Número 17

Psiquiatria, Psicologia & Justiça

Janeiro de 2020

Sociedade Portuguesa de Psiquiatria e Psicologia da Justiça

SUMÁRIO

Fatores de risco de violência em doentes com perturbações psicóticas avaliados em contexto psiquiátrico-forense

Raquel Serrano / Adriana Carapucinha / Máximo Colón 1

Risk factors for violence in patients with psychotic disorders evaluated in a forensic psychiatric setting

Raquel Serrano / Adriana Carapucinha / Máximo Colón 20

Consumo de Canabinóides e Suicídio: uma revisão da literatura

Catarina Oliveira / Tiago Filipe Ferreira / Mário J. Santos / Inês Figueiredo / João Pedro / Bruno Trancas 38

Cannabis and suicide: a literature review

Catarina Oliveira / Tiago Filipe Ferreira / Mário J. Santos / Inês Figueiredo / João Pedro / Bruno Trancas 57

Male and Female Psychopaths: Affective, Interpersonal, and Behavioral Differences

Fernando Almeida / Diana Moreira 75

Dating violence: Women who broke it off permanently

Marisalva Fávero / Sofia Tulha / Diana Moreira / Amaia Del Campo / Vera Marques Santos / Valéria Sousa Gomes.....112

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Fatores de risco de violência em doentes com perturbações psicóticas avaliados em contexto psiquiátrico-forense

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Resumo

Introdução: A relação entre psicose e comportamentos criminais/violentos está bem documentada. A evidência recente tem sugerido que vários fatores de risco dinâmicos/modificáveis e estáticos/não modificáveis estão associados ao aumento do risco de violência em indivíduos com psicose.

Objetivos: Comparar dois grupos de indivíduos com perturbações psicóticas, com e sem registo de comportamentos violentos prévios, que foram avaliados em contexto psiquiátrico-forense e identificar fatores de risco de violência.

Métodos: Análise de processos de Psiquiatria Forense e revisão não sistemática da literatura.

Resultados: A ausência de *insight*, a presença de sintomatologia positiva, a má adesão ao tratamento, o abuso de substâncias psicoativas, a presença de ideação suicida ou de história prévia de tentativas de suicídio, de traços de personalidade maladaptativos, bem como de antecedentes criminais, constituíram-se como potenciais fatores de risco de violência nos casos em apreço. Também determinados fatores sociodemográficos surgiram de forma mais consistente no grupo com registo de violência, como o sexo masculino e idades mais jovens.

Discussão/ Conclusões: O presente estudo sugere uma associação entre violência e alguns aspetos clínicos e sociodemográficos em pacientes com perturbações psicóticas. É fundamental que se proceda a uma avaliação do risco de violência em indivíduos com perturbações psicóticas, dado que estas são causas potencialmente preveníveis de comportamento violento.

Palavras-Chave: Crime; Violência; Esquizofrenia; Psicose crónica; Fatores de risco.

Introdução

A relação entre psicose e comportamentos criminais/violentos está bem documentada na literatura, estando aquela associada a um risco aumentado de violência de 49-68% (Stratton, 2017). Em particular, a ideação delirante persecutória, as alucinações de comando e os delírios de temática religiosa parecem contribuir para comportamentos de violência na esquizofrenia (Stratton, 2017).

A evidência recente mostrou que a associação entre esquizofrenia e crime violento poderá ser mais robusta do que a estabelecida entre esquizofrenia e crime não violento. Segundo Stratton (2017), a taxa de prevalência de esquizofrenia entre homicidas varia entre 6-11%, valor que ultrapassa largamente o da prevalência de esquizofrenia na população geral. Paralelamente, vários estudos em diferentes países, incluindo Portugal, encontraram taxas de homicídio até 17 vezes superiores na população de doentes com esquizofrenia comparativamente à população geral (Almeida, 1999; Tiihonen 1993).

Alguns estudos sugerem que o risco de crime violento em indivíduos com esquizofrenia é cerca de 4-6 vezes superior ao da população geral. Contudo, as estimativas de risco variam substancialmente entre os vários estudos, sendo um dos fatores a ter em consideração a eventual subnotificação junto das autoridades competentes de crimes cometidos por doentes com patologia psiquiátrica grave, que são frequentemente vistos com grande tolerância e complacência e negligenciados por familiares e amigos do doente (Almeida, 2007).

De acordo com os modelos conceptuais de violência na esquizofrenia, os doentes afetos desta doença são violentos em face dos sintomas psicopatológicos que a caraterizam (como delírios ou alucinações) ou do uso concomitante de substâncias psicoativas (um fator de risco estabelecido para violência). Alternativamente, os comportamentos violentos na esquizofrenia podem advir de fatores familiares que se relacionam com traços de personalidade, como

dificuldades no controlo dos impulsos e na regulação afetiva, bem como mecanismos de *coping* inadequados para lidar com o stresse (Nestor, 2002; Fazel, 2009).

Alguns autores sugerem subgrupos distintos para os indivíduos com esquizofrenia e com registo criminal, subdividindo-os de acordo com a idade de início das ofensas perpetradas e/ou comorbilidade com perturbação de personalidade. Nesta aceção, Hodgins (2008, 2009) desenvolveu um modelo composto por três grupos: *early starters*, *late starters* e *late first offenders*. Os denominados *early starters* são caraterizados por personalidade anti-social prémorbida, sendo documentados frequentemente transtornos de conduta na infância. Assemelham-se a indivíduos com antecedentes forenses e sem quadros psicóticos, tendendo a manifestar os primeiros comportamentos criminosos antes do início da psicose. Nos chamados *late starters*, as ofensas são perpetradas tipicamente após o início da psicose, sendo atribuíveis aos sintomas positivos e cognitivos da doença. Finalmente, tem-se o subgrupo dos *late first offenders*, cujas ofensas graves têm lugar uma ou duas décadas após o início da doença mental.

Van Dongen et al. (2015) sugerem que os três subgrupos definidos pelo modelo de Hodgins poderão ser reduzidos a apenas dois, após agrupar os *late starters* e *late first offenders,* que apresentam caraterísticas semelhantes, nomeadamente no que respeita à relação entre os comportamentos criminais e o início da perturbação psicótica, na ausência de traços de personalidade anti-sociais. Ambos os grupos de pacientes requerem tratamento psicofarmacológico com antipsicóticos. Já os que manifestam comportamentos agressivos desde a infância beneficiam de programas psicoterapêuticos visando a promoção de comportamentos pró-sociais.

As *guidelines* atuais recomendam a avaliação do risco de violência em todos os pacientes afetos de esquizofrenia, considerando-se que esta e outras doenças mentais são causas potencialmente preveníveis de violência e de crime violento (Fazel,2009).

Fazel et al. (2009) demonstraram que a associação entre esquizofrenia e crime violento é substancialmente elevada em pacientes com o diagnóstico de perturbação do uso de substâncias psicoativas em comorbilidade e que, na ausência deste, o risco de crime violento na esquizofrenia é apenas ligeiramente elevado.

Num estudo retrospetivo de perícias médico-legais psiquiátricas em âmbito de Direito penal (para avaliação de eventual inimputabilidade e perigosidade), realizado em Portugal, verificou-se que 47% dos indivíduos periciados com perturbações psicóticas (a maioria das quais com psicoses esquizofrénicas) apresentavam patologia dual. Os crimes envolviam sobretudo ofensas corporais, homicídio e violência doméstica e as vítimas eram habitualmente familiares ou conhecidos (Garrido, 2012).

Numa revisão sistemática e meta-análise recente (Witt, 2013), baseada em 110 estudos (N = 45533), foram examinados fatores de risco dinâmicos/modificáveis e fatores de risco estáticos/não modificáveis, associados ao aumento do risco de violência em indivíduos com psicose. Assim, os primeiros incluíram: comportamento hostil, abuso recente de substâncias psicoativas, não adesão ao tratamento psicofarmacológico e psicológico, controlo dos impulsos deficitário e ausência de *insight*. Já entre os fatores de risco estáticos, o mais significativo foi a presença de registo criminal. Os resultados apresentados sugeriram que a presença de antecedentes forenses (como comportamentos violentos e detenções prévias) são fortes preditores de risco, comparativamente com o abuso de substâncias e determinados fatores demográficos. Foi ainda encontrada uma relação entre a existência de uma história prévia de tentativas de suicídio, bem como de ideação suicida (incluindo ameaças de suicídio) e o risco de violência em indivíduos com psicose. Os sintomas negativos não tiveram uma associação estatisticamente significativa com o risco de violência. Também não foi demonstrada uma associação estatisticamente significativa entre violência e fatores neuropsicológicos.

Segundo Witt (2013), os fatores de risco para comportamentos violentos graves na psicose incluem sintomatologia positiva, défices neuropsicológicos, suicidalidade, má adesão ao tratamento, fatores demográficos, abuso de substâncias psicoativas e história criminal prévia.

Stratton *et al.* (2017) estudaram os perfis neuropsicológicos de homicidas com esquizofrenia, tendo demonstrado uma deterioração cognitiva importante na amostra utilizada, sobretudo a nível das funções executivas, memória e atenção.

Numa revisão sistemática e meta-análise baseada em 27 estudos (N = 3511), Fazel e Yu (2011) examinaram o risco de ofensas repetidas levadas a cabo por doentes com perturbações psicóticas. Os autores verificaram que, comparativamente aos indivíduos sem doença mental, nos indivíduos afetos de perturbações psicóticas, o risco de ofensas repetidas foi significativamente superior e que tal risco foi semelhante quando comparados com indivíduos afetos de outras perturbações psiquiátricas. Contudo, é admitido neste estudo que poderá haver variáveis de confundimento na base destes resultados, nomeadamente fatores sociodemográficos, história criminal e outros fatores clínicos, como o abuso de substâncias psicoativas, que não foram adequadamente ajustados nos estudos incluídos.

Objetivos

Os autores pretendem descrever e comparar as caraterísticas sociodemográficas e clínicas de dois grupos de indivíduos afetos de perturbações psicóticas (com e sem registo de comportamentos violentos prévios), que foram avaliados em contexto psiquiátrico-forense, e identificar fatores de risco de violência nesta amostra.

Método

Os autores desenvolveram um estudo descritivo, procurando identificar casos de Perturbações psicóticas que foram periciados na Delegação do Centro do Instituto Nacional de Medicina Legal e Ciências Forenses, entre os anos 2013 e 2017 inclusive. A identificação dos casos foi realizada através da consulta direta dos processos psiquiátrico-forenses, mais concretamente dos relatórios das perícias médico-legais realizadas. A amostra obtida foi posteriormente dividida em dois grupos, consoante a presença ou ausência de registo de comportamentos de violência anteriores à data dos factos. No grupo com violência, foram incluídos os indivíduos com registo criminal, ou cuja perícia avaliava imputabilidade e perigosidade. Posteriormente, foi efetuada uma análise estatística descritiva destas duas populações.

Foi também efetuada uma revisão não sistemática da literatura a partir da base de dados *Pubmed/Medline,* com as palavras-chave *crime; violence; violent crime*; *schizophrenia; chronic psychosis*; *aggression; risk factors*, tendo sido selecionados artigos em língua inglesa com especial relevância para o objeto do estudo. Foram também incluídas referências adicionais, de artigos em língua portuguesa, com pertinência para o presente estudo.

Resultados

Foram identificados 86 casos de indivíduos afetos de perturbações psicóticas, dos quais 35 apresentavam, à data dos factos constantes do processo, registo de comportamentos violentos, enquanto 51 indivíduos não apresentavam história anterior de violência. As caraterísticas sociodemográficas e clínicas de ambos os grupos estão representadas nas Tabelas 1-4.

A amostra consistiu em 50 indivíduos do sexo masculino e 36 do sexo feminino, maioritariamente de afinidade populacional caucasoide. A média de idades da amostra foi de

52,49 anos, sendo inferior no grupo com registo de comportamentos violentos (48,86 anos). Verificou-se um claro predomínio do sexo masculino no grupo com história de violência, contrastando com o grupo sem registo de comportamentos de violência, onde se constatou um ligeiro predomínio do sexo feminino. A maior parte dos indivíduos avaliados eram solteiros e sem situação laboral ativa - a maioria estava reformado (74,42%), sobretudo por invalidez (53,49%) estando os restantes desempregados (15,12%).

O diagnóstico psiquiátrico principal mais frequentemente observado foi o de Esquizofrenia (72,09%), seguido dos Transtornos delirantes persistentes (17,44%). No grupo com registo prévio de comportamentos violentos, o subtipo de Esquizofrenia mais prevalente foi o paranóide (34,29%), enquanto que no outro grupo o subtipo mais frequentemente observado foi o residual (45,10%).

Do ponto de vista psicopatológico, no grupo com registo de violência, a ideação delirante (sobretudo de cariz persecutório e místico/religioso) constituiu-se como o achado mais prevalente, destacando-se ainda a ocorrência de ideação suicida/tentativas de suicídio, atividade alucinatória e vivências de passividade. No grupo sem historial de violência, predominaram os sintomas negativos/cognitivos.

No grupo com registo de comportamentos prévios de violência, constatou-se uma má adesão às consultas de psiquiatria e ao tratamento psicofarmacológico em 71,43% dos casos (*vs* 37,25% no grupo sem registo de violência). Cerca de 46% dos indivíduos com perturbações psicóticas e com comportamento violento estavam medicados com fármacos *depot* e cerca de 14% encontravam-se sob medida de tratamento compulsivo em regime de ambulatório. Neste grupo, verificou-se ainda, em cerca de metade dos indivíduos consumos concomitantes de múltiplas substâncias psicoativas, em particular de canabinóides e de álcool. Constatou-se, igualmente, comorbilidade com traços de personalidade maladaptativos em 22,86% dos casos.

Tabela 1

Caraterísticas sociodemográficas da amostra

Variáveis	Amostra total (N=86)		Com registo de violência (N=35)		Sem registo de violência (N=51)	
	N	%	N	%	N	%
Variáveis categoriais						
Sexo						
Feminino	36	41,86	9	/25,71	27	52,94
Masculino	50	58,14	26	74,29	24	47,06
Afinidade populacional						
Caucasoide	82	95,35	34	97,14	48	94,12
Mongoloide	2	2,33	1	2,86	1	1,196
Negroide	2	2,33	-	-	2	3,92
Estado Civil						
Solteiro/a	65	75,58	24	68,57	41	80,39
Casado/a	6	6,98	5	14,29	1	1,96
Divorciado/a	13	15,12	6	17,14	7	13,73
Viúvo/a	2	2,33	-	-	2	3,92
Situação laboral						
Empregado/a	9	10,47	6	17,14	3	5,88
Desempregado/a	13	15,12	8	22,86	5	9,80
Reformado/a	16	18,60	7	20,00	9	17,65
Reformado/a compulsivamente	2	2,33	1	2,86	1	1,96
Reformado/a por invalidez	46	53,49	13	37,14	33	64,71

	Média	±DP	Média	±DP	Média	±DP
Variáveis Numéricas						
Idade (anos)	52,49	14,10	48,86	14,35	54,98	13,37

Tabela 2

Distribuição de ambos os grupos por categoria nosológica principal (psiquiátrica), de acordo com a 10.ª Revisão da Classificação Estatística Internacional de Doenças e Problemas Relacionados com a Saúde da Organização Mundial de Saúde (CID-10)

Cod. CID-10	Categoria Nosológica	Com registo de violência		Sem registo de violência	
		N	%	N	%
F20-F29	Esquizofrenia, transtornos esquizotípicos e delirantes	35	100%	51	100%
F20	Esquizofrenia	17	48,57%	45	88,24%
F20.0	Esquizofrenia paranóide	12	34,29%	19	37,25%
F20.1	Esquizofrenia hebefrénica	-	-	3	5,88%
F20.5	Esquizofrenia residual	4	11,43%	23	45,10%
F20.9	Esquizofrenia não especificada	1	2,86%	-	-
F22	Transtornos delirantes persistentes	10	28,57%	5	9,80%
F25	Transtornos esquizoafetivos	5	14,29%	-	-
F29	Psicose não - orgânica não especificada	3	8,57%	1	1,96%

Tabela 3

Achados psicopatológicos patenteados em ambos os grupos (NA - não apurável/não constante nos processos consultados)

Variável	Com registo de violência		Sem registo de violência	
	N	%	N	%
Ideação delirante	42	58,33%	31	35,23%
Persecutória	27	37,50%	20	22,73%
Auto-referência	4	5,56%	3	3,41%
Mística/religiosa	7	9,72%	7	7,95%
Grandiosidade	N/A	N/A	1	1,14%
Erotomaníaca	1	1,39%	N/A	N/A
Ciúme	3	4,17%	N/A	N/A
Alterações da forma do pensamento	2	2,78%	N/A	N/A
Alienação do pensamento	2	2,78%	1	1,14%
Passividade do impulso/ da volição/ somática	1	1,39%	N/A	N/A
Alucinações	13	18,06%	13	14,77%
Auditivo-verbais	12	16,67%	13	14,77%
Somáticas	1	1,39%	N/A	N/A
Sintomas negativos/cognitivos	7	9,72%	43	48,86%
Ideação suicida / Tentativa(s) de suicídio	5	6,94%	N/A	N/A

Tabela 4

Perfil de adesão ao projeto terapêutico, comorbilidade com consumo de substâncias psicoativas e presença de traços de personalidade maladaptativos em ambos os grupos (TCRA – Tratamento compulsivo em regime de ambulatório; NA- não apurável/não constante nos processos consultados)

Variável	Com registo de violência		Sem registo de violência	
	N	%	N	%
Adesão ao projeto terapêutico				
Má adesão às consultas e tratamento	25	71,43%	19	37,25%
TCRA	5	14,29%	4	7,84%
Tratamento com formulação *depot*	16	45,71%	14	27,45%
Consumos de substâncias psicoativas	17	48,57%	7	13,73%
Álcool	7	20,00%	4	7,84%
Canabinóides	9	25,71%	3	5,88%
Outras	1	2,86%	N/A	N/A
Traços de personalidade maladaptativos	8	22,86%	N/A	N/A

Dos 35 indivíduos com registo de comportamentos violentos prévios que foram submetidos a avaliação psiquiátrico-forense, 11 (31,43%) tinham antecedentes criminais previamente à perícia e 24 (68,57%) vinham indiciados pela primeira vez. Do total das 35 perícias realizadas, 25 visavam a avaliação de imputabilidade e perigosidade, em face de 44 crimes dos quais os sujeitos vinham indiciados (Tabela 5), correspondendo a 1,68 crimes por periciado. Os crimes mais frequentemente referidos foram os de dano (16,67 %), injúria (14,29 %) e ofensa à integridade física (14,29 %). Na maioria das vezes, verificou-se que a vítima era uma pessoa conhecida do examinado.

