characteristic of CR and self-reflective activity is formal logic thought disturbance, seen in repetitive behaviors and perseveration. The perspective of polarities, as described by Jaspers, may be useful to understand an array of psychic phenomena, as it affects, for example, mood, in the case of polarity between sadness and happiness, and memory, in the case of polarity between amnesia and normal memory.¹⁰⁻¹² In this sense, CR and self-reflectivity may be understood as a continuum, that shares the same type of basic cognitive process, that is, formal logic thought disturbance, but that holds differences in other cognitive elements distinctly associated with each other.

As psychopathology studies abnormal conscious psychological phenomena, it may only explore CR, and not self-reflective activity. The latter is a natural human existential activity, better addressed by philosophy.¹⁰⁻¹² The characteristics of both phenomena may be compared, but never without seriously considering the specificities of each one.

Limitations

Jaspers' definition of phenomenology represents one type of phenomenological method to access psychic phenomena. Other phenomenologists may suggest different and complementary methodological approaches and knowledge perspectives of psychic phenomena.^{30,31}

We have only searched for and analyzed empirical clinical studies about CR. Reviews and case reports may offer a more detailed analysis. As only the studies in English were included, some current scientific data about CR may have been missed.

Conclusion

Phenomenology may contribute to the analysis of CR and improve conceptual definitions and the identification of cognitive elements of CR to be applied in empirical research. It may also benefit empirical psychiatric and psychopathological studies, including those that investigate CR. It may establish more adequate and accurate conceptual definitions to be used in the identification of psychic phenomena and of theoretical and methodological issues associated with them.¹⁶ Further studies about psychopathology and phenomenology should focus on the review of classical methods and theoretical models used in current psychiatric and psychological research.³²

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SCHIZOPHRENIA AND VIOLENCE: A PILOT STUDY IN A GENERAL
 PSYCHIATRIC HOSPITAL WITH HCR-20

ESQUIZOFRENIA E VIOLÊNCIA: UM ESTUDO PILOTO EM UM
 HOSPITAL PSIQUIÁTRICO GERAL COM O HCR-20

Leonardo Fernandez Meyer; MD, MSc (in course) ^{a,b}

Lisieux E. de Borba Telles; MD, PhD ^{c,d}

Kátia Mecler; MD, PhD ^b

Ana Luiza Alfaya Galego Soares; MD, MSc ^e

Renata Santos Alves; MD ^{b,f}

Alexandre Martins Valença, MD, PhD ^{a,g}

- a. Universidade Federal do Rio de Janeiro (UFRJ) – Instituto de Psiquiatria (IPUB)
- b. Instituto de Perícias Heitor Carrilho (IPHIC)
- c. Universidade Federal do Rio Grande do Sul (UFRGS) – Departamento de Psiquiatria
- d. Instituto de Psiquiátrico-Forense Dr. Maurício Cardoso (IPF) – Porto Alegre.
- e. Universidade Federal do Rio de Janeiro (UFRJ) – Divisão de Saúde do Trabalhador (DVST)
- f. Universidade Estácio de Sá (UES) – Departamento de Medicina
- g. Universidade Federal Fluminense (UFF) – Departamento de Psiquiatria

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ABSTRACT

Objective: identify and compare characteristics related to violent behavior in schizophrenic patients, admitted in a general psychiatric hospital, through the *Historical, Clinical and Management 10 (HCR-20)*, *Modified Overt Aggressive Scale (MOAS)* and social demographic data.

Method: Violent and nonviolent participants were selected through the psychiatric admission report. Violent participants at time of admission with HCR-20 total scores equal or higher of 21 were allocated in violent group. Those participants nonviolent at time of admission with HCR-20 total score lower than 21 were allocated in nonviolent group. The MOAS was used to characterize the violent behavior perpetrated.

Results: The HCR-20 and its subscales were effective on identifying the violent and nonviolent groups. Twelve of the twenty HCR-20 items were useful on distinguishing both groups. The HCR-20 total scores were more reliable on nonviolent group, compared to the violent one. The MOAS did not shows higher degrees of severity on the type of aggression perpetrated among participants.

Conclusion: The HCR-20 were useful on identifying violent and nonviolent schizophrenic patients in clinical psychiatric settings. The items analysis shows the most relevant characteristics related to each group. The use of HCR-20 in clinical psychiatric settings should be encourage.

Key-terms: violent behavior, aggressiveness, schizophrenia, HCR-20.