Tabela 5

Tipologia dos crimes pelos quais vinham indiciados os indivíduos avaliados para determinação de imputabilidade e perigosidade

Tipologia do crime	N	%
Ameaça	5	11,36
Coação	3	6,82
Dano	7	16,67
Desobediência	1	2,27
Furto	1	2,27
Homicídio	1	2,27
Incêndio	2	4,55
Injúria	7	16,67
Ofensa à integridade física	6	14,29
Perseguição	1	2,27
Roubo	4	9,09
Tentativa de homicídio	1	2,27
Violação	3	6,82
Violência doméstica	2	4,55

De referir ainda que, à data da realização das perícias para avaliação de imputabilidade e perigosidade dos 25 indivíduos, o tempo decorrido desde a prática dos factos em questão era de até um ano (inclusive) em 28% dos casos (sete indivíduos), de mais de um ano em 68% dos casos (17 indivíduos) e indeterminado nos restantes 4% (um indivíduo).

Em 96 % dos casos, foi invocada a figura da *inimputabilidade por anomalia psíquica*, não sendo excluída a *perigosidade social*. Apenas num dos casos (restantes 4%) foram admitidas, do ponto de vista psiquiátrico-forense, atenuantes (ligeiras) à sua *imputabilidade*. No que concerne aos 11 indivíduos com registo criminal prévio, não obtivemos informação acerca da tipologia dos crimes anteriores, nem do tempo decorrido desde a prática dos mesmos.

Discussão/Conclusões

Como potenciais fatores de risco de violência nos casos em apreço, foram identificados: a ausência de *insight* (caraterística das perturbações psicóticas), a presença de sintomatologia psicótica (nomeadamente, ideação delirante persecutória e de temática mística/religiosa, bem como atividade alucinatória e vivências de passividade), a presença de ideação suicida ou de história prévia de tentativas de suicídio, a má adesão ao tratamento, o abuso de substâncias psicoativas, a presença de traços de personalidade maladaptativos e de antecedentes criminais. Tais resultados são concordantes com os de outros estudos, como exposto na introdução deste artigo.

Da mesma forma, determinados fatores sociodemográficos surgiram de forma mais consistente no grupo com registo de violência, afigurando-se como potenciais fatores de risco, designadamente, o sexo masculino e a idade mais jovem. Tais achados foram também atribuídos noutros estudos a um maior risco de violência em indivíduos com psicose.

Tal como evidenciado na literatura, os sintomas negativos não pareceram contribuir para aumentar o risco de violência. Efetivamente, no grupo sem registo de comportamentos violentos, o subtipo de Esquizofrenia mais prevalente foi o residual (*vs* o subtipo paranóide, mais frequente no grupo com registo de violência), o que vai ao encontro do previamente mencionado.

Este estudo apresenta algumas limitações, como o facto de não ter um desenho experimental e possuir uma amostra de dimensões reduzidas, factos que impedem o estabelecimento de relações de causalidade entre as variáveis em estudo e o risco de violência. Por outro lado, dado que os autores apenas tiveram acesso aos relatórios das perícias psiquiátricas realizadas, elas próprias retrospetivas e frequentemente realizadas algum tempo após a prática dos factos, tornava-se difícil, por vezes, a compreensão da cronologia do surgimento das diversas variáveis avaliadas em relação com o ato violento, bem como a melhor caracterização de aspetos clínicos (nem sempre descritos de forma exaustiva, dado não ser esse o objetivo de uma perícia psiquiátrica). Outra limitação prende-se com o facto de, no grupo sem registo de violência, não ter sido possível excluir com certeza a presença de comportamentos violentos prévios à realização da perícia e, também, após a mesma, dado não existir um acompanhamento longitudinal destes doentes. Assim, as comparações com este grupo terão de ser interpretadas com prudência. Em terceiro lugar, a amostra poderá não ser representativa de toda a população portuguesa e os dados poderão não ser extrapoláveis, uma vez que este estudo incluiu apenas indivíduos avaliados em contexto médico-legal e não clínico, e com uma restrição geográfica à área de abrangência da Delegação do Centro do Instituto Nacional de Medicina Legal e Ciências Forenses.

Em conclusão, o presente estudo reitera a associação entre violência e alguns aspetos clínicos e sociodemográficos em indivíduos com perturbações psicóticas. Embora as limitações metodológicas condicionem a extrapolação dos resultados para outras populações de doentes com perturbações psicóticas, este estudo releva a necessidade dos psiquiatras estarem familiarizados com os fatores de risco associados ao aumento de comportamentos violentos, para que se proceda à avaliação do risco, nomeadamente em indivíduos com perturbações psicóticas, dado que estas são causas potencialmente preveníveis de violência e de crime violento.

Conflitos de Interesse:

Os autores declaram não ter nenhum conflito de interesses relativamente ao presente artigo.

Fontes de Financiamento:

Não existiram fontes externas de financiamento para a realização deste artigo.

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Risk factors for violence in patients with psychotic disorders evaluated in a forensic psychiatric setting

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Abstract

Background: The relation between psychosis and criminal/violent behavior is well documented. Recent evidence suggests that many dynamic/modifiable and static/non modifiable risk factors are associated to an increase in the risk of violence in individuals with psychosis.

Aims: To compare two groups of individuals suffering from psychotic disorders, both with and without a record of previous violent behavior, who were evaluated in a forensic-psychiatric setting and to identify risk factors for violence.

Methods: Analysis of forensic-psychiatric processes and non-systematic review of the literature.

Results: The absence of insight, presence of positive symptoms, poor treatment adherence, psychotropic substance abuse, presence of suicidal ideation or of previous suicide attempts, maladaptive personality traits as well as previous criminal behavior constituted potential risk factors for violence in the analyzed cases. Sociodemographic factors like male gender or younger ages have also been consistently present in the group with a history of violent behavior.

Discussion/Conclusions: This study suggests an association between violent behavior and some clinical and sociodemographic aspects in patients with psychotic disorders. It is fundamental to evaluate the risk of violence in individuals with psychotic disorders, given that these are potentially preventable causes of violence and violent behavior.

Keywords: Crime; Violence; Schizophrenia; Chronic psychosis; Risk factors.

Introduction

The relationship between psychosis and criminal / violent behaviour is well documented in the literature, being psychosis associated with an increased risk of violence of 49-68% (Stratton, 2017). In particular, paranoid delusions, command hallucinations, and religious delusions seem to contribute to violent behaviour in schizophrenia (Stratton, 2017).

Recent evidence has shown that the association between schizophrenia and violent crime may be more robust than that established between schizophrenia and nonviolent crime. According to Stratton (2017), the prevalence rate of schizophrenia among those who committed homicide ranges from 6-11%, exceeding by far the prevalence of schizophrenia in the general population. Several studies in different countries, including Portugal, found that homicide rates in the population of patients with schizophrenia were up to 17 times higher than in the general population (Almeida, 1999; Tiihonen 1993).

Some studies suggest that the risk of violent crime in individuals with schizophrenia is about 4-6 times higher than in the general population. However, risk estimates vary substantially across studies, and one of the factors to be considered is the possible underreporting to the competent authorities of crimes committed by patients with severe psychiatric illness, which are often viewed with great tolerance and complacency and neglected by family members and friends of the patient (Almeida, 2007).

According to conceptual models of violence in schizophrenia, patients with schizophrenia are violent because of the psychopathological symptoms that characterize it (such as delusions or hallucinations) or concomitant use of psychoactive substances (an established risk factor for violence). Alternatively, violent behaviours in schizophrenia may stem from family factors that relate to personality traits, such as difficulties in impulse control and affective regulation, as well as inadequate coping mechanisms to deal with stress (Nestor, 2002; Fazel, 2009).

Some authors suggest distinct subgroups for individuals with schizophrenia and criminal records, subdividing them according to the age of onset of perpetrated offenses and / or comorbidity with personality disorder. In this sense, Hodgins (2008, 2009) developed a model composed of three groups: early starters, late starters and late first offenders. The so-called early starters are characterized by premorbid antisocial personality, with childhood behavioural disorders being frequently documented in this group. They resemble individuals with forensic backgrounds without psychotic symptoms, tending to manifest the first criminal behaviours before the onset of psychosis. In the so-called late starters, offenses are typically perpetrated after the onset of psychosis and are attributable to positive and cognitive symptoms of the disease. Finally, there is the subgroup of late first offenders, whose serious offenses take place one or two decades after the onset of mental illness.

Van Dongen et al. (2015) suggest that the three subgroups defined by the Hodgins model may be reduced to only two, after grouping late starters and late first offenders, which have similar characteristics, namely in what concerns the relationship between criminal behaviour and the onset of the psychotic disorder, in the absence of antisocial personality traits. Both patient groups require psychopharmacological treatment with antipsychotics. Those who manifest aggressive behaviour since childhood benefit from psychotherapeutic programs aimed at promoting prosocial behaviours.

Current guidelines recommend assessing the risk of violence in all schizophrenic patients, considering that schizophrenia and other mental illnesses are potentially preventable causes of violence and violent crime (Fazel, 2009).

Fazel et al. (2009) demonstrated that the association between schizophrenia and violent crime is substantially high in patients diagnosed with comorbid substance use disorders, being only slightly elevated when there is no such diagnosis.

A retrospective study of psychiatric forensic expert evaluations in criminal law conducted in Portugal it was found that 47% of the individuals with psychotic disorders that were evaluated in this context (most of them with schizophrenic psychoses) had dual disorders. The crimes mainly involved bodily harm, homicide and domestic violence and the victims were usually family members or acquaintances (Garrido, 2012).

In a recent systematic review and meta-analysis (Witt, 2013) based on 110 studies (N = 45533), dynamic / modifiable risk factors and static / unmodifiable risk factors associated with increased risk of violence in individuals with psychosis were examined. In this context, the former included: hostile behaviour, recent abuse of psychoactive substances, nonadherence to psychopharmacological and psychological treatment, poor impulse control, and lack of insight. Among the static risk factors, the most significant was the existence of criminal records. These results suggest that the existence of forensic backgrounds (such as violent behaviour and prior arrests) are strong predictors of risk compared to substance abuse and certain demographic factors. A relationship was also found between the existence of a previous history of suicide attempts, as well as suicidal ideation (including suicide threats) and the risk of violence in individuals with psychosis. Negative symptoms did not have a statistically significant association with the risk of violence. No statistically significant association between violence and neuropsychological factors was demonstrated.

According to Witt (2013), risk factors for severe violent behaviour in psychosis include positive symptoms, neuropsychological deficits, suicide behaviour, poor adherence to treatment, demographic factors, substance abuse and prior criminal history.

Stratton et al. (2017) studied the neuropsychological profiles of homicide perpetrators with schizophrenia and demonstrated an important cognitive deterioration in the sample used, especially in terms of executive functions, memory and attention.

In a systematic review and meta-analysis based on 27 studies (N = 3511), Fazel and Yu (2011) examined the risk of repeated offenses by patients with psychotic disorders. The authors found that the risk of repeated offenses was significantly higher in individuals affected by psychotic disorders, compared to individuals without mental illnesses and that such a risk was similar when compared with individuals affected by other psychiatric disorders. However, the authors of the review admitted that there may be confounding variables, namely sociodemographic factors, criminal history and other clinical factors such as substance abuse, which were not adequately adjusted in the included studies.

Objective

The authors aim at describing and comparing the sociodemographic and clinical characteristics of two groups of individuals diagnosed with psychotic disorders (with and without previous violent behaviours), which were evaluated in a forensic psychiatric context, and to identify risk factors for violence in this sample.

Method

The authors carried out a descriptive study looking to identify cases of psychotic disorders that were investigated in the Center Delegation of the Instituto Nacional de Medicina Legal e Ciências Forenses, between 2013 and 2017 inclusive. The identification of the cases was made by direct consultation of the expert evidence reports. The sample obtained was later divided into two groups, according to the presence or absence of violence behaviours prior to the occurrence of facts. The group with a record of violence included individuals with criminal records or whose expert evaluation served to assess Not Guilty by Reason of Insanity (NGRI) status and dangerousness. Subsequently, a descriptive statistical analysis of these two populations was performed.

A non-systematic literature review was also performed using the Pubmed / Medline database, with the keywords: crime; violence; violent crime; schizophrenia; chronic psychosis; aggression and risk factors. Articles in English with special relevance to the object of this study were then selected. Additional references from articles in Portuguese relevant to the present study were also included.

Results

Eighty-six subjects with psychotic disorders were identified: 35 of them had a record of violent behaviour before the facts described in the process, while 51 subjects did not have a record of previous violent acts. The sociodemographic and clinical variables of both groups are show in Tables 1-4.

The sample consisted of 50 male subjects and 36 female subjects, mostly of Caucasoid population affinity. The mean age was 52,49 years old and it was lower in the group with a record of previous violent behaviour (48,86 years old). There was a clear predominance of male subjects in the group with a record of previous violent acts, contrasting with the group without that record, where a slight predominance of female subjects was found. Most of the evaluated subjects were single and did not have an active employment – most of them were retired (74,42%), especially due to disability (53,49%), and the rest of them were unemployed (15,12%).

The most frequently observed psychiatric main diagnosis was Schizophrenia (72,09%), followed by Persistent delusional disorders (17,44%). In the group with a record of previous violent behaviour the most prevalent Schizophrenia subtype was the paranoid (34,29%), while in the other group the most frequently observed subtype was the residual (45,10%).

From a psychopathological perspective, the delusional ideation (especially of persecution and mystic/religious) was the most prevalent finding in the group with a record of

violence, along with the occurrence of suicidal ideation/suicide attempts, hallucinatory activity and passivity experiences. In the group with no record of violence the negative/cognitive symptoms were predominant.

A poor adherence to the Psychiatry appointments and pharmacological treatment was observed in 71,43% of the subjects with record of previous violent behaviors (vs 37,25% in the group with no record of violence). Around 46% of the subjects with psychotic disorders and with violent behaviour were under treatment with long acting injectable drugs and nearly 14% were under compulsory outpatient treatment. In this group it was also found that about half of the subjects had a concomitant abuse of multiple psychotropic substances, particularly cannabinoids and alcohol. In addition, there was a comorbidity with maladaptive personality traits in 22,86% of these subjects.

Table 1

Sociodemographic characteristics of the sample (ST – standard deviation).