INTRODUCTION

Psychotic disorders have been consistently associated to aggressive behavior.^{1,2,3} Violence risk assessment (VRA) started in forensic psychiatry, especially in danger cessation studies.^{1,3} This evaluation was traditionally made through clinical examination but scientific advances have been achieved since the 90's – namely, the availability of psychometric scales specifically designed to assess aggressive behavior.^{1,2,4}

The development of scales such as the Historical, Clinical and Management 20 (HCR-20) is good news in reducing evaluation bias since violence-related objective parameters are stated and complement clinical examination in the mentally ill.^{1,2,4} Evidences suggest that HCR-20 is most effective in schizophrenia and mental retardation and not as much in affective and personality disorders.^{5,6}

The main objectives of VRA in psychiatric patients are the identification of elements specifically related to violent behavior and the planning and execution of therapeutic strategies that aim to reduce this specific risk.^{1,2} The HCR-20 was first developed to the VRA in forensic psychiatric patients and later researches stated the validity of this instrument in the community also.² Ulterior researches on community psychiatric patients verified the validity of this instruments on this population.^{5,7}

Clinical psychiatrists are frequently asked to issue reports, perform evaluations and make judgment calls regarding potentially aggressive patients. In this sense, psychometric instruments, such as HCR-20, on clinical settings (psychiatric emergencies and hospitals), can be useful to identify risk of violence and subsequently offer appropriate treatment for this population.

The majority of empirical researches on VRA focus on populations *not guilty by reason of insanity* (NGRI).⁸⁻¹⁶ As a result, characteristics of general psychiatric population related to aggressiveness and to the HCR-20 remain partially unknown.^{4,5}

The aim of this article is to assess and compare characteristics related to violence in schizophrenic patients admitted to a general psychiatric hospital, with and without aggressive behavior at time of admission.

METHOD

The study had a cross-sectional design. One trained researcher (first author) was responsible for the application of the selected scales. We defined aggressive behavior as violent acts towards others, witnessed or registered on hospital admission medical reports.

We used the HCR-20 to confirm the clinical diagnosis of aggressiveness, to divide the participants in both groups and to compare the characteristics among them. Participants that were aggressive by clinical criteria and scored 21 or more in HCR-20 formed the violent group. Those nonaggressive by clinical criteria and with HCR-20 total scores of 20 or less formed the nonviolent group. We choose this value as a cutoff point because the single Brazilian research, with mental disorder patients and the HCR-20, found a similar value.¹⁵ The *Modified Overt Aggressive Scale* (MOAS) was used to describe the aggressive behavior perpetrated. Both instruments will be further presented in detail (see item 2.2).

Sample

Inpatients of a general psychiatric hospital with diagnosis of schizophrenia according to DSM-IV¹⁷ were selected between April and September of 2014. The inclusion criteria were: age between 18 and 60, male gender, diagnosis of schizophrenia (SCID 1)¹⁸, no psychiatric comorbidity (except for substance use disorders, which are strongly related to aggressive behavior) and availability of relatives able to properly inform about patient's status. All participants were examined. Relatives were interviewed by phone. Current and previous hospital files were verified.

The exclusion criteria were: mental disorder, other than schizophrenia and substance use disorder; examination or consent to research impossible; insufficient data to complete the questionnaires; no relatives available to inform about the patient.

The research was approved by local ethics committee and the chosen hospital (Rio de Janeiro Psychiatric Center) authorized the study. This institution offers inpatient treatment to acute psychiatric disorders. All participants signed the informed consent.

Instruments

Historical, Clinical and Risk Management – 20 (HCR-20)

HCR-20 is a psychometric scale developed to VRA in mentally ill patients on forensic settings.² It is currently validated to be applied also on general psychiatric population.^{4,5} HCR-20 is divided in three subscales: *Historical* (10 items), *Clinical* (5 items) and *Risk* (5 items). Each item scores 0 (characteristic absent), 1 (characteristic partially present) or 2 (characteristic present). These subscales cover three different moments of patient biography: past (*Historical*), present (*Clinical*) and future (*Risk*). The risk of violence is evaluated as low, medium or high.²

MOAS

MOAS is the modified version of Overt Aggressive Scale (OAS), used to characterize the aggressive behavior perpetrated. MOAS explores seven days before its application. The instrument is divided in four subscales: a) verbal aggression, b) aggression against property, c) self-aggression and d) aggression against other people. Sub scores have direct correlation to severity of the different subtypes of aggressive behavior analyzed on each subscale.¹⁹ We used MOAS to identify the type of aggressive behavior perpetrated, as did other studies.^{20,21}

Setting

The research was conducted in the Rio de Janeiro Psychiatric Center (CPRJ), one of the four public psychiatric emergency hospitals in the city and responsible for outpatient psychiatric care of nearby residents. Inpatient care is restricted to short-term admissions of acute psychiatric disorders.

Statistical Analysis

We choose Mann-Whitney test (since our sample was nonparametric to analyze the association of HCR-20 scores (including its subscales) with aggressiveness. We choose the *t-test* to analyze and compare HCR-20 items' distribution, between both groups (table 3).

RESULTS

Our final sample consisted in 38 male participants with diagnosis of schizophrenia (19 violent and 19 nonviolent). Average age was 35.1 (± 13.6), 92.1% didn't have previous criminal offences, 76% were single, 44% had less than 8 years of schooling complete fundamental school degree, 37% were employed, 74% were black and 71% had no children.

Table 1 contains detailed analysis of HCR-20's total and subtotal scores and the frequency distribution of each item's score in the whole sample. Table 2 contains HCR-20's average scores and sub scores, divided by groups. Table 3 shows frequency distribution of HCR-20's items on each group; here, the column "absent" corresponds to the score 0 (absent) on HCR-20 items and the column "present" corresponds to scores 1 and 2 (partially present and present, respectively).

HCR-20's average total score in both groups was 19.13 (± 6.67), close to the cutoff point adopted (21). The *Historical*, *Clinical* and *Risk* scales had average scores, in both groups, of 8.61 (± 3.48), 5.74 (± 1.91) e 4.79 (± 2.18), respectively (table 1).

The HCR-20 total score and *Historical* subscale had satisfactory internal consistency, with Cronbach's alpha (α) of 0.82 (very good) and 0.73 (good), respectively. In *Historical* sub-scale, items H1 (previous violence), H2 (young age at first attempt), H3 (relationship instability) and H5 (substance use problems) differed most significantly between groups ($P < 0.001$) (table 3), but differences regarding items H7 (psychopathy) and H8 (early disadjustment) also were statistically significant ($p < 0.05$) (tables 2 and 3). Item H6 (mental illness) scored the same on both groups (tables 2 and 3).

The *Clinical* subscale showed insufficient internal consistency ($\alpha = 0.33$). Suppression of item C5 (prior supervision failure) would entail an acceptable parameter value ($\alpha = 0.66$). Item C4 (impulsivity) scored different between groups and showed the higher statistical significance ($p < 0.001$) among all HCR-20's items (table 3). Regarding items C1 (lack of insight) and C2 (negative attitudes) the difference in scores also showed statistical significance ($p < 0.05$) (table 3). Item C3 (active symptoms) scored the same (2) in all participants (table 2 and 3).

Risk subscale's α was 0.57 (poor) and there was no item that, if excluded, would result in higher coefficient value. Statistical significance was higher regarding item R5 (stress) ($p < 0.001$), followed by R1 (plans lack feasibility) and R3 (lack of personal support) ($p < 0.05$) (table 3).

Twelve of HCR-20's items contributed on the identification of violent and nonviolent groups: C4 (impulsivity), H1 (previous violence), R5 (stress), H2 (Young age first violent incident), H3 (Relationship instability) and H5 (Substance use problems), at 0.001 significance level, and H7 (psychopathy), H8 (Early maladjustment), C2 (negative attitudes), C1 (lack of insight), R1 (Plans lack feasibility) and R3 (Lack of personal support) at 0.05 significance level (table 3). Items H6 (mental illness) e C3 (active symptoms) presented equal scores on both groups (table 2).

MOAS' scores did not show severe aggression in the study population (table 4). Verbal aggression scores were similar in both groups and self-aggression was not reported. MOAS' internal consistency was satisfactory in both subscales of aggression against property and other physical aggression (α of 0.75 and 0.76, respectively) (table 3).

DISCUSSION

HCR-20 proved useful to distinguish aggressive behavior in schizophrenic patients with acute need of inpatient psychiatric care. Literature shows similar results.^{7,16,22,23} Comparison of our results was limited by scarcity of empirical research in general psychiatric hospitals, using similar methodology and detailed HCR-20 scores.^{7,11,15,16,20,24}

Summarizing, the HCR-20's items that most contribute on the identification of violent and nonviolent groups, in our research, were in descending order: C4 (impulsivity), H1 (previous violence), R5 (stress), H2 (Young age first violent incident), H3 (Relationship instability) e H5 (Substance use problems) ($p < 0.001$). Items H7 (psychopathy), H8 (Early maladjustment), C2 (negative attitudes), C1 (lack of insight), R1 (Plans lack feasibility) and R3 (Lack of personal support) have lower statistical significance ($p < 0.05$) (table 3). Items H6 (mental illness) e C3 (active symptoms) presented equal scores on both groups (table 2).