Variables	Total sample (N=86)		Record of violence (N=35)		No record of violence (N=51)	
	N	%	N	%	N	%
Categorial variables						
Sex						
Female	36	41,86	9	25,71	27	52,94
Male	50	58,14	26	74,29	24	47,06
Populational affinity						
Caucasoid	82	95,35	34	97,14	48	94,12
Mongoloid	2	2,33	1	2,86	1	1,196
Negroid	2	2,33	-	-	2	3,92
Marital status						
Single	65	75,58	24	68,57	41	80,39
Married	6	6,98	5	14,29	1	1,96
Divorced	13	15,12	6	17,14	7	13,73
Widowed	2	2,33	-	-	2	3,92
Employment situation						
Employed	9	10,47	6	17,14	3	5,88
Unemployed	13	15,12	8	22,86	5	9,80
Retired	16	18,60	7	20,00	9	17,65
Compulsively retired	2	2,33	1	2,86	1	1,96
Early retired due to disability	46	53,49	13	37,14	33	64,71
	Mean	±SD	Mean	±SD	Mean	±DP

Numerical variables						
Age (years)	52,49	14,10	48,86	14,35	54,98	13,37

Table 2

Group distribution according to the main (psychiatric) nosological category, in accordance with the 10th edition of the International Statistical Classification of Diseases and Related Health Problems by the World Health Organization (ICD-10)

Code ICD-10	Nosological category	Record of violence		No record of violence	
		N	%	N	%
F20-F29	Schizophrenia, schizotypal and delusional disorders	35	100%	51	100%
F20	Schizophrenia	17	48,57%	45	88,24%
F20.0	Paranoid schizophrenia	12	34,29%	19	37,25%
F20.1	Hebephrenic schizophrenia	-	-	3	5,88%
F20.5	Residual schizophrenia	4	11,43%	23	45,10%
F20.9	Schizophrenia, unspecified	1	2,86%	-	-
F22	Persistent delusional disorders	10	28,57%	5	9,80%
F25	Schizoaffective disorders	5	14,29%	-	-
F29	Unspecified nonorganic psychosis	3	8,57%	1	1,96%

Table 3

Psychopathological findings in both groups (N/A – not available/ not in the analyzed processes)

Variable	Record of violence		No record of violence	
	N	%	N	%
Delusional ideation	42	58,33%	31	35,23%
Persecutory	27	37,50%	20	22,73%
Reference	4	5,56%	3	3,41%
Mystic/religious	7	9,72%	7	7,95%
Grandiosity	N/A	N/A	1	1,14%
Erotomaniac	1	1,39%	N/A	N/A
Jealousy	3	4,17%	N/A	N/A
Thought form disorder	2	2,78%	N/A	N/A
Thought alienation	2	2,78%	1	1,14%
Impulse/ somatic/ volition passivity	1	1,39%	N/A	N/A
Hallucinations	13	18,06%	13	14,77%
Auditory	12	16,67%	13	14,77%
Somatic	1	1,39%	N/A	N/A
Negative/cognitive symptoms	7	9,72%	43	48,86%
Suicidal ideations / suicidal attempt(s)	5	6,94%	N/A	N/A

Table 4

Treatment adherence profile, comorbidity with psychotropic substance abuse and with maladaptive personality traits in both groups (COT -Compulsory outpatient treatment; N/A – not available/ not in the analyzed processes)

Variable	Record of violence		No record of violence	
	N	%	N	%
Adherence to the treatment				
Poor adherence to appointments and treatment	25	71,43%	19	37,25%
COT	5	14,29%	4	7,84%
Treatment with long acting injectable drugs	16	45,71%	14	27,45%
Psychotropic substance abuse	17	48,57%	7	13,73%
Alcohol	7	20,00%	4	7,84%
Cannabinoids	9	25,71%	3	5,88%
Others	1	2,86%	N/A	N/A
Maladaptive personality traits	8	22,86%	N/A	N/A

Of the 35 subjects with a record of previous violent behavior who were evaluated, 11 (31,43%) had a criminal background previous to the expert evaluation and 24 (68,57%) were accused for the first time. Out of a total of 35 expert evaluations, 25 determined the Not Guilty by Reason of Insanity status and the dangerousness, in the context of the 44 crimes of which the subjects were accused of (Table 5) -- corresponding to 1,68 crimes/subject. The most frequent crimes were those of battery (16,67%), insult (14,29%) and offence against the physical integrity (14,29%). Most of the times the victim was someone that the subject knew.

Table 5

Typology of the crimes of which the subjects evaluated for determination of the Not Guilty by Reason of Insanity status and the dangerousness were accused of

Crime typology	N	%
Intimidation	5	11,36
Duress	3	6,82
Battery	7	16,67
Disobedience	1	2,27
Theft	1	2,27
Murder	1	2,27
Arson	2	4,55
Insult	7	16,67
Offense against the physical integrity	6	14,29
Persecution	1	2,27
Robbery	4	9,09
Attempted murder	1	2,27
Rape	3	6,82
Domestic violence	2	4,55

It should also be noted that when the expert evaluations for determination of the Not Guilty by Reason of Insanity status and the dangerousness of these 25 subjects took place, the time elapsed since the facts occurred was less than or equal to one year in 28% of the cases (seven individuals), more than one year in 68% of the cases (seventeen individuals) and undetermined in the other 4% (one individual).

In 96% of the cases the expert's opinion on the subjects was Not Guilty by Reason of Insanity and the social dangerousness was not excluded. Only in one case (remainder 4%) the

presence of a noticeably diminished guilt was invoked from the psychiatric-forensic point of view. Regarding the 11 subjects with a criminal background, the authors did not have any information about the nature of the previous crimes, nor about the elapsed time since they occurred.

Discussion/Conclusions

The identified potential risk factors for violence in the aforementioned cases were: the absence of insight (characteristic of psychotic disorders), the presence of psychotic symptoms (namely persecutory and mystic/religious delusional ideation, as well as hallucinatory activity and passivity experiences), of suicidal ideation or previous suicidal attempts, poor treatment adherence, psychotropic substance abuse, maladaptive personality traits and previous criminal behavior. These results are in accordance with the ones from previous studies, as stated in this work's introduction.

Likewise, certain sociodemographic factors emerged in a more consistent way in the group with a record of previous violence, presenting themselves as potential risk factors, namely the male sex and a younger age. These factors were also attributed to a higher risk of violence in patients with psychosis in other studies.

In accordance with what has been highlighted by the literature, the negative symptoms do not appear to contribute to raise the risk of violence. In fact, the most prevalent Schizophrenia subtype in the group with no record of previous violence was the residual subtype (vs the paranoid subtype, more frequent in the group with a record of previous violence), which is consensual with what was mentioned previously.

This study has some limitations, such as not having an experimental design and having a small sample, which prevents the authors from establishing causal relations between the studied variables and the risk of violence. Additionally, considering that the authors only had

access to the expert evidence reports, which are themselves retrospective and often written some time after the facts occurred, it was sometimes difficult to understand the chronology of the emergence of the different analyzed variables and to better characterize the different clinical aspects -- which are not always comprehensively described, since this is not the main purpose of a psychiatric expert evaluation.

Another limitation concerns the fact that it was not possible to rule out with absolute certainty that the individuals in the group with no record of previous violence did not have, in fact, violent behaviours before or after the psychiatric expert evaluation, because there was no longitudinal follow-up of these patients. Therefore, we must be cautious when interpreting the comparisons with this group. Finally, this sample may not be representative of the whole Portuguese population and the data may not be extrapolated, since this study includes only individuals evaluated in a forensic context and not a clinical one. This lack of representability if further exacerbated by the geographical restriction to the area of influence of the Center Delegation of the Instituto Nacional de Medicina Legal e Ciências Forenses.

In conclusion, this study stresses the association between violence and some clinical and sociodemographic aspects of individuals with psychotic disorders. Although the methodological limitations may impair the extrapolation of the results to other populations of patients with psychotic disorders, this study emphasizes the importance that psychiatrists be familiarized with the risk factors associated with the increase of violent behaviors, in order to conduct a risk assessment, in particular in individuals with psychotic disorder -- for these are potentially preventable causes of violence and violent crime.

Disclosure:

The authors declare no conflicts of interest regarding this article.

Funding Sources:

This research did not receive any external funding.

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Consumo de Canabinóides e Suicídio: uma revisão da literatura

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Resumo

\A canábis é a substância ilícita mais consumida em todo o mundo, sendo que o seu elevado consumo tem suscitado questões acerca do seu impacto na saúde mental, nomeadamente, no risco de suicídio. Revelam-se, também, as implicações forenses, particularmente na determinação de um modelo de causalidade do suicídio e sua intersecção com esquemas de protecção do risco, nomeadamente, seguros de vida. Identificam-se como objetivos deste trabalho caracterizar factores de risco da temática suicídio, e entender qual a relação estabelecida entre o consumo de canabinóides e o suicídio. Pretende-se igualmente caracterizar o contributo do consumo de canabinóides na impulsividade e para o desenvolvimento de psicopatologia. Pretendeu-se caracterizar o contributo do consumo de canabinóides na impulsividade e como factor de risco para o desenvolvimento de psicopatologia. Neste sentido, realizou-se uma revisão não sistemática da literatura. Os resultados sugerem que os consumidores de canábis apresentam alterações ao nível da impulsividade, nomeadamente, do controlo inibitório. Também existe evidência do seu contributo no desenvolvimento de psicose e de sintomas depressivos. Por outro lado, estudos transversais apontam para uma associação entre o consumo de canabinóides e o suicídio, embora os estudos longitudinais demonstrem o impacto significativo das co-morbilidades e dos factores confundentes. Em conclusão, a evidência sugere que o consumo crónico de canabinóides (em particular o consumo pesado) poderá predizer a suicidalidade.

Palavras-chave: canabinóides; canábis; suicídio; ideação suicida.

Introdução

O suicídio pode ser considerado uma problemática exclusiva da espécie humana. Não existe uma resposta única para a escolha pelo suicídio, que tem historicamente uma multitude de factores que predispõem ao acto. Schneidman (1985) identifica o que chama de "*commonalities*", características comuns aos doentes, onde se destacam a procura de solução, uma dor psicológica intolerável, a frustração, a desesperança, a ambivalência, a necessidade de fuga e mecanismos de *coping* maladaptativos (Saraiva, 2010). De acordo com isto, e com o auxílio de autópsias psicológicas, a doença mental foi consistentemente associada ao risco e à realização do suicídio, estando estabelecida a presença de doença mental em cerca de 90% dos suicídios (Lönnqvist *et al*., 2015). Este achado, contudo, não é isento de críticas, com alguns autores recentes a sugerirem ter existido uma sobrestimação do peso da perturbação mental na etiologia do suicídio (Hjelmeland & Knizek, 2017). Ainda assim, é reconhecida a relação entre o consumo de substâncias como factor de risco para suicídio, embora este efeito não pareça totalmente claro quando se trata do consumo de canabinóides. Revelam-se, também, as implicações forenses deste fenómeno, nomeadamente, na determinação de um modelo de causalidade do suicídio e sua relação com o consumo de canábis, na medida em que possa ser enquadrado ou conflituar com esquemas de protecção do risco, nomeadamente, seguros de vida ([e.g. Ac. do STJ de 18/09/2018, publicado na Revista n.º 2682/16.2T8FAR.E1.S2 - 7.ª Secção, Olindo Geraldes (Relator)].

O termo ideação suicida refere-se a pensamentos e cognições sobre como acabar com a própria vida, que pode ou não seguir-se de concretização, mas que é geralmente visto como precursor habitual da tentativa de suicídio (Saraiva & Gil, 2014). O conceito de suicidalidade é abrangente e inclui ideação suicida, tentativa de suicídio e suicídio consumado (Saraiva & Gil, 2014). O risco de suicídio é modulado por um vasto conjunto de factores de risco e de protecção bem estabelecidos na literatura científica (Turecki & Brent, 2016; Sinyor, Tse, & Pirkis, 2016),

nomeadamente: a) populacionais (e.g. perturbações económicas, fraca coesão social); b) ambientais (e.g. mau acesso a cuidados de saúde, acesso a meios de suicídio) e c) individuais. Dentro destes últimos encontramos factores predisponentes ou distais (e.g. genética, adversidade na infância, história familiar), desenvolvimentais ou mediadores (e.g. traços de personalidade, consumo de substâncias, défices cognitivos) e proximais ou precipitantes (e.g. existência de psicopatologia – como perturbação afectiva ou esquizofrenia –, eventos de vida, etc.). Cerca de 15% dos indivíduos que cometem uma tentativa de suicídio acabarão por consumar o acto suicida no futuro, e a história de tentativa de suicídio é provavelmente o factor preditivo mais potente de suicídio consumado, sendo o risco máximo nos primeiros 6 meses após a tentativa de suicídio (Suominen *et al*., 2004).

Existem, naturalmente, factores protectores: afiliação e prática religiosa (a maioria das religiões condena o acto suicidário e aumenta a coesão social), bons mecanismos de *coping*/adaptação, boa rede social de suporte, entre outros.

A relação entre o consumo de substâncias e o suicídio tem sido explorada em inúmeros estudos, verificando-se que o consumo de substâncias agrava problemas sociais e conflitos interpessoais, leva a desinibição como consequência directa, e tem um impacto no humor e na impulsividade e agressividade do indivíduo como consequência de consumo crónico, com maior risco se com co-morbilidade psiquiátrica e policonsumo de substâncias (Conner & Dubestein, 2004; Kessler, Borges, & Walters, 1999).

No que respeita à canábis, esta é a substância ilícita mais consumida em todo o mundo, observando-se uma tendência crescente deste consumo (Shalit, Shoval, Shlosberg, feingold, & Lev-ran, 2016; Moore *et al.* 2007). Paralelamente, a potência da canábis tem aumentado, factor que se relaciona com o surgimento de psicopatologia (Shalit *et al*., 2016). O elevado consumo de canabinóides, particularmente entre adolescentes, tem suscitado questões pertinentes acerca do impacto destas substâncias na saúde mental dos consumidores (Fergusson, & Horwood,

2000). Assim, considera-se como revelante uma melhor compreensão sobre a relação entre o consumo de canabinóides e o comportamento suicidário.

Identificam-se como objetivos deste trabalho caracterizar factores de risco da temática suicídio, e entender qual a relação estabelecida entre o consumo de canabinóides e o suicídio. Pretende-se igualmente caracterizar o contributo do consumo de canabinóides na impulsividade e no desenvolvimento de psicopatologia.

Método

De forma a responder aos objetivos propostos foi realizada uma revisão não sistemática da literatura. A recolha bibliográfica foi efetuada através da pesquisa na base de dados *Pubmed* até junho de 2019 contendo as palavras-chave *"suicide"*, *"cannabis"*, *"cannabinoids", "suicidal ideation" e "impulsivity".*

Foram selecionados os artigos considerados como relevantes para os autores os que incluíam o estudo de factores de risco de suicídio, explicitavam a relação estabelecida entre a canábis e predisposição a alterações comportamentais (como a impulsividade) ou psicopatológicas e, por fim, os que abordavam a temática de consumo de canabinóides e suicídio.

Os resultados numéricos apresentados foram transcritos das referências citadas. O número total de participantes é representado pela letra "n" e os resultados estatísticos estão apresentados em *p-value* (estatisticamente significativo quando $p < 0.05$); razão de possibilidades *Odds Ratio* (OR) e Odds Ratio Ajustado (AOR); e, em risco relativo (RR).

Resultados

Efeitos da Canábis no Comportamento Suicidário - A Impulsividade

Um dos factores de risco frequentemente implicado nos modelos de compreensão do comportamento suicida é a impulsividade (Turecki *et al*., 2016). Esta pode ser definida como *"acções que são mal concebidas, prematuramente expressas, indevidamente arriscadas ou inadequadas à situação e que frequentemente resultam em consequências indesejáveis"* (Daruna & Barnes, 1993). Duas facetas têm sido maioritariamente estudadas no âmbito da investigação em impulsividade no contexto de uso de substâncias psicoativas: a escolha impulsiva e a inibição comportamental prejudicada (Wrege, *et al.* 2014).

Alterações na impulsividade, avaliação de risco e tomada de decisão foram sendo apontadas como sendo o resultado do uso de canábis, por vários estudos. Desta forma, poderiam atuar como um elo potencial entre o uso crónico de canábis e a subsequente suicidalidade (Shalit *et al*., 2016). Inversamente, a impulsividade pode ser uma característica de personalidade pré-existente e que pode predispor ao uso de substâncias psicoativas (Dalley, Everitt, & Robbins, 2011).

Numa revisão sistemática acerca dos efeitos do uso de canábis na impulsividade (Wrege *et al.* 2014), os estudos comportamentais incluídos mostraram efeitos prejudiciais do consumo de canábis em diferentes domínios da impulsividade, mesmo após a abstenção prolongada, sendo, por exemplo, patentes os défices de controlo inibitório em consumidores de canábis sob exposição aguda e em consumidores regulares após abstenção de uso. Estudos de imagem funcional sugeriram que o fluxo sanguíneo pré-frontal é menor em utilizadores crónicos de canábis do que nos controlos, enquanto estudos de imagens estruturais de consumidores de canábis apontam para redução dos volumes pré-frontais e da integridade da substância branca, que podem mediar a impulsividade e o humor anormais observados em tais indivíduos. Também foram incluídos estudos de administração aguda de tetra-hidrocanabinol (THC) ou

canábis que revelaram alterações do metabolismo cerebral em várias regiões do cérebro, como o córtex cingulado anterior ou os lobos frontais mesial e orbital, durante tarefas de impulsividade. Contudo, não permitiu aferir se a impulsividade precede o consumo de canábis, podendo levar ao uso, ou se é uma consequência do uso de canábis.

Canábis e Sintomatologia Psiquiátrica

Excluindo o antecedente de tentativas de suicídio prévias, a existência de psicopatologia é o maior preditor de suicídio consumado (Hoertel *et al*., 2015). Cerca de 50% de todos os suicídios consumados são precipitados por episódios depressivos, quer associados com depressão major ou com perturbação afectiva bipolar. O risco de suicídio é máximo no primeiro ano da doença e é associado a sentimentos de desesperança e de falta de compreensão. Adultos com esquizofrenia e outras patologias psicóticas também possuem risco agravado, sendo os preditores clínicos para suicídio a presença de sintomas depressivos, idade jovem, fase inicial da doença com insight, sintomas positivos, má adesão à terapêutica e abuso de substâncias (Cavanagh, Carson, Sharpe, & Lawrie, 2003). Outras patologias psiquiátricas, como as perturbações de personalidade, encontram-se também comumente associadas a suicídio consumado. Embora exista evidência robusta que a intoxicação por canábis possa conduzir a experiências psicóticas e afetivas transitórias, os estudos têm-se focado sobre quais os sintomas crónicos que persistem para além dos efeitos produzidos pela intoxicação (Moore *et al.* 2007). Contudo, relativamente a este último ponto, verifica-se que existe uma relação complexa entre o consumo de canabinóides e co-morbilidade psiquiátrica (Lynskey *et al.* 2004).