In our analysis, we observed the highest internal consistency when using all three HCR-20 subscales together ($\alpha = 0.82$); when used alone, α values were 0.73 (*Historical*), 0.57 (*Risk*) and 0.33 (*Clinical*). Telles found similar results regarding HCR-20 as a whole ($\alpha = 0.82$); internal consistency was a bit lower in *Historical* subscale ($\alpha = 0.63$) and higher in *Risk* (0.69) and *Clinical* (0.51) subscales.¹⁵ These evidences add to the reliability of HCR-20 total score and to the supplementary role of subscale and item analysis.^{3,7,8,11,14,15,21}

In one cross-sectional study with NGRI participants (of which 79% had schizophrenia), HCR-20 average total score was 22.62 (± 5.76); 23.69 (± 5.94) in those released from forensic psychiatric hospitals and 21.54 (± 5.6) in those released from general psychiatric hospitals.⁷ In a prospective study with NGRI participants released to the community the average HCR-20 total score was 21.54 (± 6.7) in the violent group.¹³ Our higher values on HCR-20 average total score in the violent group (24.89 (± 2.98)) could be explained by different timing (acute psychotic symptoms and the begging of the psychiatric admission).

The analysis of HCR-20's subscales is supplementary in VRA.³ In this sense, there is no consensus in literature regarding subscales analysis.^{10,12,21,22} There seems to be higher reliability of *Clinical* an *Risk* subscales in institutional violence settings.^{10,22}

Studies related to the risk of new offences of NGRI patients point to higher reliability of *Historical* and *Clinical* subscales.^{12,21} These evidences stress the influence of factors such as timing of instrument application, settings and study methodology on HCR-20 scores .

In our research, *Historical* subscale scored, on average, 8.61 (± 3.48), with subtotal average scores of 5.89 (± 1.85) and 11.32 (± 2.45), respectively, in nonviolent and violent groups (table 2). In a prospective study with NGRI participants (70.8% with schizophrenia) released from forensic psychiatric hospitals *Historical* subscale scored, on average, 13.74 (± 4.42). The violent group had an average score of 14.53 (± 3.76) and the group without reoffending had an average score of 12.71 (± 4.52).²⁵ This difference may be due to the existence of a subgroup of-potentially violent patients.²⁵

In a prospective cohort (seven years) with schizophrenic patients NGRI and released from forensic institutions the *Historical* subscale score of 12 offered sensitivity of 0.61 and specificity of 0.80 as cutoff point.¹² Our average score in this subscale 11.32 (± 2.45) was similar to this suggested cutoff point. Our results were also similar on items H1 (previous violence), H2 (Young age at first incident) and H5 (substance abuse problems) (table 3).¹² Despite possible contribution to the origin of the aggressive behavior, item H10 (prior supervision failure) did not help to distinguish groups (table 3). Items H7 (psychopathy) and H8 (early disadjustment) are commonly more important in NGRI populations.^{12,15}

In the Brazilian validation of HCR-20 the average score was 12.35 (± 3.89) on the *Historical* subscale.¹⁵ We found a similar average score in our results (table 2). The *Clinical* subscale did not show satisfactory internal consistence in our study ($\alpha = 0.33$), although literature shows better results.^{15,24} McNeil have suggested a cutoff point of 7 for violent behavior with sensibility and specificity, respectively, of 0.62 and 0.80.¹⁶ Our average score on *Clinical* subscale, in the violent group, was 7.21 (± 0.92) (table 2).

In separating violent and nonviolent groups, item C4 (impulsivity) was the most reliable single item, in accordance with other literature results (table 3).^{10,15,22,23} Telles results place items C2 (negative attitudes), C5 (unresponsive to treatment), C4 (impulsivity) and C1 (lack of insight) as the most reliable to VRA.¹⁵ We found similar results on items C1 (lack of insight), C2 (negative attitudes) and C4 (impulsivity) (table

3). Item C3 (active symptoms) showed insufficient statistical significance, as did our own results (table 2 and 3).¹⁵

In a retrospective study with NGRI participants admitted to forensic institutions *Clinical* and *Risk* subscales, used together, were more reliable to predict institutional violence.²⁷ A follow-up study found similar results: the average score on *Clinical* and *Risk* subscales were, respectively, 5.40 (± 0.32) and 7.15 (± 0.25) in the violent group, and 3.98 (± 0.18) and 6.05 (± 0.16) in the nonviolent group.²³ Our results are slightly different regarding *Clinical* subscale scores in the violent group (table 2).

Risk subscale is strongly related with violent behavior in NGRI individuals.^{7,15} In the Brazilian validation of the HCR-20, the *Risk* subscale had higher internal consistence ($\alpha = 0.69$) compared to *Historical* ($\alpha = 0.63$) and *Clinical* ($\alpha = 0.53$).¹⁵ A cross-sectional study also verified the utility of using items of *Risk* items to predict reconviictions in NGRI patients.⁷ Other studies found similar results.^{13,27}

Our results suggest that characteristics explored by *Risk* subscale are probably relevant in both NGRI and general-psychiatrist population.^{7,13,27} Items R5 (stress) and R3 (lack of personal support) had the higher statistical significance among items of *Risk* subscale (table 3). The fact that we sampled participants that lived in the same neighborhood may have influenced this subscale's score.

In empirical research of VRA different methodologies and instruments are used to describe aggressive behavior.^{4,5} Few studies used HCR-20 and MOAS, together, in the same population.^{5,19,20} Similarly, Telles found a higher prevalence of verbal aggression (57%) among the total sample, as well as violence towards in the violent group.²⁰ Self-aggression and aggression against property had prevalence lower than 5%.²⁰

Our small total sample (38 participants) limited the generalization of our results, which refers specifically to schizophrenic inpatients with acute need of admission to a psychiatry ward in Rio de Janeiro city. The availability of only one researcher could reduce the reliability of our results.

Summing up, HCR-20 demonstrated efficacy on identifying violent and nonviolent schizophrenic patients admitted in a clinical psychiatric hospital and specificities regarding each group. The scarcity of studies on nonviolent patients limits

the comparison of our results. We stress that HCR-20 had more reliable results in the nonviolent group. These benefits could be useful on identifying potential violent and nonviolent patients in clinical psychiatric settings. Further research could benefit of this approach.

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Table 1 - HCR-20 Statistical Description

	Absent	Partially present	Present	Average	Standard deviation
H1 (Previous violence)	14	3	21	1,18	0,95
H2 (Young age first violent incident)	25	4	9	0,58	0,86
H3 (Relationship instability)	17	13	8	0,76	0,79
H4 (Employment problems)	12	6	20	1,21	0,91
H5 (Substance use problems)	18	11	9	0,76	0,82
H6 (Major mental illness)	0	0	38	2,00	0,00
H7 (psychopathy)	33	4	1	0,16	0,44
H8 (Early maladjustment)	30	8	0	0,21	0,41
H9 (Personality disorder)	37	1	0	0,03	0,16
H10 (Prior supervision failure)	3	3	32	1,76	0,59
HISTORICAL				8,61	3,48
C1 (Lack of insight)	4	18	16	1,32	0,66
C2 (Negative attitudes)	8	16	14	1,16	0,75
C3 (Active symptoms)	0	0	38	2,00	0,00
C4 (Impulsivity)	13	9	16	1,08	0,88
C5 (Unresponsive to treatment)	29	7	2	0,29	0,57
CLINICAL				5,74	1,91
R1 (Plans lack feasibility)	14	15	9	0,87	0,78
R2 (Exposure to destabilizers)	3	19	16	1,34	0,63
R3 (Lack of personal support)	22	12	4	0,53	0,69
R4 (Non-compliance with remediation attempts)	9	17	12	1,08	0,75
R5 (Stress)	11	17	10	0,97	0,75
RISK				4,79	2,18
HCR20				19,13	6,67

Table 2 – Violent Behavior and HCR-20 scores, by groups

	Nonviolent		Violent	
	Average	Standard deviation	Average	Standard deviation
H1 (Previous violence)	0,53	0,84	1,84	0,50
H2 (Young age first violent incident)	0,11	0,32	1,05	0,97
H3 (Relationship instability)	0,32	0,48	1,21	0,79
H4 (Employment problems)	1,05	0,85	1,37	0,96
H5 (Substance use problems)	0,42	0,69	1,11	0,81
H6 (Major mental illness)	2,00	0,00	2,00	0,00
H7 (psychopathy)	0,00	0,00	0,32	0,58
H8 (Early maladjustment)	0,05	0,23	0,37	0,50
H9 (Personality disorder)	0,00	0,00	0,05	0,23
H10 (Prior supervision failure)	1,53	0,77	2,00	0,00
HISTORICAL*	5,89	1,85	11,32	2,45
C1 (Lack of insight)	1,05	0,71	1,58	0,51
C2 (Negative attitudes)	0,79	0,71	1,53	0,61
C3 (Active symptoms)	2,00	0,00	2,00	0,00
C4 (Impulsivity)	0,37	0,60	1,79	0,42
C5 (Unresponsive to treatment)	0,26	0,56	0,32	0,58
CLINICAL*	4,26	1,45	7,21	0,92
R1 (Plans lack feasibility)	0,58	0,69	1,16	0,76
R2 (Exposure to destabilizers)	1,00	0,58	1,68	0,48
R3 (Lack of personal support)	0,32	0,58	0,74	0,73
R4 (Non-compliance with remediation attempts)	0,74	0,65	1,42	0,69
R5 (Stress)	0,58	0,69	1,37	0,60
RISK*	3,21	1,58	6,37	1,42
HCR20*	13,37	3,55	24,89	2,98

* *t*-test between two groups independently (nonviolent *versus* Violent) with statistical significance ($p < 0,000$).