Canábis e Psicose

Hodiernamente, existe evidência epidemiológica robusta que associa o consumo de canábis ao desenvolvimento de psicose (quer experiências psicóticas, quer perturbações psicóticas como a esquizofrenia), numa relação de causalidade directa e dose-dependente

(Moore *et al.* 2007; Gage, Hickman, & Zammit, 2016). Esta relação é particularmente importante na medida em que, segundo alguns autores, o consumo de canábis pode ser um dos mais modificáveis factores de risco para psicose (Gage *et al.,* 2016).

Além do seu papel causal, o uso continuado de canabinóides entre indivíduos com perturbações psicóticas não afetivas, aumenta o risco de experiências psicóticas, diminui a adesão terapêutica e aumenta o risco de recidiva, sendo que todos estes factores podem, hipoteticamente, contribuir para um maior número de acidentes e tentativas de suicídio (Manrique-Garcia, Ponce de Leon, Dalman, Andreasson, & Allebeck, 2016).

Canábis e co-morbilidade afetiva

Os estudos que têm explorado a relação entre canábis e co-morbilidade psiquiátrica que não a psicose, não têm demonstrado resultados tão significativos (Rasic, Weerasinghe, Asbridge, & Langille,2013). Vários investigadores têm demonstrado existência de uma associação entre o consumo de canabinóides e sintomas depressivos (Lynskey *et al.* 2004; Degenhardt, Hall, & Lynskey, 2003). Contudo, meta-análises recentes (Moore *et al.* 2007; Lev-Ran *et al.*, 2014) têm demonstrado que esta associação é apenas modesta, existindo grande heterogeneidade entre os estudos e não sendo tão clara a exclusão da interferência de factores confundentes ou da causalidade inversa, comparativamente aos estudos sobre a psicose (Moore *et al.* 2007). Não obstante, existe evidência suficiente para associar o consumo de canabinóides e a maior intensidade e número de sintomas depressivos (Gobbi *et al*., 2019).

Canábis e o Risco Suicida

Diversos estudos transversais apontam para uma associação entre o consumo de canabinóides e a suicidalidade, embora os estudos longitudinais tenham encontrado resultados

contraditórios e, mais importante, tenham demonstrado o impacto significativo das co-morbilidades e dos factores confundentes (Shalit *et al*., 2016).

Dos estudos transversais, mencionamos dois, pela sua maior relevância: o de Beautrais e o de Delforterie.

Beautrais e colaboradores (1999) realizaram um estudo caso-controlo na Nova Zelândia para investigar a associação entre abuso/dependência de canabinóides e o risco de tentativas de suicídio graves, envolvendo 302 casos (pessoas com tentativas de suicídio medicamente graves) e 1028 controlos. Verificaram que indivíduos que cometeram tentativas de suicídio tinham taxas significativamente superiores de abuso/dependência de canábis que os indivíduos do grupo controlo (OR: 10.3; p <0.0001). Contudo, uma boa parte dessa associação positiva podia ser explicada pelo facto de os doentes que desenvolvem abuso/dependência de canabinóides provirem de meios socio-económicos mais desfavorecidos e apresentarem mais experiências adversas na infância, o que por si só, é um factor de risco para suicídio; assim como pela evidência de que o abuso/dependência de canabinóides é frequentemente co-mórbido com outras perturbações mentais que são, estas sim, factores de risco independentes para o suicídio.

Por sua vez, Delforterie e colaboradores (2015) efectuaram um estudo transversal envolvendo uma amostra de gémeos (n=9583), na Austrália, que procurava investigar a associação entre o consumo de canabinóides e a existência de ideação suicida, tentativas de suicídio e plano suicida. Concluíram que, após ajuste para as co-variáveis, qualquer nível de uso de canabinóides estava associado a um aumento do risco para ideação suicida (relação de consumo de canabinóides com ideação suicida por menos de um dia – OR: 1.28-2.00, p <0,05 e ideação suicida por mais de um dia – OR: 1.35-1.98, p <0,01) comparativamente a inexistência de ideação suicida. Também após o ajuste para consumo de outras substâncias e psicopatologia, o uso de canabinóides e possuir pelo menos 3 sintomas que se coadunem com perturbação de uso de canábis, estavam significativamente associados a tentativas de suicídio

não planeadas (OR:1.95, p <0,05; e, OR:2.51, p <0,05, respectivamente). O uso da amostra de gémeos pretendia melhor excluir factores genéticos, encontrando-se evidência de que factores específicos individuais influenciavam tanto o uso de canábis como a ideação suicida em gémeos.

Na análise de estudos longitudinais, destacam-se nove estudos de maior relevância.

Andreasson & Allebeck (1990) realizaram um estudo longitudinal com 45 540 recrutas militares suecos, focando-se no consumo de canabinóides e a mortalidade, ao longo de 15 anos. As causas de morte predominantes foram as de natureza violenta (75% dos 614 óbitos), sendo o suicídio (172) ou suicídio incerto (49) uma das principais. O consumo elevado de canabinóides foi associado ao aumento de mortalidade (RR: 2.8) e o risco relativo de suicídio ou suicídio incerto nesta categoria era de 5.4 (comparativamente a não consumidores). Contudo, após uma análise estatística multivariada que pretendia ajustar para factores confundentes (e.g. existência de perturbação mental, consumo de outras substâncias, divórcio dos pais, história forense) a associação entre consumo de canabinóides e aumento de mortalidade (incluindo suicídio) deixou de se verificar.

Manrique-Garcia e colaboradores (2016) estenderam o período de follow-up do estudo de Andreasson & Allebeck (1990) para quando os recrutas tinham 60 anos (em 2011) (n=50373), colocando a hipótese de que os efeitos físicos deletérios do consumo se fariam notar com maior probabilidade. Efetivamente, documentaram um aumento da mortalidade geral para qualquer nível de consumo de canabinóides, persistindo esse aumento do risco de mortalidade após ajuste para factores confundentes apenas no subgrupo de consumidores pesados de canabinóides (> 50 vezes). No entanto, não encontraram qualquer aumento do risco de suicídio nos consumidores de canabinóides, repetindo assim o achado inicial. Um dado interessante consiste na associação de relação dose-dependente entre consumo de canábis e lesões acidentais

ou auto-infligidas, podendo indiciar que o uso de canábis pode potenciar gestos impulsivos e assim levar a morte.

Price e colaboradores (2009), de forma independente, realizaram um estudo longitudinal à mesma amostra de recrutas suecos de Andreasson & Allebeck (1990), seguindo uma coorte de 50087 recrutas do sexo masculino da Suécia ao longo de 33 anos, explorando a associação entre consumo de canabinóides aquando da recruta (e sua intensidade) e suicídios consumados, registando-se 459 suicídios ao fim de 33 anos. Ainda que, numa avaliação inicial, encontrassem uma associação entre o consumo de canabinóides e o suicídio consumado, essa associação deixou de ser significativa quando ajustaram o modelo estatístico para factores de risco adicionais que poderiam funcionar como factores confundentes (e.g. uso de outras drogas, perturbação psiquiátrica à data da recruta).

Outro estudo longitudinal, por Pedersen (2008), contudo, encontrou resultados diferentes. Seguindo, ao longo de 13 anos, uma coorte de 2033 estudantes noruegueses, verificou existir uma associação entre qualquer nível de consumo de canabinóides no final da adolescência e princípio da vida adulta e a emergência posterior de ideação suicida (OR: 2.4-2.7), e associação de consumo mais regular de canabinóides e risco de tentativa de suicídio (OR: 2.8), após controlo para co-variáveis. Não foi, contudo, encontrada relação com depressão. O autor sublinha na conclusão que pode não ter feito controlo para todos os confundentes e que, por essa via, poderá existir uma sobre sobrestimação da relação etiológica entre o consumo de canabinóides e a suicidalidade.

Fergusson *et al*. (2002) realizaram acompanhamento de uma coorte de 1265 crianças neo-zelandesas ao longo de 21 anos, com o intuito de examinar as associações entre frequência de utilização de canábis e *outcomes* psicossociais na adolescência e início da vida adulta, entre os quais ideação suicida e tentativas de suicídio. Verificou-se uma associação significativa ao nível de p <0,0001 entre a extensão dos consumos de canabinóides e ideação suicida e tentativas

de suicídio, nas idades dos 14 aos 21 anos. Contudo, o risco relativo reduziu com a idade, sendo a relação entre consumos e ideação / tentativas de suicídio aos 14-15 anos (RR: 7.3 e 13.1 respectivamente) muito superior em relação aos 20-21 anos (RR: 1.8 e 0.8 respectivamente), sendo mínima ou nula neste segundo grupo.

van Ours e colaboradores (2013) estudaram uma coorte de 1265 crianças nascidas em Christchurch (Nova Zelândia) que foram seguidas ao longo de 30 anos, num estudo longitudinal. O objectivo deste estudo era avaliar a relação entre o consumo de canabinóides e o início de ideação suicida. Concluíram que o uso intensivo de canabinóides (pelo menos várias vezes por semana) estava associado a maior transição para ideação suicida nos homens (mas não nas mulheres).

Arendt e colaboradores (2013) acompanharam um grupo de 6445 pessoas em tratamento para perturbação por uso de canabinóides, na Dinamarca, por um período médio de 4.1 anos. Documentaram um aumento da mortalidade em relação à população geral, incluindo mortalidade por suicídio (com taxa estandardizada de mortalidade 5 vezes maior), ainda que a causa mais frequente de morte em número absoluto tenha sido por acidente. Ressalva-se, contudo, que o estudo apresenta algumas limitações, nomeadamente, o facto de ter incluído apenas doentes em tratamento (podendo ter viés de selecção ao recrutar os doentes mais graves); e de a população incluída consistir predominantemente em homens, com baixo nível educacional, sem filhos e que viviam sozinhos – não tendo sido feito controlo para estes putativos factores de risco independentes para o risco de suicídio.

Rasic e colaboradores (2013) realizaram um estudo longitudinal de 2 anos de duração envolvendo 976 alunos do 10º ano no Canadá, procurando aferir a relação entre o consumo de substâncias ilícitas e a ocorrência de depressão, ideação suicida e tentativas de suicídio. Concluíram que o consumo de substâncias ilícitas - incluindo ou não canabinóides - estava associado a maior risco para depressão (OR: 1.25, p <0.05; e OR: 1.50, p <0.05,

respectivamente) e ideação suicida (OR: 1.51, p <0.05 em ambos os casos) em relação àqueles que utilizam apenas canábis. O consumo de substâncias ilícitas incluindo canabinóides estava associada a maior risco de tentativas de suicídio (OR: 1.25, p <0,05) comparativamente aos que utilizavam apenas canábis. O consumo pesado de canabinóides por si só estava associado a maior risco de depressão, mas não de ideação ou tentativa de suicídio.

Por fim, um estudo longitudinal recente (Shalit *et al*., 2016) utilizou uma amostra representativa da população dos EUA proveniente de duas fases do *National Epidemiologic Survey on Alcohol and Related Conditions (NESARC)* (fase 1 n=43093, fase 2 n=34653 dos respondentes da fase 1). Os autores reportaram que o consumo de canábis estava associado a aumento do risco de desenvolver ideação suicida em modelos completamente ajustados (AOR 1.91), sendo esta associação mais pronunciada em consumidores pesados (e.g. consumo diário) (AOR 4.28). Tal associação não se verificou no sexo feminino, tanto para consumo geral como pesado. Contudo, não se verificou nenhuma associação significativa entre a incidência de tentativas de suicídio e o consumo de canabinóides, independentemente da intensidade de consumo e do sexo. Este estudo, no entanto, apenas incluiu pessoas que reportavam sintomas depressivos (humor depressivo ou anedonia).

Outra forma, metodologicamente diversa, de tentar avaliar a relação entre o consumo de canabinóides e a suicidalidade surgiu com a legalização do consumo, quando este é feito de forma controlada e registada. Rylander e colaboradores (2014) procuraram verificar se existia alguma associação significativa entre o número de consumidores de canabinóides registados no estado do Colorado por ano e o número de mortes por suicídio. Concluíram que, após controlo para factores confundentes (e.g. desemprego, área urbana *vs* rural), a mesma não existia. Os autores apontaram, contudo, algumas limitações relevantes, como seja o facto de que os consumidores registados podem não ser representativos de todos os consumidores, e a ausência

de controlo para outras variáveis relevantes (e.g. co-morbilidade psiquiátricas, abuso de outras substâncias).

Perante a diversidade dos achados, quer nos estudos transversais quer longitudinais, foram realizadas algumas revisões sistemáticas e meta-análises visando sintetizar a informação disponível. Destaca-se o estudo de Calabria e colaboradores (2010) que realizaram uma meta-análise (19 estudos) procurando sumarizar a evidência existente sobre a relação entre o uso ou dependência de canabinóides e a mortalidade. Concluíram que existe alguma evidência que permite associar o consumo elevado de canabinóides a maior mortalidade por tumores respiratórios e cerebrais, bem como entre consumo elevado e responsabilidade em acidentes de viação fatais. Contudo, a evidência não é clara sobre a associação entre consumo de canabinóides e risco de suicídio, em grande medida porque os estudos não controlaram para outras variáveis confundentes (e.g. existência de síndrome depressiva ou consumo de outras substâncias).

Borges, Bagge, & Orozco (2016) realizaram uma extensa revisão da literatura e meta-análise que poderemos considerar como a mais recente síntese e súmula da evidência científica, focando-se precisamente na questão do consumo de canabinóides e suicidalidade. Os autores concluem que não existe evidência sólida que permita associar o consumo agudo de canabinóides (i.e. intoxicação) ao aumento do risco para suicidalidade, até por limitações dos estudos encontrados – a maioria deles *case-series* e *reports* toxicológicos descritivos. Concluem, também, que a evidência parece sugerir que o consumo crónico de canabinóides (em particular o consumo pesado) poderá predizer a suicidalidade. Foram incluídos 4 estudos relacionando qualquer uso de canábis e morte por suicídio (OR: 2.56); 6 estudos relacionando qualquer uso de canábis e ideação suicida (OR: 1.43); 5 estudos relacionando uso pesado de canábis e ideação suicida (OR: 2.53); 6 estudos relacionando qualquer uso de canábis e tentativa

de suicídio (OR: 2.23); e 6 estudos relacionando uso pesado de canábis e tentativa de suicídio (OR: 3.20).

Discussão

A evidência das últimas revisões da literatura parece sugerir que o uso de canabinóides tem potencial indireto no risco de suicídio, através do aumento da impulsividade e pela predisposição a desenvolvimento de sintomatologia psiquiátrica.

A maioria dos estudos aponta para uma relação entre consumo de canábis e ideação / tentativa de suicídio acima do nulo, predominantemente modesta; poucos apresentavam relações abaixo de 0 e não eram significativas. Verificou-se também uma tendência para maior risco em consumidores pesados. Contudo, estas conclusões requerem cautela, uma vez que os estudos incluídos são heterogéneos e alguns não fizeram controlo para factores de risco confundentes. Ademais, o único estudo longitudinal populacional e meta-análise que inclui estimativas de dose-resposta não verificou a associação canábis/morte por suicídio (após ajuste completo), afastando a hipótese de uma causalidade reversa (i.e. que a existência de suicidalidade leve a consumo de canabinóides).

Assim, esta revisão reforça a importância de que na prática clínica seja questionado e avaliado o uso de canabinóides em indivíduos com ideação suicida. Por outro lado, nos doentes internados ou admitidos em ambiente hospitalar com sintomas de intoxicação ou privação, deverão ser consideradas medidas de segurança anti-suicidárias.

Adicionalmente, é importante sublinhar que o fenómeno do suicídio é extraordinariamente complexo, afastando da sua compreensão e explicação uma causalidade simples, linear e, sobretudo, de causa única. Esta é ainda uma área pouco esclarecida e de resultados contraditórios, sendo a investigação longitudinal necessária para uma melhor compreensão da relação entre o consumo de canabinóides e o suicídio.

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Cannabis and suicide: a literature review

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Abstract

Cannabis is the most commonly used illicit substance in the world, and its high consumption has raised questions about its impact on mental health, particularly concerning the risk of suicide. There are also forensic implications, particularly in determining a causal model of suicide and its intersection with various forms of risk management, namely life insurance policies. The objectives of this study were to characterize risk factors for suicide, and to understand the relationship established between cannabinoid use and suicide. It was also intended to characterize the contribution of cannabinoid use to impulsivity and to the development of psychopathology. For this purpose, a non-systematic literature review was performed. The results suggest that cannabis users have alterations in impulsivity, namely inhibitory control. There is also evidence of its contribution to the development of psychosis and depressive symptoms. On the other hand, cross-sectional studies point to an association between cannabinoid use and suicide, although longitudinal studies show that there is a significant impact of comorbidities and confounding factors. In conclusion, evidence suggests that chronic cannabinoid use (particularly heavy use) may predict suicidality.

Keywords: cannabinoids; cannabis; suicide; suicidal ideation.