Table 3 – HCR-20's Items Statistical Description by groups

	NONVIOLENT				VIOLENT				χ^2
	ABSENT		PRESENT		ABSENT		PRESENT		
	N°	%	N°	%	N°	%	N°	%	
H1	13	68,4	6	31,5	1	5,3	18	94,8	16.2***
H2	17	89,5	2	10,5	8	42,1	11	57,9	9.4***
H3	13	68,4	6	31,6	4	21,1	15	78,9	8.6***
H4	6	31,6	13	68,4	6	31,6	13	68,4	0,0
H5	13	68,4	6	31,6	5	26,3	14	73,6	6.7***
H6	0	0	19	100	0	0	19	100	-
H7	19	100	0	0	14	73,7	5	26,3	5.7**
H8	19	100	0	0	12	63,2	7	36,8	5.7**
H9	19	100	0	0	18	94,7	1	5,3	1,0
H10	3	15,8	16	84,2	0	0	19	100	3.2*
C1	4	21,1	15	78,9	0	0	19	100	4.4**
C2	7	36,8	12	63,2	1	5,3	18	94,7	5.7**
C3	0	0	19	100	0	0	19	100	-
C4	13	68,4	6	31,6	0	0	19	100	19.7***
C5	15	78,9	4	21,1	14	73,5	5	26,4	0,14
R1	10	52,6	9	47,3	4	21,1	15	78,9	4.0**
R2	3	15,8	16	84,2	0	0	19	100	3.2*
R3	14	73,7	5	26,3	8	42,1	11	57,9	3.8**
R4	7	36,8	12	63,2	2	10,5	17	89,5	3.6*
R5	10	52,6	9	47,3	1	5,3	18	94,7	10.3***

*** p -value<0.01; ** p -value<0.05; * p -value<0.1

Table 4 – MOAS Statistical Description

	Absent	Present	Average	Standard deviation
VA0	34	4	0,11	0,31
VA1	5	33	0,87	0,34
VA2	10	28	1,47	0,89
VA3	21	17	1,34	1,51
VA4	35	3	0,32	1,09
Verbal aggression			4,00	2,61
AAP0	17	21	0,55	0,50
AAP1	22	16	0,42	0,50
AAP2	26	12	0,63	0,94
AAP3	29	9	0,71	1,29
AAP4	36	2	0,21	0,91
Property aggression			1,97	2,78
PA0	19	19	0,50	0,51
PA1	20	18	0,47	0,51
PA2	19	19	1,00	1,01
PA3	29	9	0,71	1,29
PA4	36	2	0,21	0,91
Physical aggression			2,39	2,86
MOAS			17,61	17,02

VA (verbal aggression); AAP (aggression against property); PA (physical aggression)

6 – Discussão

Em relação a da teoria do conhecimento em psicopatologia, o constructo de CV não demonstrou possuir características semelhantes às aquelas verificadas em constructos psicopatológicos puros, que dificultam sua pesquisa empírica. A ARV inclui elementos passíveis de serem objetivamente determinados e definidos. Tal característica é compartilhada pelos elementos psicopatológicos incluídos no HCR-20, a saber, alterações da vontade (impulsividade) e sintomas produtivos. Em ambos os casos se trata da verificação prática das referidas alterações, neste caso diretamente correlacionadas ao desfecho (CV), o que facilita sua investigação.

As dificuldades inerentes à pesquisa empírica com objetos de investigação de elementos psicopatológicos puros (CR) e suas relações de causalidade foram satisfatoriamente abordadas no artigo 2 (item 2.2). Neste caso, faz-se necessário atentar para as exigências e natureza do objeto de pesquisa. Em outras palavras, a aplicação de metodologias empíricas clássicas em psicopatologia, de maneira indistinta, pode prejudicar os resultados obtidos, bem como a elaboração de hipóteses e teorias problemáticas (validade interna prejudicada) e de falsos paradoxos teóricos. Todas estas características foram apontadas no artigo 2.

O HCR-20 se mostrou eficaz na verificação de CV em portadores de esquizofrenia internados em um hospital psiquiátrico clínico. Nossos resultados estão em concordância com a literatura (Telles *et al.* 2009), porém são escassas pesquisas com população e *setting* semelhantes aos por nós adotados. (Crocker *et al.* 2009) É provável que muitos dos fatores de risco relacionados com a ocorrência de CV, em portadores de esquizofrenia, sejam compartilhados entre populações psiquiátricas clínicas e forenses, entretanto, as últimas representaram indivíduos potencialmente mais violentos. (Otto & Douglas 2010)

Nossa média total do HCR-20 19,13 ($\pm 6,67$) foi semelhante àquela obtida na validação do instrumento para o português. (Telles *et al.* 2009) A excelente eficácia do HCR-20 na identificação de indivíduos potencialmente violentos em nossa pesquisa pode ser resultado do momento escolhido para a aplicação do instrumento (surto psicótico agudo).