Introduction

Suicide can be considered a problem unique to the human species. There is no single answer to why people resort to suicide. Historically, a multitude of factors have been pointed out as predisposing to the act. Schneidman (1985) identifies what he calls “commonalities” - characteristics common to patients, such as seeking a solution, intolerable psychological pain, frustration, hopelessness, ambivalence, needing an escape, and maladaptive coping mechanisms (Saraiva, 2010). Accordingly, and with the help of psychological autopsies, mental illness was consistently associated with suicide risk and suicidal acts, with the presence of mental illness in about 90% of suicides (Lönnqvist et al., 2015). This finding, however, has been criticized, with some recent authors suggesting that there has been an overestimation of the burden of mental disorder on the etiology of suicide (Hjelmeland & Knizek, 2017). Still, the relationship between substance use as a risk factor for suicide is recognized, although this effect does not seem entirely clear when it comes to cannabinoid use. The forensic implications of this phenomenon should also be considered, namely in the determination of a causal model of suicide and its relationship with cannabis use, insofar as it can be framed or conflict with various forms of risk management processes, namely health insurance. ([e.g. Ac. of STJ of 18/09/2018, published in Journal n. 2682/16.2T8FAR.E1.S2 – 7th Section, Olindo Geraldes (Relator)”].

The term suicidal ideation refers to thoughts and cognitions about how to end one's life, which may or may not be followed by acting on them, but which is generally seen as the usual precursor to a suicide attempt (Saraiva & Gil, 2014). The concept of suicidality is comprehensive and includes suicidal ideation, attempted suicide and accomplished suicide (Saraiva & Gil, 2014). Suicide risk is modulated by a wide range of well-established risk and protective factors established in the scientific literature (Turecki & Brent, 2016; Sinyor, Tse, & Pirkis, 2016), namely: a) populational (e.g. economic disruption, poor social cohesion); b)

environmental (e.g. poor access to health care, access to means of suicide) and c) individual. Within the latter we find predisposing or distal factors (e.g. genetics, childhood adversity, family history), developmental or mediating factors (e.g. personality traits, substance use, cognitive deficits) and proximal or precipitating factors (e.g. existence of psychopathology - such as affective disorder or schizophrenia, life events, etc.). About 15% of individuals who commit a suicide attempt will eventually consummate the suicide in the future, and the history of suicide attempt is probably the strongest predictive factor of suicide, with the highest risk within the first 6 months after the attempt (Suominen et al., 2004).

There are, of course, protective factors: religious affiliation and practice (most religions condemn suicide and increase social cohesion), good coping / adaptation mechanisms, good social support, and so on.

The relationship between substance use and suicide has been explored in numerous studies. Substance use aggravates social problems and interpersonal conflicts; leads to disinhibition as a direct consequence; and has an impact on mood, impulsivity and aggressiveness of the individual as a consequence of chronic consumption, with higher risk when psychiatric co-morbidity and polydrug use exist. (Conner & Dubestein, 2004; Kessler, Borges, & Walters, 1999).

Regarding cannabis, it is the most commonly used illicit substance in the world, with a growing consumption trend (Shalit, Shoval, Shlosberg, feingold, & Lev-ran, 2016; Moore et al. 2007). At the same time, the potency of cannabis has increased, which is related to the emergence of psychopathology (Shalit et al., 2016). High cannabinoid use, particularly among adolescents, has raised relevant questions about the impact of these substances on consumers' mental health (Fergusson & Horwood, 2000). Thus, it’s relevant to better understand the relationship between cannabinoid use and suicidal behavior.

The objectives of this study are to characterize risk factors for suicide, and to understand the relationship established between cannabinoid use and suicide. It is also intended to characterize the contribution of cannabinoid use to impulsivity and the development of psychopathology.

Material and Methods

In order to respond to the proposed objectives, a non-systematic literature review was performed. The literature was collected by searching the Pubmed database until June 2019 containing the keywords "suicide", "cannabis", "cannabinoids", "suicidal ideation" and "impulsivity".

The articles considered relevant to the authors were selected, which included those studying suicide risk factors, explaining the relationship between cannabis and predisposition to behavioral or psychopathological changes (such as impulsivity) and, finally, those that addressed cannabinoid use and suicide.

The numerical results presented were transcribed from the references cited. The total number of participants is represented by the letter “n” and the statistical results are presented in p-value (statistically significant when $p < 0.05$); Odds Ratio (OR) and Adjusted Odds Ratio (AOR); and relative risk (RR).

Results

Effects of Cannabis on Suicidal Behavior – Impulsivity

One of the risk factors often implicated in models of understanding suicidal behavior is impulsivity (Turecki et al., 2016). It can be defined as “actions that are poorly conceived, prematurely expressed, unduly risky, or inappropriate to the situation and that often result in

undesirable consequences" (Daruna & Barnes, 1993). Two points have been mostly studied in impulsivity research in the context of psychoactive substance use: impulsive choice and impaired behavioral inhibition (Wrege, et al. 2014).

Changes in impulsivity, risk assessment and decision making have been reported to be the result of cannabis use by several studies. Thus, they could act as a potential link between chronic cannabis use and subsequent suicidality (Shalit et al., 2016). Conversely, impulsivity may be a pre-existing personality trait that may predispose to the use of psychoactive substances (Dalley, Everitt, & Robbins, 2011).

In a systematic review of the effects of cannabis use on impulsivity (Wrege et al. 2014), the included behavioral studies have shown detrimental effects of cannabis use on different impulsivity domains, even after prolonged abstention. For example, inhibitory control deficits were found in cannabis users under acute exposure and in regular users after withdrawal. Functional imaging studies have suggested that prefrontal blood flow is lower in chronic cannabis users than controls, while structural imaging studies of cannabis users point to reduced prefrontal volumes and white matter integrity, which may mediate the abnormal impulsivity and mood observed in such individuals. Also included were acute tetrahydrocannabinol (THC) or cannabis administration studies that revealed changes in brain metabolism in various regions such as the anterior cingulate cortex or the frontal mesial and orbital lobes during tasks aiming to assess impulsivity. However, it did not allow to assess whether impulsivity precedes cannabis use and may lead to use, or whether it is a consequence of cannabis use.

Cannabis and Psychiatric Symptoms

Excluding the history of previous suicide attempts, the existence of psychopathology is the largest predictor of consummated suicide (Hoertel et al., 2015). About 50% of all suicides are precipitated by depressive episodes, either associated with major depression or bipolar

affective disorder. The risk of suicide is highest in the first year of illness and is associated with feelings of hopelessness and lack of understanding. Adults with schizophrenia and other psychotic disorders are also at increased risk, with clinical predictors of suicide in those cases being depressive symptoms, young age, early stage of the disease with insight, positive symptoms, poor adherence to therapy and substance abuse (Cavanagh, Carson, Sharpe & Lawrie, 2003). Other psychiatric disorders, such as personality disorders, are also commonly associated with death by suicide. Although there is robust evidence that cannabis intoxication can lead to transient psychotic and affective experiences, some studies have focused on which chronic symptoms persist beyond the effects of intoxication (Moore et al. 2007). However, concerning this last point, there is a complex relationship between cannabinoid use and psychiatric co-morbidity (Lynskey et al. 2004).

Cannabis and Psychosis

Nowadays, there is robust epidemiological evidence linking cannabis use with the development of psychosis (either psychotic experiences or psychotic disorders such as schizophrenia) in a direct and dose-dependent causal relationship (Moore et al. 2007; Gage, Hickman, & Zammit, 2016). This relationship is particularly important as, according to some authors, cannabis use may be one of the most modifiable risk factors for psychosis (Gage et al., 2016).

In addition to its causal role, continued use of cannabinoids among individuals with non-affective psychotic disorders increases the risk of psychotic experiences, decreases therapeutic adherence and increases the risk of relapse, all of which may hypothetically contribute to a greater number of accidents and suicide attempts (Manrique-Garcia, Ponce de Leon, Dalman, Andreasson, & Allebeck, 2016).

Cannabis and affective co-morbidity

Studies that have explored the relationship between cannabis and psychiatric co-morbidity other than psychosis have not shown such significant results (Rasic, Weerasinghe, Asbridge, & Langille, 2013). Several investigators have shown an association between cannabinoid use and depressive symptoms (Lynskey et al. 2004; Degenhardt, Hall, & Lynskey, 2003). However, recent meta-analyzes (Moore et al. 2007; Lev-Ran et al., 2014) have shown that this association is only modest, with great heterogeneity between studies and the exclusion of confounding factors and inverse causality being unclear, compared to studies on psychosis (Moore et al. 2007). Nevertheless, there is enough evidence to associate cannabinoid use with higher intensity and number of depressive symptoms (Gobbi et al., 2019).

Cannabis and Suicide Risk

Several cross-sectional studies point to an association between cannabinoid use and suicide, although longitudinal studies have found conflicting results and, more importantly, have shown the significant impact of comorbidities and confounding factors (Shalit et al., 2016).

Of the cross-sectional studies, we mention two, for their greater relevance, from Beautrais and Delforterie.

Beautrais et al. (1999) conducted a case-control study in New Zealand to investigate the association between cannabinoid abuse / dependence and the risk of serious suicide attempts, involving 302 cases (people with medically serious suicide attempts) and 1028 controls. Individuals who committed suicide attempts were found to have significantly higher rates of cannabis abuse / dependence than control subjects (OR: 10.3; $p < 0.0001$). However, much of this positive association could be explained by the fact that patients who develop cannabinoid abuse / dependence came from poorer socio-economic backgrounds and have more adverse childhood experiences, which are risk factors for suicide; as well as evidence that cannabinoid

abuse / dependence is often co-morbid with other mental disorders which are independent risk factors for suicide.

More recently, Delforterie et al. (2015) conducted a cross-sectional study involving a sample of twins (n = 9583) in Australia, seeking to investigate the association between cannabinoid use and suicidal ideation, suicide attempts and suicide planning. They concluded that, after adjusting for the covariates, any level of cannabinoid use was associated with an increased risk of suicidal ideation (relationship of cannabinoid use with suicidal ideation for less than one day - OR: 1.28-2.00, $p < 0.05$ and suicidal ideation for more than one day - OR: 1.35-1.98, $p <0.01$) compared to the absence of suicidal ideation. Also, after adjusting for other substance use and psychopathology, cannabinoid use and having at least 3 symptoms that are consistent with cannabis use disorder were significantly associated with unplanned suicide attempts (OR: 1.95, p <0, 05; and, OR: 2.51, $p <0.05$, respectively). Use of the twin sample was best intended to exclude genetic factors, and evidence was found that individual specific factors influenced both cannabis use and suicidal ideation in twins.

In the analysis of longitudinal studies, nine studies of greater relevance stand out.

Andreasson & Allebeck (1990) conducted a longitudinal study with 45540 Swedish military recruits focusing on cannabinoid use and mortality over 15 years. The predominant causes of death were those of violent nature (75% of the 614 deaths), with suicide (172) or uncertain suicide (49) being two of the main. High cannabinoid use was associated with increased mortality (RR: 2.8) and the relative risk of suicide or uncertain suicide in this category was 5.4 (compared to non-users). However, after a multivariate statistical analysis that intended to adjust for confounding factors (e.g. existence of mental disorder, use of other substances, parental divorce, forensic history), the association between cannabinoid use and increased mortality (including suicide) was no longer found.

Manrique-Garcia et al. (2016) extended the follow-up period of the Andreasson & Allebeck (1990) study to when recruits were 60 (in 2011) (n = 50373), hypothesizing that deleterious physical effects of consumption would be more likely to be noted. Indeed, they documented an increase in overall mortality for any level of cannabinoid use, with this increase in mortality risk persisting after adjusting for confounding factors only in the heavy cannabinoid subgroup (> 50-fold). However, they did not find any increased risk of suicide in cannabinoid users, thus repeating the initial finding. An association between dose-dependent relationship between cannabis use and accidental or self-inflicted injury was found, potentially indicating that cannabis use may potentiate impulsive gestures and thus lead to death.

Price and collaborators (2009) independently conducted a longitudinal study using the same sample of Swedish recruits as Andreasson & Allebeck (1990), following a cohort of 50087 male recruits from Sweden over 33 years. They explored the association between cannabinoid use and its intensity at the time of recruitment and completed suicides, with 459 suicides after 33 years. Although an initial assessment found an association between cannabinoid use and completed suicide, this association was no longer significant when they adjusted the statistical model for additional risk factors that could function as confounding factors (e.g. use of other drugs, psychiatric disorder at the date of the recruit).

Another longitudinal study by Pedersen (2008), however, found different results. Following a cohort of 2033 Norwegian students over 13 years, an association was found between any level of cannabinoid use in late adolescence and early adulthood and the subsequent emergence of suicidal ideation (OR: 2.4-2.7), and association of more regular cannabinoid use and risk of suicide attempt (OR: 2.8) after control for covariates. However, no relationship with depression was found. The author emphasizes in his conclusion that there may have been no control over all confounders and consequently there may be an overestimation of the etiological relationship between cannabinoid use and suicide.

Fergusson et al. (2002) followed a cohort of 1265 New Zealand children over 21 years old to examine the associations between frequency of cannabis use and psychosocial outcomes in adolescence and early adulthood, including suicidal ideation and suicide attempts. There was a significant association ($p<0.0001$) between the extent of cannabinoid use and suicidal ideation and suicide attempts at ages 14 to 21 years. However, the relative risk decreased with age, with the relation between consumption and suicide ideation / attempts at 14-15 years old (RR: 7.3 and 13.1 respectively) being much higher than at 20-21 years old (RR: 1.8 and 0.8 respectively), being minimal or zero in this second group.

van Ours et al. (2013) studied a cohort of 1265 children born in Christchurch (New Zealand) who were followed over 30 years in a longitudinal study. The aim of this study was to evaluate the relationship between cannabinoid use and the onset of suicidal ideation. They concluded that intensive cannabinoid use (at least several times a week) was associated with a longer transition to suicidal ideation in men (but not in women).

Arendt et al. (2013) followed a group of 6445 people being treated for disorders related to cannabinoid use in Denmark for an average period of 4.1 years. They documented an increase in mortality relative to the general population, including mortality by suicide (with a standardized mortality rate 5 times higher), although the most frequent cause of death in absolute numbers was by accident. However, it should be noted that the study has some limitations, including the fact that it included only patients under treatment (which may lead to selection bias by recruiting the most severe patients); and that the included population consisted predominantly of low-educated, childless men living alone – without controlling to these putative independent risk factors for suicide.

Rasic et al. (2013) conducted a 2-year longitudinal study involving 976 tenth grade students from Canada, seeking to assess the relationship between illicit substance use and the occurrence of depression, suicidal ideation and suicide attempts. They concluded that illicit

substance use - including or not cannabinoids - was associated with a higher risk for depression (OR: 1.25, $p < 0.05$; and OR: 1.50, $p < 0.05$, respectively) and suicidal ideation (OR: 1.51, $p < 0.05$ in both cases) compared to those using cannabis only. Use of illicit substances including cannabinoids was associated with a higher risk of suicide attempts (OR: 1.25, $p < 0.05$) compared to those using cannabis alone. Heavy cannabinoid use alone was associated with a higher risk of depression, but not suicidal ideation or attempted suicide.

Finally, a recent longitudinal study (Shalit et al., 2016) used a representative sample of the US population from two phases of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) (phase 1 n = 43093, phase 2 n = 34653 from phase 1 respondents). The authors report that cannabis use was associated with an increased risk of developing suicidal ideation in fully adjusted models (AOR 1.91), this association being more pronounced in heavy users (e.g. daily use) (AOR 4.28). Such association was not observed in females, for both general and heavy consumption. However, there was no significant association between the incidence of suicide attempts and cannabinoid use, regardless of intensity of use and gender. This study, however, only included people who reported depressive symptoms (depressed mood or anhedonia).

Another methodologically different way of trying to assess the relationship between cannabinoid use and suicidality came with the legalization of cannabinoid use, when it is controlled and recorded. Rylander et al. (2014) sought to verify whether there was any significant association between the number of registered cannabinoid users in the state of Colorado per year and the number of suicide deaths. They concluded, after controlling for confounding factors (e.g. unemployment, urban vs. rural area), that it did not exist. However, the authors pointed out some relevant limitations, such as the fact that the registered consumers number may not be representative of all consumers, and the lack of control for other relevant variables (e.g. psychiatric co-morbidity, substance abuse).

Given the diversity of findings, both in cross-sectional and longitudinal studies, some systematic reviews and meta-analyses were performed to synthesize the available information. We highlight the study by Calabria et al. (2010) who performed a meta-analysis (19 studies) seeking to summarize the existing evidence on the relationship between cannabinoid use or dependence and mortality. They concluded that there is some evidence to link high cannabinoid use with higher mortality from respiratory and brain tumors, as well as between high consumption and liability in fatal road accidents. However, the evidence is unclear about the association between cannabinoid use and risk of suicide, largely because the studies have not controlled for other confounding variables (e.g. existence of depressive syndrome or use of other substances).

Borges, Bagge, & Orozco (2016) undertook an extensive literature review and meta-analysis that we may consider as the latest synthesis and summary of scientific evidence, focusing precisely on the issue of cannabinoid use and suicide. The authors concluded that there is no solid evidence to link acute cannabinoid use (e.g. intoxication) with increased risk for suicide, even due to limitations of the studies found - most of them case series and descriptive toxicological reports. They also conclude that the evidence seems to suggest that chronic cannabinoid use (particularly heavy use) may predict suicide. This work included four studies relating any use of cannabis and death by suicide (OR: 2.56); six studies relating any use of cannabis and suicidal ideation (OR: 1.43); five studies relating heavy cannabis use and suicidal ideation (OR: 2.53); six studies relating any cannabis use and suicide attempt (OR: 2.23); and six studies relating heavy cannabis use and suicide attempt (OR: 3.20).

Discussion

Evidence from the latest literature reviews seems to suggest that cannabinoid use has an indirect potential role in suicide risk through increased impulsivity and predisposition to the development of psychiatric symptoms.

Most studies point to a predominantly modest relationship between cannabis use and suicidal ideation / attempted suicide; few had ratios below 0 and were not significant. There was also a tendency for higher risk in heavy consumers. However, these findings require caution as the included studies are heterogeneous, and some did not control for confounding risk factors. Furthermore, the only longitudinal population-based study and meta-analysis that included dose-response estimates did not verify the association of cannabis / suicide death (after complete adjustment), ruling out the hypothesis of reverse causality (e.g. that the existence of suicidality leads to consumption of cannabinoids).

Thus, this review reinforces the importance of questioning and evaluating the use of cannabinoids in individuals with suicidal ideation in clinical practice. Furthermore, in patients admitted to the hospital with symptoms of intoxication or withdrawal, anti-suicide safety measures should be considered.

In addition, it is important to underline that the phenomenon of suicide is extraordinarily complex, so it couldn’t be understood and explained by a simple, linear and, above all, single cause. This is still a poorly understood and contradictory area, and longitudinal research is needed to better understand the relationship between cannabinoid use and suicide.

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Male and Female Psychopaths: Affective, Interpersonal, and Behavioral Differences

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The authors do not have financial, personal, or professional conflicts of interests.

After the local ethics committee approved the study, it was conducted according to APA ethical standards.

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Abstract

Psychopathy can be defined as a constellation of traits that comprises affective characteristics, interpersonal characteristics, as well as impulsive and antisocial behavior. The main goal of this review was to present differential characteristics of psychopathic personality between men and women. The repercussions of the actions of individuals with pronounced traits of psychopathic personality reaches, more and more, deferred relationships (relationships with others), in favor of direct relationships (relationship with oneself). Women with pronounced traits of psychopathic personality are responsible for various types of infractions, which highlights the importance of studying its prevalence in both sexes. Most studies focus on a male population. It is concluded that the identification of psychopathy in women seems to be more difficult, as there are differences in the clinical presentation of antisocial behavior, especially when it comes to aggression, a feature that is more visible and present in men than in women. When women with pronounced traits of psychopathic personality display antisocial traits, there are negative consequences in relationships with others, such as emotional problems, marital difficulties, violent relationships with men, poor maternal experience, and not irrelevant social problematic.

Keywords: psychopathy, women and men, psychopathic personality structures, amygdala dysfunctions, violence and aggression

Male and Female Psychopaths: Affective, Interpersonal, and Behavioral Differences

Psychopathy is presented as a very important construct, for both psychology and forensic psychiatry (Copestake, Gray, & Snowden, 2011). It can be defined as "a constellation of traits that comprises affective characteristics, interpersonal characteristics, as well as impulsive and antisocial behavior. Affective characteristics include lack of guilt, of empathy, and of deep emotional attachments to others; interpersonal characteristics include narcissism and superficial charm; and impulsive and antisocial behaviors include dishonesty, manipulative spirit, and assumption of imprudent risks" (Society for the Scientific Study of Psychopathy, n.d.). Psychopathy traits include lack of empathy, callousness, disregard for the rights of others, impulsivity, manipulative spirit, parasitic tendencies, and greater propensity to commit violent criminal acts (Patrick, 2006). Thus, psychopathy designates antisocial behavior associated with disruptive personality traits (Hare, 2006).

Many people consider the idea that individuals with pronounced traits of psychopathic personality are serious criminals, normally, murderers (Moreira, Pinto, Almeida, Barros, & Barbosa, 2015). In fact, antisocial behavior is an essential component of the definition of psychopathy in men (Hare & Neumann, 2010), and may include crimes or violation of laws, but is not limited to this. It may be restricted to behaviors of exploitation and manipulation of interpersonal relationships, causing damage to others that fall short of being considered criminal offenses. Thus, according to some views, criminal or even antisocial behavior is not crucial to psychopathy (Weizmann-Henelius et al., 2010). Individuals with pronounced traits of psychopathic personality may be businessmen, politicians, and other professionally successful individuals who may have never been in prison and have never committed violent

crimes (Moreira, Almeida, Pinto, & Fávero, 2014). Another class of individuals, who end up in prison or forensic psychiatric hospitals are very resistant to traditional treatment programs. Following their release, they present a high risk of reoffending in general and violently. Particularly dangerous are the individuals with pronounced traits of psychopathic personality who are sexually activated with violence or sexually exhibit deviant behaviors (Hare & Hervé, 1999). However, many other individuals with pronounced traits of psychopathic personality are experts in manipulation and often adept at hiding their true nature behind a façade of normality (Moreira et al., 2015).

We know little about these individuals in terms of the systematic study of how the disorder manifests itself in the public in general (Moreira et al., 2014). Despite this, there are indicators that the personality structure and propensity for unethical relationships with others is a common factor among individuals with this personality structure, criminal or non-criminal, men or women.

A common feature of psychopathy and other personality structures in which impulse control deficits are patent is impulsivity. Impulsivity has been described as a predisposition for fast, unplanned reactions to internal or external stimuli with a decrease in terms of the negative consequences of those reactions in the individuals and in others (Evenden, 1999; Moeller, Barratt, Dougherty, Schmitz, & Swann, 2001; Potenza & de Wit, 2010). This characteristic may be hereditary, emerging as a personality trait, or acquired after an injury to the central nervous system (Gomes & de Almeida, 2010). An accurate and consistent assessment of impulsivity can help improve the clinical evaluation of multiple psychiatric populations (Hamilton et al., 2015).

Psychopathy and Emotional Deficits

Individuals with pronounced traits of psychopathic personality have emotional deficits (Visser, 2010) and difficulties in understanding emotions in others or in being touched by emotions in others, which influences their attitudes. They are cold individuals, they have low anxiety in risk situations, and their attitudes may harm others. Often, they violate laws and rules (Moreira et al., 2014). The diagnosis of (primary) psychopathy is difficult for several reasons: (a) due to the existing association between (secondary) psychopathy and prisons. These characteristics define secondary psychopathy but not primary psychopathy. Individuals with pronounced traits of primary psychopathic personality (PP) display behavior adapted to society, proving to be nice, communicative, and having intense social life. Thus, it is not as easy to access a PP as it is to access an individual with pronounced traits of secondary psychopathic personality (SP). The PP are people from the general population, they appear to have psychopathic interpersonal and affective traits, but less antisocial behavior than the SP (Moreira et al., 2014); (b) due to the fact that individuals with pronounced traits of psychopathic personality display different levels of aggressiveness. Aggressiveness ranges from the commission of minor offenses to compulsive lying and transgression of rules, features that are often present in the common criminal (Morana, Câmara, & Flórez, 2006; Nouvion, Cherek, Lane, Tcheremissine, & Lieving, 2007). There is also another group of individuals that commit several types of crimes, such as serial killers, who are more easily identified (Morana, Stone, & Filho, 2006); (c) due to the disinterest of many psychiatrists and psychologists in diagnosing primary psychopathy. Psychopathy is a permanent personality structure, which discredits the effectiveness of any intervention (Morana, 1999).

Psychopathy is characterized by profound affective deficits, including shallow affect and reduced empathy. Among the emotional deficits associated with psychopathy is fearless temperament, which entails difficulties in processing the various relevant stimuli related to fear (Lykken, 1995). The latest research suggests that these deficits may apply especially to negative emotions, or to certain negative emotions, such as fear (Marsh & Cardinale, 2012; Marsh et al., 2011). Individuals with pronounced traits of psychopathic personality also report reduced subjective experiences of fear, but not of other emotions (Marsh et al., 2011). A meta-analysis showed that deficits in fear recognition in individuals with pronounced traits of psychopathic personality are higher than for any other emotional expression, and are not related to sex, age, or to the difficulty in identifying expressions of fear (Marsh & Blair, 2008). This meta-analysis, as well as another meta-analysis from the same year (Wilson, Demetrioff, & Porter, 2008) found deficits of other emotions, particularly sadness. Photographs of fear, but not of anger, and facial expressions also generate less autonomic arousal in individuals with pronounced traits of psychopathic personality than in controls (Blair, 1995). Some authors, however, have suggested that the emotional deficits found in psychopathy are related to deficient moral judgments (Blair, 1995; Glenn, Iyer, Graham, Koleva, & Haidt, 2009). The influence of emotions in moral judgments is well established (Greene, Sommerville, Nystrom, Darley, & Cohen, 2001; Haidt, 2001).

In another study, 18 young people between 10 and 17 years of age and with psychopathic traits and 24 children and adolescents of comparison reported their subjective experiences of emotion during the last five emotionally evocative events of their life, followed by a paradigm developed by Scherer and Wallbott (1994). Comparisons were made between groups to evaluate the variations of subjective experiences in all the emotions (Marsh et al., 2011). Psychopathy was associated with

reductions in the subjective experience of fear relatively to other emotions. Children and adolescents with psychopathic traits reported fewer symptoms associated with the arousal of the sympathetic nervous system during fear-evoking experiences (Marsh et al., 2011).

There are reports of associations between poor attention while looking and reduced sensation of fear in children with psychopathic traits (Dadds, Masry, Wimalaweera, & Guastella, 2008). In addition, negative relationships are identified between psychopathy and the recognition of affect in facial expressions (Hastings, Krishnan, Tangney, & Stuewig, 2011), and affective and semantic priming (Blair, Peschardt, Budhani, Mitchell, & Pine, 2006).

Criminal individuals with pronounced traits of psychopathic personality display a reduced behavioral and physiological response to emotional stimuli in relation to neutral stimuli, compared to criminals without traits of psychopathic personality (Levenston, Patrick, Bradley, & Lang, 2000; Pastor, Molto, Vila, & Lang, 2003; Patrick, Bradley, & Lang, 1993).

In psychopathy, there is evidence of intact cognitive functioning and inhibitory control (Ishikawa, Raine, Lencz, Bihrle, & Lacasse, 2001; Munro et al., 2007), although there are some studies that report performance deficits in Go/No-Go tasks in criminal individuals with pronounced traits of psychopathic personality (Kiehl, Bates, Laurens, Hare, & Liddle, 2006; Varlamov, Khalifa, Liddle, Duggan, & Howard, 2011). In this sense, psychopathy was associated with reduced neural processing of negative emotions, regardless of inhibitory control requirements (Verona, Sadeh, & Curtin, 2009). The group with psychopathy displayed deficient negative emotional processing in both Go and No-Go tasks, suggesting that this group is not able to differentiate between the emotional properties of neutral and negative words in any type of judgment.

This discovery was one of the first studies to demonstrate deficits in psychopathy, namely in ERP responses to emotional stimuli of words (Williamson, Harpur, & Hare, 1991). Individuals with pronounced traits of psychopathic personality show deficits in response modulation, which Newman (1998) defined as a failure to process secondary or contextual information when they are involved in a goal-oriented task. Individuals with pronounced traits of psychopathic personality do not process negative emotional contextual information, although it is mandatory for most individuals. Thus, high levels of psychopathy are associated with changes in regions involved in the assessment and maintenance of motivation significance for negative stimuli (Birbaumer et al., 2005; Kiehl et al., 2001; Mitchell, Colledge, Leonard, & Blair, 2002; Müller et al., 2003; Soderstrom et al., 2002).

Impulsive and antisocial traits have been consistently associated with deficits in cognitive control and abnormalities in areas that regulate inhibitory control (Morgan & Lilienfeld, 2000; Raine et al., 1998). Pessoa, McKenna, Gutierrez, and Ungerleider (2002) and Pessoa, Padmala, and Morland (2005), using fMRI, demonstrated that a demanding cognitive task suppresses the activation of affective processing areas of the brain, including the amygdala, in a task of irrelevant emotional faces. Emotional processing regarding neutral stimuli (for example, affective images) has been associated with increased activation of the visual cortex, which is consistent with the influence of motivation and emotion in simple attention, as proposed by Lang (1979; Lang, Davis, & Ohman, 2000).

Research on EEG activity in the prefrontal cortex (area involved in higher order cognitive processes, including inhibitory control) also supports the notion that emotional contexts may exacerbate the ability to inhibit aggressive behavior. Specifically, the study found that exposure to stress may stimulate activity in left versus

right prefrontal areas, and this activity predicts the subsequent aggressive behavior (Verona et al., 2009). Therefore, there is evidence that cognitive control may inhibit emotional processing and that emotional contexts may influence the ability to engage inhibitory control, this last evidence recently discussed in terms of trait dispositions of precipitated action based on emotion (Cyders & Smith, 2007, 2008) and negative urgency (Whiteside & Lynam, 2001).

It is believed that emotional deficits in psychopathy result from abnormalities in subcortical affective areas (Blair, 2006).

There is evidence of broader deficits in emotional processing in individuals with pronounced traits of psychopathic personality, which meets the hypothesis proposed by Newman, Curtin, Bertsch, and Baskin-Sommers (2010), indicating that these deficits are not restricted to emotions of fear and sadness, as suggested by Blair (2006, 2010). However, more confirmatory data on this hypothesis is required and, also, on the possibility of the deficits in fear processing being more severe, as suggested by the meta-analysis studies by Dawel, O'Kearney, McKone, & Palermo (2012) and Wilson, Juodis, and Porter (2011).

The healthy brain deals with emotional information in a unique way: it dedicates, preferentially, stimuli processing resources that have significance to the safety and survival of the species (Bradley, Codispoti, Cuthbert, & Lang, 2001; Ohman, Hamm, & Hugdahl, 2000). This process of bottom-up automatic filtering is an important component of attention (Knudsen, 2007) and has robust consequences on physiological responses, including autonomic arousal, startle modulation (Bradley, Cuthbert, & Lang, 1990), and electrocortical measures (Hajcak & Olvet, 2008).

Historically, the deficit in temperament has been seen as low reactivity to fear, but recent research has documented a second deficit in the temperament of adults that

involves poor emotional and behavioral control (Fowles & Dindo, 2009). Recent developments have identified alternative processes in the appearance of psychopathy: low fear temperament and regulatory dyscontrol. This dual process model refers to dimensions observed in the instruments used to assess psychopathy (Fowles & Dindo, 2006; Patrick, 2007).

The behavior of individuals with pronounced traits of psychopathic personality is, undoubtedly, morally inappropriate, including murder, sexual abuse, fraud, and arson (Cima, Tonnaer, & Hauser, 2010). In addition, clinical analyses indicate that these individuals display abnormal emotional profiles, as well as problems with inhibitory control, often leading to both types of aggression – reactive aggression and instrumental aggression (Blair, 1995, 1997, 2008; Blair & Cipolotti, 2000; Blair et al., 1995; Glenn & Raine, 2008; Kiehl, 2006; Kiehl et al., 2001; Raine & Yang, 2006), one type more associated with PP and the other more associated with SP (Moreira et al., 2014).

Anderson and Stanford (2012) present data from two affective image viewing tasks that compare event related brain potentials (ERP) when emotional information is present, but in a non-relevant task, followed by a condition to direct attention to the categorization of emotional content. Deficits are evidenced in the implicit differentiation between emotionally salient stimuli and neutral stimuli, as in the discriminatory processes, which support and facilitate attention and memory for this distinctive content, when they are absent or substantially delayed. However, when voluntary attention to emotional information is explicitly necessary for the execution of tasks, the ERP waveforms suggest a compensatory modification of that level of processing apparent in the components N1 and P3. Nonetheless, the electrocortical representation of these modifications remains remarkably quantitatively and

qualitatively reduced compared to the consistent patterns in individuals who do not display psychopathic traits in both tasks. These persistent deviations probably represent neural processing differences that may be responsible for specific abnormalities in the means by which individuals with pronounced traits of psychopathic personality incorporate and use emotional information in the governance of the cognitive and behavioral processes in progress.

To assess the cognitive processing of target events, Brazil et al. (2012) used the ERP technique in individuals with pronounced traits of psychopathic personality. Although criminals with pronounced traits of psychopathic personality exhibit decreased P3 amplitudes for directing stimuli compared to controls, individuals with pronounced traits of psychopathic personality showed abnormal neurophysiological differentiation in the allocation of attention to infrequent stimuli, a pattern that was not observed in controls or in criminals without pronounced traits of psychopathic personality.

In another ERP study there was clear evidence of deficits in implicit differentiation between emotionally relevant stimuli and neutral stimuli in individuals with pronounced traits of psychopathic personality (Brazil et al., 2013). Since individuals with pronounced traits of psychopathic personality control automatic attention, it is, thus, an important issue, raising the possibility that abnormalities in attention dictate the difficulties of emotional processing in individuals with psychopathic characteristics (Anderson & Stanford, 2012).

One study investigated which dimensions of psychopathic personality traits moderate behavioral responses and neural activation associated with selective attention in the context of emotional distractors (Sadeh et al., 2013). The fearless-dominance and impulsive-antisociability dimensions showed distinct patterns of behavioral deficits

and neural responses, consistent with the hypothesis that they represent separable constructions associated with differential deficits. They also present results suggesting that the effects of psychopathy dimensions are interactive, rather than simply additive, as individuals who score high on both dimensions – fearless-dominance and impulsive-antisociability, exhibited unique neural correlates. These results attest to the heterogeneity of the deficits in selective attention and sensibility to emotional distraction associated with the dimensions of psychopathy (Sadeh et al., 2013).

Psychopathy and Amygdala Deficits

The amygdala is composed of several interconnected nuclei located deep in the temporal lobe (Janak & Tye, 2015). This structure has been associated with emotion and motivation. It plays an essential role in the processing of both environmental stimuli – fearful and rewarding. The amygdala is a brain region that is important for emotional processing (McDonald, 1998). Understanding the complexities of the amygdala circuit is of paramount importance, given that the amygdala is involved in a wide range of disease states, including addiction, autism, and anxiety disorders (Janak & Tye, 2015). Research supports a vision of the amygdala as a compound of parallel circuits that affect various aspects of emotional behavior (Janak & Tye, 2015). Lesions in the amygdala revealed a strong conservation of function between species, most notably impairment in recognizing fear stimuli, and in a type of emotional learning called conditioned fear (Adolphs, Tranel, Damasio, & Damasio, 1994; Anderson & Phelps, 2001).

Psychopathy is characterized by a dysfunction in the frontal regions of the brain, necessary for impulse control, executive function, and planning. Brain structures involved in the processing of fear (e.g., the amygdala) appear abnormal in individuals with pronounced traits of psychopathic personality (Blair, 2003).

The current prevailing view is that psychopathy and the cognitive and emotional deficits that characterize it reflect a specific dysfunction of the amygdala (Blair, 2010; Freedman & Verdun-Jones, 2010; Kiehl, 2006; van Honk & Schutter, 2006).

While seeing expressions of fear causes increased amygdala activation in healthy individuals, the same is not true for individuals with pronounced traits of psychopathic personality (Jones, Laurens, Herba, Barker, & Viding, 2009; Marsh et al., 2008). The amygdala plays an important role in the processing of fear representations (Phelps et al., 2001).

In a study with fMRI (functional magnetic resonance) using illustrations of neutral scenes and unpleasant scenes of murder, non-psychopathic criminals showed high amygdala activation (to unpleasant scenes), compared to neutral illustrations (Hare, 1999). In another neurological study, with fMRI, parts of the brain that are used in the concrete and abstract processing of words were observed. The control group displayed increased activation in the anterior/upper right temporal cortex. In the experimental group, individuals with pronounced traits of psychopathic personality, that did not happen (Ramsland, 2005).

Some studies have found changes in the amygdala of individuals with pronounced traits of psychopathic personality, such as smaller volume and structural abnormalities compared to controls (Weber, Habel, Amunts, & Schneider, 2008; Yang, Raine, Narr, Colletti, & Toga, 2009). The studies that were conducted revealed low amygdala activation during fear recognition tasks in children with a tendency for psychopathy (Jones, Laurens, Herba, Barker, & Viding, 2009; Marsh et al., 2008) and in adult individuals with pronounced traits of psychopathic personality in studies on conditioned fear (Birbaumer et al., 2005).

In order to assess cortical reactivity to abrupt noise probes presented during the viewing of pleasant, unpleasant and neutral images, electroencephalography was used on 140 detained men diagnosed with psychopathy, using the *Psychopathy Checklist – Revised* (Drislane, Vaidyanathan, & Patrick, 2013). Individuals with pronounced traits of psychopathic personality showed a relative decrease in the P3 probe during the viewing of affective images, compared to neutral images. This result is interpretable as an increase in the allocation of attentional resources toward more engaging perceptive plans (Cuthbert, Schupp, Bradley, McManis, & Lang, 1998; Lang, Bradley, & Cuthbert, 1997).

A model of differential activation of the amygdala was proposed, in which the basolateral amygdala (BLA; comprising the lateral nucleus, the basal nucleus, and accessory basal nuclei) is hypoactive, whereas the activity of the central amygdala (CeA; comprising the central and medial nuclei) is of average to above average levels to provide a more precise up-to-date of the specific cognitive and emotional deficits found in psychopathy (Moul, Killcross, & Dadds, 2012). In addition, the model provides a mechanism through which attention-based models of psychopathy and emotion-based models of psychopathy may coexist (Moul et al., 2012).

Psychopathy: Women vs. Men

There are differences in the prevalence (Dolan & Vollm, 2009; Kaplan, Sadock, & Grebb, 2003; Salekin, Rogers, Ustad, & Sewell, 1998), the incidence (Dolan & Vollm, 2009), the course, the behaviors, and the age of onset between the sexes (Logan, 2009).

In women, the first symptoms tend to appear during the pre-puberty period; whereas, in men, their emergence is prior to this phase (Kaplan et al., 2003). The prevalence and incidence of psychopathy in women is less than half than that of men

(Dolan & Vollm, 2009). Most studies with samples of female offenders, as well as psychiatric and community samples, show a lower prevalence rate of psychopathy in female offenders than in male offenders (Cale & Lilienfeld, 2002; Falkenbach, 2008; Grann, 2000; Jackson, Rogers, Neuman, & Lanmbert, 2002; Loucks & Zamble, 2000; Nicholls, Ogloff, Brink, & Spidel, 2005; Rutherford, Cacciola, Alterman, & McKay, 1996; Rutherford, Cacciola, Alterman, McKay, & Cook, 1999; Salekin, Rogers, & Sewell, 1997; Salekin et al., 1998; Vitale & Newman, 2001; Vitale, Smith, Brinkley, & Newman, 2002). The prevalence of psychopathy in female offenders generally ranges from 8% (Hare, 2003) to 9-23% (Vitale et al., 2002), while in male offenders it ranges from 15% (Hare, 2003) to 15-30% (Vitale et al., 2002).

The studies that address psychopathy in women are scarce. The fundamental characteristics of this personality structure in women are neglected. Overall, recent studies have suggested that the relationship between psychopathy and some, but not all, emotional and cognitive processes may be different in males and females (Efferson & Glenn, 2018). It is known that callousness, lack of empathy, and juvenile delinquency are common in men (Grann, 2000), while promiscuous sexual behavior (Grann, 2000; Shine, 2000) and alcohol abuse (Shine, 2000) can be frequently found in psychopathic women. Women report less anger than men (Harmon-Jones & Allen, 1998), and anger is misplaced in women (Salmivalli, Kaukiainen, & Lagerspetz, 2000). Women also prefer indirect, less expressive (Dodge, Harnish, Lochman, Bates, & Pettit, 1997; Kreis & Cooke, 2011), and more relational manifestations of aggression, such as social manipulation (e.g., spreading rumors, threatening others with social status, and undermining relationships) (Crick, 1997; Crick & Grotpeter, 1995). In other words, women with pronounced traits of psychopathic personality are less grandiose, less physically dominant, and less aggressive than psychopathic men, and may use more

relational aggression and sexual seduction to manipulate, dominate, exploit, and disturb others. Men, instead, use more physical and instrumental aggression, often aimed at achieving an object or objective (Cummings, Hoffman, & Lesheid, 2004; Salmivalli et al., 2000). On the other hand, psychopathic women may be emotionally more unstable than men (Kreis & Cooke, 2011) and use, more frequently, tools such as emotional manifestations (e.g., crying), victimization, report feelings of being misunderstood, indirect "poisoning" of relationships, astuteness, the delegation of aggressive behavior to others (after the manipulation of the offender or another person, which will lead to aggression and conflict). Therefore, when psychopathic women display antisocial traits, usually they do not result in explicit violence or aggression, but cause negative consequences in relationships with others, such as emotional problems, marital difficulties, violent relationships with men, and poor maternal experience, among other social problems.

Research shows that men and women with pronounced traits of psychopathic personality differ in the way they process negative emotional stimuli (Kimonis, Frick, Fazekas, & Loney, 2006). One study examined the associations between psychopathic traits, aggression, and the processing of negative emotional stimuli in a sample of children from the community (M = 9.30; SD = 2.00) (Kimonis et al., 2006). The results showed that psychopathic traits interacted with aggression in predicting reduced responsiveness to distressing pictorial stimuli (Kimonis et al., 2006). Specifically, the association between psychopathy and the processing of distressing stimuli was found only in children with pronounced traits of aggression (Kimonis et al., 2006). The antisocial and aggressive adolescents who did not display psychopathic traits showed high levels of emotional suffering (Frick, Lilienfeld, Ellis, Loney, & Silverthorn, 1999) and were more reactive to the suffering of others in

social situations (Pardini, Lochman, & Frick, 2003). There are very similar associations between psychopathy, aggression, and emotional deficits for men and women (Kimonis et al., 2006) that support previous studies suggesting that emotional deficits associated with psychopathy can be generalized to men and women (Sutton, Vitale, & Newman, 2002). However, females higher in psychopathy do not present deficits in emotional processing to the same degree as males higher in psychopathy, particularly in relation to recognizing and remembering emotional information and fear reactivity. There also may be differences in how males and females higher in psychopathy process moral information, including how they respond to unfairness (Efferson & Glenn, 2018).

Discussion

The main goal of this review was to present differential characteristics of psychopathic personality between men and women.

Human relationship would be much better if kindness – benign tolerance, empathetic responsivity, and principled proaction (Canter, Youngs, & Yaneva, 2017) – was the most prevalent characteristic of personality. Although, a considerable number of persons present psychopathic traits and it is important to know what expect from them.

Psychopathy is characterized by profound affective deficits, including shallow affect and reduced empathy. Some authors have suggested that the emotional deficits found in psychopathy are related to deficient moral judgments (Blair, 1995). It is possible that this type of affective characteristics and moral deviations are more pronounced in women than the antisocial component of psychopathy.

Individuals with pronounced traits of psychopathic personality, including both men and women, are similar in the main symptoms and fields that are relevant to the construct, but there are important gender differences.

The identification of psychopathy in women seems to be more difficult, as there are differences in the presentation of antisocial behavior, especially when it comes to overt aggression, a feature that is easily visible and more present in psychopathic men. Perhaps because of these gender differences in the antisocial manifestations of psychopathy, there are dissimilarities reported in the literature regarding the prevalence, incidence, course, and age of onset between sexes. In women, the first symptoms tend to appear during the pre-puberty period, whereas in men their emergence is prior to this phase. The prevalence and incidence of psychopathy in women is less than half than that of men. Most studies show a lower prevalence rate of psychopathy in female offenders than in male offenders. The prevalence of psychopathy in female offenders generally ranges from 8% to 23%, while in male offenders it ranges from 15% to 30%.

In conclusion, most studies focus on psychopathic males, but women with pronounced traits of psychopathy are also responsible for various types of infractions and have noxious social impact, which highlights the importance of studying psychopathy in both sexes.

Future studies using neurophysiological paradigms would be an asset to help differentiate, on a neurocognitive level, personality disorders globally marked as antisocial, in order to improve the understanding of their heterogeneous etiologies (Brazil et al., 2012).

New advances in cognitive and affective neuroscience and the discussions about their results show that this is a rapidly developing field. The latest data open exciting perspectives on the importance of certain brain structures and circuits for the regulation

of social behavior and, thus, for the understanding of psychopathy, such as the amygdala.

Research in this area is assumed as an emerging field (Koenigs, Baskin-Sommers, Zeier, & Newman, 2011), but the neurobiological explanations of psychopathy may already contribute to both clinical and forensic settings, providing a better understanding of the biological factors underlying human behavior.

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Dating violence: Women who broke it off permanently

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The authors do not have financial, personal, or professional conflicts of interests. After the local ethics committee approved the study, it was conducted according to APA ethical standards. This research was not funded by any institution.

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Abstract

Dating violence is defined as a dyadic interaction involving the perpetration or threat of a violence, which, to include psychological violence prevents the victim from leaving the abusive relationship. However, some women can break it off and keep off permanently. This research aims to analyze the social representations and perspectives of young women who were victims of dating violence and ended their relationship by their own initiative, permanently. The participants were four women, aged between 22 and 32 years to whom a semi-structured interview "Interview of thoughts and experiences about dating violence" was conducted, whose data were subjected to content analysis. The results show two categories and 11 subcategories. From the analysis of the speeches of these participants you can verify that the victimization experience and permanent rupture may have taught them the tools of problem solving, absent at the time of the dating violence. Conclusions could help us to better understand not only women who break interpersonal violence, but also the understanding of its characteristics that may be enhanced in victims who do not break.

Keywords: abuse, violence against women, victim, coercion, aggression

Dating violence: Women who broke it off permanently

At a time when the issues of violence within dating relationships are more and more debated, the discussion surrounding the private sphere commonly focuses the characteristics of the phenomenon in a generic way. Without denying its indisputable relevance, there is an importance of knowing and characterizing unknown realities, whose first-person reports enable science to get to know the other side(s) of victimization. Therefore, getting to know the women victims who decided, on their own initiative, to end a romantic relationship marked by violence, how they think and position themselves on this phenomenon and its constituent issues, the less studied aspect, offers an insider's view on an issue from the forum of intimacy.

Thus, the goals of this research are to analyze the attitudes, opinions, and beliefs about violence in dating relationships, having as support the Theory of Social Representations of Moscovici (2003). Social representations are a way of interpreting and thinking reality, a form of mental activity, in other words, of explanations, beliefs and ideas developed by individuals and groups in order to give meaning to an event, person or object. Being a result of social interaction, they are shared by a group. In this regard, knowing the social representations of the women victims of dating violence who permanently terminated the relationship becomes relevant, as this study intends to analyze the meaning they give to the violence they suffered and to the permanent rupture of the abusive relationship.

Dating violence is defined as a dyadic interaction involving the perpetration or threat of a violent act, whether psychological, physical or sexual, by at least one of the members of the relationship, not including marital or divorced relationships (Stephenson, Martsolf, & Draucker, 2013).

This type of violence was identified as a social problem in the 1950s, in a study by Kanin (1957), where he concluded that about 30% of women students were victims of threats or forced sexual relations during their dating relationship.

Studies conducted in recent years show that dating violence is a frequent reality (Bonomi et al., 2012; Dixe et al., 2010; Edwards, 2015), emerging, therefore, in the adolescence, the phase of life that presents itself as a fertile stage for creating intimate relationships (Fernández-Fuertes, Orgaz, Fuertes, & Carcedo, 2011; Vagi, Olsen, Basile, & Vivolo-Kantor, 2015).

It is estimated that between 10% and 58% of teenage and young women suffer some form of violence during this stage of life (Reed, Silverman, Raj, Decker, & Miller, 2011; Straus, 2011).

Dating violence is characterized as being increasing, starting slowly and silently, progressing in intensity and consequences (Adams & Williams, 2014), and psychological violence and sexual coercion are the most frequent types (Straus, 2011). Boys tend to use more physical violence than girls and the latter use more psychological violence (Halpern-Meekin, Manning, Giordano, & Longmore, 2013; Straus, 2011). Regardless of gender, men and women are as liable to be victims as they are to be perpetrators, although male violence is often more severe (Hokoda, Del Campo, & Ulloa, 2012; Vagi et al., 2015).

Disputes between intimate partners are strongly associated with *physical violence* which by having a *visible character*, makes it the most obvious type of victimization, ranging from battering with the intention of causing harm to the death (Strauss, 2011). Women are more frequently victims, since one in every five girls has suffered physical abuse at the dating (Vagi et al., 2015).

With values that can range from 6.5% to 59% (Caridade & Machado, 2012), experienced by about 1/3 of female students and 1/10 of male students (Hokoda et al., 2012),

and having been evidenced that for about 1/3 of adolescents worldwide, their first sexual experience is forced (Fernández-Fuertes & Fuertes, 2010), *sexual violence* registered lower prevalence rates when compared to other types of abuse in the context of intimacy.

Finally, as a very prevalent type of violence (Fonseca, Ribeiro, & Leal, 2012) that causes serious problems of emotional and physical nature (Viejo, 2014), *psychological violence*, defined by Bourdieu (1989) as *symbolic violence,* is not able to be directly observed. Despite its hidden nature, by taking place in an intimate context, this type is also silent violence, and omnipresent, by being found in the other types (physical and sexual) (Viejo, 2014).

Knowledge of beliefs about violence in dating relationships plays a decisive role in the understanding of this phenomenon (Caridade & Machado, 2012). Violence in dating relationships takes a sometimes-silent progression and the frequency and aggressiveness that are gradually incorporated into the behaviors of violence, prevent it from being prematurely identified by the victim. The victim, overshadowed by the latent character of this type of violence, perceives the abusive behaviors as normal, blaming herself for the occurrence of conflict situations (Hokoda et al., 2012). The legitimation of violence seems to be related to its normalization, in other words, from the moment the violent behavior occurs, it becomes part of the relationship, and it tends to be seen as normative, thus promoting the continuity of its perpetration (Lima & Schraiber, 2013).

Some victims tend to interpret the violent behaviors as transitory or may not even identify the abuser's behavior as violent (Dixe et al., 2010). Frequently, violent behaviors are disguised as acts of love, which favors the violence being confused by the victims as signs of affection and care or that it may have its genesis in positive feelings (Nascimento & Cordeiro, 2011). Studies show that between 25% and 35% of adolescents interpret violence as an act of love (Fávero, Gonçalves, & Del Campo, 2012).

It can be inferred from the studies presented that there are beliefs legitimating violence within romantic relationships. However, no study has been conducted on these and other beliefs about the phenomenon with people who permanently ended their abusive relationship.

Therefore, this study intends to analyze the opinions, perceptions, and attitudes towards dating violence of women who were victims of dating violence and ended their relationship by their own initiative, definitively. Thus, the objective is to characterize the developmental trajectories of women who terminated violent intimate relationships, their experiences of dating violence and their attitudes, opinions, and beliefs about violence.

Method

Participants

Four women participated in the present study, with ages between 22 and 32 years and the choice of participants obeyed the following inclusion criteria: having been a victim of dating violence; not having been married/cohabitated/lived in a de facto union with the abuser; having been the one to terminate the relationship, over 18 months ago; and having maintained her decision to the present moment. Socio-economic status or level of education were not exclusion criteria.

The participants were all residents of the northern coastal region of Portugal, which, compared to the interior region, is characterized as presenting a high quality of life in every sense. All participants are from middle social class and come from harmonious family environments. Participant 1 (P1) is 26 years old, is a beautician and completed a high school level education. She dated the abuser for four and a half years and terminated the dating relationship five years ago. Currently, she has had a relationship for four years. Participant 2 (P2) is 22 years old and works as a supermarket cashier, having attended the 10th grade,

without completing it. The duration of the dating relationship was two and a half years, having been terminated one and a half years ago. Currently she has been dating for about 6 months. Participant 3 (P3) is 26 years old and works in the commercial area of restaurants and hotels. The dating relationship lasted 8 months and it has been ten years since its termination. She has been dating for about 8 years. Participant 4 (P4) is 32 years old and a psychologist. The dating relationship lasted three years, having been terminated one year and a half ago. Currently, she does not have a boyfriend. All participants initially suffered psychological violence, having evolved, in combination with physical and sexual assault. None of them had another experience of violence in intimacy again. The context that served as a backdrop for the decision to abandon the relationship was the help and support, they received from family and friends, in other words, a safe and stable context was crucial for them to definitively leave the abusive relationship. The moment of termination, executed by a participant, took place without being preceded by an assault. It was motivated by the fear of continued violence.

Materials/Data collection technique

To give voice to the participants who were victimized by their partners and who, by decision, initiated the breakup, qualitative methodology was used, and for such the Interview Protocol for the Assessment of Beliefs and Experiences about Dating Violence were developed. The semi-structured interview is a data collection technique, which assumes that during its application occurs a conversation in the form of a continuous act, between interviewee and interviewer, and it should be directed according to its goals.

This interview protocol is organized in the following areas: personal information; beliefs about violence and its typologies (physical, psychological and sexual violence); meanings attributed to violence; interactions and context of violence; impact on the victim

and reactions; evolution of the violence; gender issues; experience of victimization; factors that triggered the assault; motives behind the assault; termination; self-assessment in comparison to the women who do not terminate the relationship; and, lastly, consistency and inconsistency between attitudes and behaviors.

The interview, semi-structured, allows new questions to be introduced throughout its course, as well as, according to Deslandes, Gomes, and Minayo (2007), the alteration of the order and format of the questions, in an appeal to the rationality of the actor who allows the proximity in vocabulary and its sequence, not being of importance both the order of the questions and the form of questioning.

Procedures

The participants were contacted through the snowball method, considering the difficulty in reaching the victims, as this is an experience lived in silence, especially because it was experienced in a dating context. The researchers, from the story of a known victim from the Institute where the project was conducted, initiated a process of dissemination of requests to participate in the broader project “No! I do not accept!”, which resulted in a final set of only four participants. The small number of collaborations alone allows us many interpretations of this phenomenon, since the other participants (n=18) agreed to cooperate in the ongoing project, but they did not want to relive their story in the methodology proposed for this study. Thus, they will be participants of another broader project.

During the first contact, by telephone, the participants were explained the characteristics and goals of the study, the data collection process, the semi-structured interview, as well as the issues addressed in it. At the moment of the interview, each participant was given the Informed Consent Term, which included the explanation of the purpose and scope of the study and the need for audio recording. The interviews, conducted at the homes of the participants, had the duration of approximately 90 minutes each. The

participants were informed about the goals of the research, the method used, the confidentiality and the possibility of them interrupting the interview at any time. All participants signed the Informed Consent Term. The broader project, of which the study here reported is a part, was approved by the ethics committee of the investigation center of the University that conducted the study. All procedures performed in this study were in accordance with the ethical standards of the institutional and national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

The interviews were analyzed according to the following steps: full transcription of their content by the second author, with registration of all aspects of the speech; decomposition of the content in parts, distribution in categories, description of the result, inferences of results and interpretation of results, performed by three judges (remaining authors), according to the theoretical foundation previously adopted (Deslandes et al., 2007). The interviews were analyzed through Content Analysis. This analysis focuses on how language constructs objects, subjects, subjectivity and the self. Not considered a method, *content analysis* is a technique that possesses a descriptive dimension and an interpretative dimension (Deslandes et al., 2007). This technique is characterized as being "one of the oldest and most used forms of analysis and processing of open and unstructured content" (p.148), relying on coding information in categories, with the purpose of making sense of the material studied.

To ensure the fidelity of the data, the procedures were defined before conducting the interviews, in order to perform the data collection in a standardized manner and in similar conditions, by standardizing the instructions and the semi-structured interview. The same procedures were adopted for data treatment and analysis by the *a priori* definition of almost all categories. To ensure internal validity, the results were being confronted with those of

other studies and with concepts presented in literature, so that the data would be read in the same way by the researchers.

Results

The construction process of the categories occurred *a priori,* in parallel with the formulation of the interview protocol, and *a posteriori,* together with the analysis of the product of the interviews, defining as the cut of this study **Category 1** (Dating violence) and seven Subcategories (Circumstances and context of occurrence, Evolution of the violence, Resolution, Excusing, Behavior of the victim, Appropriate reactions towards violence, Obstacles to the victim's reaction) and **Category 2** (Gender and violence) with four Subcategories (Tendency for violence, Perpetration, Impact of the abuse, Revelation and request for help).

The history of the scientific studies on dating violence is much more recent than the history of its occurrence. The authors who have focused on the topic brought to light data that reveal an alarming frequency (e.g., Straus, 2011), suggesting that dating relationships may be even more violent than violent marital relationships (Straus, 2011).

However, little importance has been given to the characteristics of violent dating relationships whose victims have terminated the relationship permanently and by their own initiative. Therefore, we set out to develop this exploratory study to analyze the representations of these women, whose speeches are presented below, accompanied by the letter P and a number (1, 2, 3, or 4).

The phenomenon of dating violence is appointed by the participants as a result of relationships where there is no love, and aggression arises from the need to exercise power and control. It involves a broad variety of circumstances and contexts of occurrence, as well as people. Desire of possession and jealousy, addictive behaviors and psychopathological

problems are pointed out as being the basis of dating violence *"Someone who thinks they are the owner of the other person"* P1; *"It always starts with jealousy"* P2; *"showing the power they have over the other person"* P3; *"The lack of emotional control of the abuser, (...) jealousy, of friends and family"* P4.

Regarding the perception the interviewees have about the evolution of violence in the dating relationship, all participants indicate its progressive nature in frequency and severity: *"One behavior will always lead to another (...) someone who gives a push or a slap will not stop there (...)"* P1; *"small things (...) there is an insult, and it all starts from there"* P2; *"It gets worse (...) the longer it goes on, the more severe it will certainly be"* P3; *"it is increasing and continuous, once it starts, it does not stop"* P4.

When considering the resolution of the situation of dating violence, the participants are categorical by considering that the relationship does not have a solution, that the only way to resolve the situation is to abandon it, which should occur immediately after the first manifestation of violence: *"In the event of a first assault, the victim should not continue in the relationship, otherwise she will be subject to the violence"* P4, which should result in a permanent leave, with no room for any kind of relationship, not even friendship: *"the relationship cannot be resolved, it has to be ended"* P1; *"getting away from it, filing a complaint (...) it is the only way to solve it"* P2; *"It is necessary for the victim to revolt at some point (...) to get away healthily, to put an end to it"* P3*; "you cannot remain friends, there has to be a permanent cut with the person"* P4.

Violence within dating relationships is seen as incorrect, whatever its manifestations and, therefore, there is no room for excusing the act. Since it is a demonstration of disrespect and allows the continuity and aggravation of the violence, although it can be contextualized "*in context one can understand the behavior"* P4*,* it is unforgivable, "*things can always be resolved through dialogue"* P1; *"but it is not excusable"* P4. By excusing it, the abuser may

get the idea that he has permission to continue the abuse "*this type of attitude will function as a snowball (...) if the abuser is forgiven, he feels like he has permission to do it"* P1. It may also represent a weakness towards the abuser, which, on the one hand, may be explained by the ambiguous feelings the victim has for the abuser, since he may make her feel either very bad or very good "*when one happens to forgive, it is because the same person who makes us feel very bad, can also make us feel very good"* P2.

Regarding the behavior of the victim of dating violence, the participants consider that, in general, there is a tendency for the victim to hide her displeasure *"Certainly she keeps quiet about everything, she keeps everything to herself"* P2; *"I do not doubt that there are people so insecure that, in some way, they do not want to lose the little they have, they hide their displeasure"* P3, and resign themselves *"Initially the victim tries to escape in some way, tries to calm the other person down (...) when she sees that she is unable to do it, she tries to protect herself and hide"* P4, or find reasons to excuse the abuser to continue at his side *"they find a reason to excuse the abuser because they want to be by his side"* P1, as well as trying to call someone, or even run away "*Having no escape, they can ask for help, they can go to the phone, call someone"* P4.

The subcategory appropriate reactions towards dating violence goes in the direction that the relationship should be terminated and that the decision to put an end to it lies with the victim *"People do not understand that they are entering a downward spiral and if they continue in that direction it will only get worse"* P3; *"Not letting it happen more than once and ending it there (...) whether it is an insult, whatever it is, she should not allow it, because letting it slide is the worst thing"* P2, permanently distancing herself from the abuser "*get out of the relationship and push the person away definitively (...), give up, completely forget the person"* P1; *"change cellphone numbers, really cut him off, radical"* P4, and given the insoluble nature of these situations, the victim should resort to third parties: "*tell your friends,*

family, people that can help and give you good advice" P1; "*ask the people closest to you for help (...) those who are reliable"* P2; *"report it to the police"* P3, since the victim must understand that they are in a situation of no return. However, and despite the victims' speeches about the phenomenon of dating violence being almost always coherent with their experience, in some points the representations of the victims on how one should react is contradictory to what they were able to do. This contradiction may have several reasons in its genesis. It is important to reflect on the fact that society as well as culture and education convey, throughout people's lives, the norms according to which one is *supposed* to act and be. The family structure as a privileged agent of socialization instills in the individual the notion of company, of belonging, of bonding, and for women this pressure is even greater (Simon & Gagnon, 1986). It was shared by the interviewees that the fear of loneliness is a reason they were willing to endure the violence and delay the break-up, feelings that are revealed in the following subcategories.

In the subcategory obstacles to the reaction of the victim, which can prevent a adequate reaction towards the violence, and because all participants consider that the victim should end the relationship by their own initiative or with the help of third parties, it is given relevance, in the present subcategory, in all speeches on the importance of social support. They believe that the victims with less support will have the most difficulties *"the most insecure and less supported people tend to endure this kind of relationship because they believe the abuser is also a form of company for them"* P1; *"fearing that the person with whom they share the situation may take the other person's side for some reason"* P3; *"When she does not have a support network, when she is isolated"* P4. They also indicate the feelings and affections they nurture for the abuser as an obstacle to the decision to terminate the relationship "*they like the abuser, they think they will not like anyone else"* P1; *"The feelings for the person"* P4, guilt "*guilty of the attitudes of the person towards her"* P1, the

fear of loneliness *"they will not be able to find anyone else"* P1, the shame of family and friends knowing the situation "*shame of friends, family knowing"* P3, and self-esteem is affected *"Destroyed self-esteem"* P1; *"When this relationship destroyed their self-esteem"* P4.

Inserted in the category Gender and Violence, the subcategory tendency for violence is attributed to the male sex *"because they have greater physical strength, therefore, they can dominate a woman more easily"* P1*; "What is shown more often to the public are the situations where the man was the abuser and the woman the victim"* P3, while recognizing that violence can also be perpetrated by women *"Although you already see many cases of violent women, it is more the men"* P2, *"it is not typical of only men, not typical of only women"* P4.

Following the above, and although studies reveal that boys experience more physical violence in the context of dating violence (Antunes & Machado, 2012), in regards to the type of perpetration, they believe there are differences, but they point out that women are the ones who exercise more psychological violence when the man is the victim *"she does more psychological violence than the man"* P1, whereas men are considered more prone to physical aggression *"Physically, it's the men"* P1*,* with one participant considering that this is due to the male physique: *"because they naturally have a different physical capacity"* P3.

Sexual violence is a behavior associated with male perpetration (Fávero et al., 2012; Straus, 2011), and although they share this position, the participants of this study bring to light a curiosity by defending that women can be abusive at this level by using sexuality as a means to an end, as can be read in the voice of participant P1: *"Maybe men will eventually be the biggest perpetrators of sexual violence whereas women might use sexuality for certain purposes, and thus are abusing the other person".*

Several studies support the thesis that women tend to be the victims and men the abusers (e.g., Cantera & Blanch, 2010; Dixe et al., 2010; Langhinrichsen, 2010; Langhinrichsen, Misra, & Rohling, 2012; Morales, Alonso, & López, 2011). However, recent research on violence in intimacy have revealed that dating violence is characterized by mutual aggression, thus demonstrating that both men and women can commit physical and psychological abuse (Antunes & Machado, 2012; Caridade & Machado, 2012; Testa, Hoffman, & Leonard, 2011).

In fact, the thesis of bidirectionality of violence in intimate relationships has not been solved. Although many studies defend that victimization is associated with women and perpetration with men (Cantera & Blanch, 2010; Dixe et al., 2010; Langhinrichsen et al., 2012; Morales et al., 2011), many others reveal that violence in this context is characterized by mutual aggression, demonstrating that women can be physically and psychologically as aggressive as men (Antunes & Machado, 2012; Caridade & Machado, 2012; Testa et al., 2011). Nonetheless, other studies show that these are reaction behaviors and not action behaviors (Flynn & Graham, 2010; Kelley, Edwards, Dardis, & Gidycz, 2014).

As for the impact of the abuse, although the participants believe there is no difference between genders *"the man will suffer as much as the woman"* P1, *"it is always terrible to be assaulted by someone we like"* P2, they understand that for some men the impact may be greater *"Socially everyone feels sorry for a woman who has been assaulted, but they will think that a man who has been assaulted by a woman is a fool"* P1.

These differences are highlighted by all participants when it comes to the revelation and request for help. Shame and humiliation are seen as impediments for men *"There are differences (...) men have much more difficulty in asking for help and revealing, they will try to hide it as much as they can (...) they are more ashamed to tell their family and friends"* P1.

Discussion

The goal of this work is to analyze social representations, the construction of meaning about experiences, of women who were victims of dating violence and, by their own initiative, permanently severed their abusive relationship.

The participants' life experience generally reflects in acquired knowledge, which may explain the difference between what happened and what they would have done today, if they were in a similar situation. Although the reaction may have been appropriate when they were experiencing violence, at the moment of the interview the participants were aware of alternatives to situations of violence. The time elapsed since the break-up and any changes that derive from the decision to terminate the relationship, may have offered an opportunity to learn problem-solving tools, absent at the time of the violent occurrences. It was also demonstrated that a reassuring and protective social and family context was a propelling element for the decision to terminate their violent dating relationship, for breaking their silence.

We share the conclusions of Fernández-Fuertes and Fuertes (2010) that dating violence must continue to occupy the center of attention of the scientific community, because the first affective relationships may constitute affective relational models for adult life. Nevertheless, it can also mean a serious risk to the physical and psychological well-being of those involved, also affecting their social relationships with friends, which are extremely important for youth balance and development.

Although a limitation of this study is precisely not having been able to achieve theoretical saturation due to lack of access to victims who fulfilled the inclusion criteria and accepted to participate, the availability with which the victims were ready to share their experience facilitated the data collection process. It should be noted that the discourse on

these experiences brought details of high value and relevance, which, with such a vast discursive estate, made it difficult to choose the most representative lines.

In the future, it would be important to conduct a broader study on victimized women who permanently terminated their relationships, analyzing the characteristics of the victims and the dynamics inherent to the decision.

Such data and those collected in the present study will contribute to the development of actions that promote personal skills and family and social support to aid the termination of the relationship in cases of dating violence.

This study also suggests the need to reinforce primary intervention in the population, in order to prevent the adoption of aggressive behavior regarding manifestations that should be of positive affect. But no less important, and noteworthy from the data of this study, is to contribute to the early development of another outlook on how to be in relationships, on bonds that, erroneously interpreted by the victims as loving, are maintained at any cost. In the same sense, to develop skills to be able to read the signs of isolation attempts imposed by the abuser, because one of the meanings most shared by the participants was the importance given to family and social support for the decision and maintenance of the separation.

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