Os itens do HCR-20 que mais se destacaram na identificação do grupo violento foram: histórico prévio de violência, desajustamento precoce, impulsividade e ausência de suporte social. O diagnóstico de esquizofrenia e a presença de sintomas ativos da doença não estiveram associadas ao risco de violência em nossa pesquisa. Resultados semelhantes são encontrados na literatura. (Dolan *et al.* 2010; Singh *et al.* 2011)

Verificamos similaridades de características de CV perpetrado por indivíduos esquizofrênicos com aquelas de portadores de transtornos psicóticos orgânicos, no estudo de caso por nós publicado. Isso aponta para a necessidade de uma avaliação clínica e psicopatológica detalhadas, de modo a realizar um bom diagnóstico diferencial desses transtornos.

O uso de substâncias psicoativas é fortemente associado a ocorrência de CV na literatura. (Monahan *et al.* 2001; Crocker *et al.* 2010) Em nossa pesquisa, o uso de álcool e drogas ilícitas corrente foi mais verificado no grupo violento. O achado de uso de drogas nesses pacientes pode ter contribuído para a instabilidade do quadro psicótico, daí o encaminhamento para internação hospitalar, no serviço onde a amostra foi estudada.

7 – Conclusão

O HCR-20 demonstrou utilidade prática em serviços de emergência psiquiátrica. Como já mencionado, os resultados da nossa pesquisa apontam para uma maior confiabilidade do HCR-20 na identificação dos participantes não violentos. Tal característica demonstra utilidade em ambientes psiquiátricos clínicos, como por exemplo nas tomadas de decisão relativas a alta hospitalar.

A revisão dos fundamentos da Psicopatologia poderia auxiliar na pesquisa empírica futura no tema, principalmente na definição conceitual e identificação dos objetos de pesquisa. Em relação ao CV, a análise fenomenológica poderia trazer benefícios à compreensão de possíveis relações de causalidade

8 – Recomendações

O uso de instrumentos psicométricos, como o HCR-20, em ambientes psiquiátrico-clínicos pode trazer benefícios, principalmente, no delineamento de estratégias terapêuticas específicas para diminuir o risco de CV. Da mesma maneira, tem o potencial de auxiliar na identificação clínica objetiva dos fatores de risco mais evidentes em cada caso. A possibilidade de identificar, com eficácia, positivamente pacientes potencialmente violentos e não violentos facilita a tomada de decisões por parte de equipes terapêuticas.

O progressivo abandono dos fundamentos da Psicopatologia pode comprometer resultados de pesquisas científicas no tema, que não atentem para as especificidades inerentes aos objetos de pesquisa psicopatológicos. Tal negligência pode ser verificada, por exemplo, na elaboração de falsos paradoxos teóricos, como já discutido nesta dissertação. Um retorno aos fundamentos da psiquiatria e psicopatologia faz-se tarefa urgente para os pesquisadores dos temas.

9- Referências bibliográficas

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ANEXOS

ANEXO 01 – Historical, Clinical and Management 20 (HCR-20)

SUB-ESCALA HISTORICA	<i>0 (ausente), 1 (parcialmente presente), 2 (presente)</i>
H1 – Violência prévia	
H2 – Idade no primeiro incidente violento	
H3 – Instabilidade nos relacionamentos	
H4 – Problemas no emprego	
H5 – Problema com uso de substâncias	
H6 – Doença mental	
H7 – Psicopatia	
H8 – Desajustamento precoce	
H9 – Transtorno de personalidade	
H10 – Falha em supervisão prévia	
Total sub-escala histórica (0-20)	
SUB-ESCALA CLÍNICA	<i>0 (ausente), 1 (parcialmente presente), 2 (presente)</i>
C1 – Ausência de insight	
C2 – Atitudes negativas	
C3 – Sintomas ativos de doença mental	
C4 – Impulsividade	
C5 – Ausência de resposta ao tratamento	
Total sub-escala clínica (0-10)	
SUB-ESCALA DE RISCO	<i>0 (ausente), 1 (parcialmente presente), 2 (presente)</i>
R1 – Planos futuros sem viabilidade	
R2 – Exposição à desestabilizadores	
R3 – Ausência de suporte social	
R4 – Não cumprimento de recomendações	
R5 – Estresse	
Total sub-escala de risco (0-10)	
HCR-20 total (0-40)	

ANEXO 02 – MODIFIED OVERT AGGRESSION SCALE (MOAS)

Patient _____

Rater _____

Date _____

INSTRUCTIONS

Rate the patient's aggressive behavior over the past week. Select as many items as are appropriate. Refer to the pocket guide for the full measure.

SCORING

1. Add items in each category
2. In scoring summary, multiply sum by weight and add weighted sums for total weighted score. Use this score to track changes in level of aggression over time.

Verbal aggression

- _____ 0 No verbal Aggression
 _____ 1 Shouts angrily, curses mildly, or makes personal insults
 _____ 2 Curses viciously, is severely insulting, has temper outbursts
 _____ 3 Impulsively threatens violence toward others or self
 _____ 4 Threatens violence toward others or self repeatedly or
 _____ deliberately

SUM VERBAL AGGRESSION SCORE

Aggression against Property

- _____ 0 No aggression against property
 _____ 1 Slams door, rips clothing, urinates on floor
 _____ 2 Throws objects down, kicks furniture, defaces walls
 _____ 3 Breaks objects, smashes windows
 _____ 4 Sets fires, throws objects dangerously

SUM PROPERTY AGGRESSION SCORE

Autoaggression

- _____ 0 No autoaggression
 _____ 1 Picks or scratches skin, pulls hair out, hits self (without
 _____ injury)
 _____ 2 Bangs head, hits fists into walls, throws self onto floor
 _____ 3 Inflicts minor cuts, bruises, burns, or welts on self
 _____ 4 major injury on self or makes a suicide attempt

SUM AUTOAGGRESSION SCORE

Physical Aggression

- _____ 0 No physical aggression
 _____ 1 Makes menacing gestures,
 _____ swings at people, grabs at clothing
 _____ 2 Strikes, pushes, scratches, pulls hair of
 _____ others (without injury)
 _____ 3 Attacks others, causing mild injury (bruises, sprain, welts,
 _____ etc.)
 _____ 4 Attacks others, causing serious injury

SUM PHYSICAL AGGRESSION SCORE

CATEGORY	SUM SCORE	WEIGHTS	WEIGHTED SUM
Verbal Aggression		x 1	
Aggression against Property		x 2	
Autoaggression		x 3	
Physical Aggression		x 4	
Total Weighted Score			

ANEXO 03 – AUTORIZAÇÃO DA INSTITUIÇÃO (ARTIGO 01)



Governo do Estado do Rio de Janeiro
Secretaria de Estado de Saúde
Subsecretaria de Unidades Próprias
Centro Psiquiátrico Rio de Janeiro

Rio de Janeiro, 20 de março de 2015.

CARTA DE AUTORIZAÇÃO

Por meio desta certificamos que **Leonardo Fernandez Meyer** recebeu autorização desta Instituição (Centro Psiquiátrico Rio de Janeiro) para a organização, produção e publicação do trabalho intitulado: "Cerebral Calcifications and Schizophreniform Disorder"; publicado pelo Jornal Brasileiro de Psiquiatria em Janeiro de 2013.

Dr. Marcos Miranda Gago – CRM: 52.48318-1
Diretor de Div. Assistencial do Centro Psiquiátrico Rio de Janeiro

Marcos de Miranda Gago
SSOPC - Centro Psiquiátrico RJ
Vice Diretor
CRM: 52.48318-1

CENTRO PSIQUIÁTRICO RIO DE JANEIRO
Pça. Coronel Assunção s/nº Saúde -Rio de Janeiro/RJ
CEP: 20220-480 Tel.: 2332-5676 Fax: 2332-5678
E-mail: cpjrj@gmail.com

ANEXO 04 – Termo de consentimento livre e esclarecido

Rio de Janeiro, de de 201...

TERMO DE CONSENTIMENTO LIVRE E ESCLARECIDO

Eu, _____, RG: _____ neste momento em tratamento intrahospitalar psiquiátrico, no Estado Rio de Janeiro, fui informado do projeto de pesquisa: **“Psicopatologia e Comportamento Violento na Esquizofrenia: Métodos de Avaliação Clínica e Instrumental”**, sob responsabilidade do Dr. Leonardo Fernandez Meyer. O objetivo principal é verificar a eficácia de uma escala para avaliar o risco de comportamento violento, em portadores de transtornos mentais. Para dele participar deverei realizar uma ou mais entrevistas com o pesquisador (ou assistente), na qual responderei questões para o estudo. Autorizo que familiares e/ou amigos sejam contactados, bem como a análise de meus registros médicos e oficiais. Como participante não espero obter qualquer benefício, inclusive financeiro, com minha colaboração, a qual não interferirá com meu tratamento. Fui informado, ainda, que não existe risco à minha saúde e que haverá rigoroso respeito ao sigilo do que vier a informar. Será garantido o meu anonimato e o sigilo total de meus dados pessoais. Estou ciente que posso me recusar participar do projeto ou, mesmo, dele me retirar a qualquer momento, sem que isso traga prejuízo a mim ou ao meu tratamento nessa instituição. Se necessitar maiores esclarecimentos, poderei contactar o Dr. Leonardo Meyer no Instituto de Psiquiatria da Universidade do Brasil ou no Centro Psiquiátrico Rio de Janeiro, para tanto.

Participante
RG:

Dr. Leonardo F. Meyer
Pesquisador
CRM: 52.84062-9

Responsável Legal
RG:

Dr. Alexandre M. Valença
Orientador
CRM:

