CESPU
INSTITUTO UNIVERSITÁRIO
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Efeitos dermatológicos resultantes do tratamento oncológico-implicações na qualidade de vida

Dissertação de Mestrado em Psicologia da Saúde e Neuropsicologia
Orientação: Professora Doutora Vera Margarida Seabra de Almeida
Coorientação: Professora Doutora Ana Isabel Pacheco Teixeira

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Dissertação apresentada no Instituto Universitário de Ciências da Saúde para obtenção do grau de Mestre em Psicologia da Saúde e Neuropsicologia, sob orientação da Professora Doutora Vera Margarida Seabra de Almeida e coorientação da Professora Doutora Ana Isabel Pacheco Teixeira

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Marta Silva Coelho, estudante do Mestrado em Psicologia da Saúde e Neuropsicologia, do Instituto Universitário de Ciências da Saúde, declara ter atuado com absoluta integridade na elaboração desta Dissertação de Mestrado.

Confirmo que em todo o trabalho conducente à sua elaboração não recorri a qualquer forma de falsificação de resultados ou prática de plágio (ato pelo qual um indivíduo, mesmo por omissão, assume a autoria do trabalho intelectual pertencente a outrem, na sua totalidade ou em partes dele).

Mais declaro, que todas as frases que retirei de trabalhos anteriores pertencentes a outros autores foram referenciadas ou redigidas com novas palavras, tendo neste caso colocado a citação da fonte bibliográfica.

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Introdução

O cancro é uma das principais causas de mortalidade e morbilidade em todo o mundo, assumindo-se como a segunda principal causa de morte em Portugal (Bray et al., 2018; Retrato da Saúde 2018 – SNS, n.d.). Estima-se que em Portugal, a sua incidência aumenta em média 3% ao ano (Nogueira, 2018), dando origem a um grande impacto ao nível dos diferentes domínios da vida de um indivíduo. O tratamento oncológico assume-se como uma opção benéfica e fiável para esta doença, porém apresenta diversas consequências negativas como é o caso do surgimento de efeitos secundários dermatológicos (Anwar et al., 2018) que se traduzem em diversas repercussões sob o ponto de vista psicossocial (Charalambous & Charalambous, 2016; Coleman et al., 2011). Assim, é de salientar a importância do papel da Psicologia neste contexto, a fim de suprimir ou atenuar o impacto psicológico causado por estes efeitos.

A presente dissertação encontra-se inserida num projeto de investigação dirigido ao estudo do impacto psicossocial dos efeitos dermatológicos resultantes do tratamento oncológico.

Em primeiro lugar foi realizada uma revisão da literatura em inglês para submissão à revista *"Psycho-Oncology"* intitulada de *"Psychosocial Implications: Dermatological side-effects of cancer treatment- Literature Review"* (Anexo 4), que visa sintetizar o impacto psicossocial resultante das alterações dermatológicas causadas pelo tratamento para a doença oncológica.

Em paralelo, é apresentado um estudo empírico acerca do efeito psicológico das alterações dermatológicas, provocadas pelo tratamento anticancerígeno, que se intitula de "Efeitos dermatológicos resultantes do tratamento oncológico- implicações na qualidade de vida", que procura compreender os fatores que predizem a qualidade de vida (QV) em pacientes acometidos por afetações cutâneas, através da perceção dos mesmos.

Em suma, tomados em conjunto, ambos os trabalhos, procuram predizer o impacto psicossocial provocado pelas alterações dermatológicas geradas pelo tratamento anticancerígeno, centrando-se no construto da QV.

Efeitos dermatológicos resultantes do tratamento oncológico- implicações na qualidade de vida

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Resumo

Introdução: O cancro é uma das doenças mais comuns a nível mundial e consequentemente, os efeitos dermatológicos resultantes do tratamento anticancerígeno, provocam um grande impacto na qualidade de vida do paciente, afetando a sua saúde física e psicológica. Este estudo visa compreender quais os fatores preditores da qualidade de vida numa amostra de indivíduos que apresentaram problemas dermatológicos após o tratamento oncológico.

Materiais e Métodos: A uma amostra de 42 voluntários com diagnóstico de cancro e presença de alterações dermatológicas no pós-tratamento, que participaram no estudo, foi aplicada uma ficha sociodemográfica e clínica e os instrumentos *Dermatology Life Quality Index,* o *Acceptance and Action Questionnaire,* a *Self-Compassion Scale* e a *Type-D Scale*. Foram realizadas estatísticas descritivas para todos os instrumentos assim como regressões lineares múltiplas com o objetivo de perceber as variáveis preditoras da qualidade de vida.

Resultados: Os resultados demonstram a ausência de associações entre a qualidade de vida e alterações dermatológicas no pós-tratamento. As variáveis de autocompaixão (sobre-idenficação, isolamento e *mindfulness*) e a inibição social predizem 16,7% da qualidade de vida.

Discussão e Conclusão: Apesar de a literatura nesta temática ser escassa, neste estudo foram encontradas variáveis que influenciam a qualidade de vida. Neste sentido, e tendo em conta a importância da presente investigação, torna-se fulcral reforçar a realização de futuras investigações no âmbito da psicodermatologia que tenham por base o contexto oncológico.

Palavras-chave: Autocompaixão; Cancro; Personalidade Tipo D; Problemas Dermatológicos; Qualidade de Vida; Tratamento Oncológico.

Abstract

Introduction: Cancer is one of the most common diseases worldwide and, consequently, the dermatological effects resulting from anticancer treatment have a major impact on the patient's quality of life, affecting his physical and psychological health. This study aims to understand which factors are predictors of quality of life in a sample of individuals who presented dermatological problems after cancer treatment.

Materials and Methods: To a sample of 42 volunteers diagnosed with cancer and with post-treatment dermatological changes, who participated in the study, a sociodemographic and clinical form and the Dermatology Life Quality Index, the Acceptance and Action Questionnaire, the Self-Compassion Scale and the Type-D Scale instruments were applied. Descriptive statistics were performed for all instruments, as well as multiple linear regressions in order to understand the predictive variables of quality of life.

Results: The results demonstrate the absence of associations between quality of life and dermatological changes in the post-treatment. The variables of self-compassion (over-identification, isolation and mindfulness) and social inhibition predict 16,7% of quality of life.

Discussion and Conclusion: Although the literature on this topic is scarce, this study found variables that influence quality of life. In this sense, and taking into account the importance of the present investigation, it becomes essential to reinforce the realization of future investigations in the scope of psychodermatology based on the oncological context.

Keywords: Cancer; Dermatological Problems; Oncological Treatment; Quality of Life; Self-Compassion; Type D Personality;

Introdução

De acordo com o Dicionário Médico Conciso de Oxford, (*Oxford Concise Medical Dictionary),* o cancro diz respeito a uma neoplasia maligna, incluindo o carcinoma e sarcoma, que surge da divisão anormal e descontrolada de células e que invade e destrói o tecido circundante (Martin, 2015), ou seja, diz respeito a uma condição caracterizada por um desalinhamento fundamental de todo o meio celular (Nurmik et al., 2020).

A incidência e a mortalidade provocadas pela doença oncológica estão a crescer rapidamente em todo o mundo (Bray et al., 2018), sendo que, no ano de 2018, foram registados cerca de 18,1 milhões de casos de cancro, com 9,6 milhões a resultar em morte (Ferlay et al., 2019). De forma particular, na Europa, no ano de 2018, foram registados cerca de 3,91 milhões de casos de cancro (23,4%), perfazendo um total de 1,93 milhões de mortes provocadas por esta doença (20,3%) (Bray et al., 2018; Ferlay et al., 2018). Quando se analisa a situação em Portugal, verifica-se que as doenças oncológicas têm tido um aumento muito significativo entre a população, assumindo-se como a segunda maior causa de morte no país (Retrato da Saúde 2018 – SNS, n.d.), assistindo-se nos últimos anos a um aumento regular da incidência da doença oncológica, a uma taxa constante de aproximadamente 3% ao ano (Nogueira, 2018). Só no ano de 2018, foram registadas 27.849 (24,6%) mortes causadas por esta patologia (PORDATA, n.d.).

As modalidades mais comuns de tratamento para o cancro são a cirurgia, a quimioterapia, a radioterapia, a imunoterapia e/ou a terapia anti hormonal, sendo imperativo considerar a interação patofisológica simultânea destes vários tipos de tratamento (Hojman et al., 2018).

Um diagnóstico de cancro, geralmente, afeta de forma substancial o estado físico, psicológico e emocional do paciente, dado que a maioria dos indivíduos com esta doença apresenta declínios ao nível da energia, diminuição da prática de atividades, reduzida participação sociocultural e ainda complicações sob o ponto de vista dos relacionamentos interpessoais. Para além disso, a progressão desta doença e os efeitos secundários inerentes ao tratamento agressivo do cancro, geralmente, conduzem a náuseas, vómitos, problemas de concentração, dor debilitante, fadiga, fraqueza, rigidez articular, depressão, instabilidade emocional, mobilidade limitada, mau estado nutricional, problemas intestinais, dificuldades na deglutição, surgimento de linfedema e ainda disfunções ao nível dermatológico (Anwar et al., 2018; Sohl et al., 2009).

Nesta fase, importa referir que a pele é um dos principais alvos de agressão tóxica, devido a um amplo espectro de agentes físicos (radiação UV) e químicos (xenobióticos), capazes de alterar a sua estrutura e função (Ndiaye et al., 2011). Neste sentido, o interesse crescente pelos eventos dermatológicos associados às terapias antineoplásicas no decorrer dos últimos anos, lançou uma nova luz acerca da toxicidade cutânea no âmbito da oncologia (Charles et al., 2016).

As terapias e as imunoterapias orientadas provocam uma ampla gama de eventos dermatológicos adversos (EDA) que resultam das vias de sinalização comuns envolvidas em comportamentos malignos e funções homeostáticas normais da epiderme e da derme (Lacouture & Sibaud, 2018). Neste sentido, a toxicidade aguda na pele assume-se como um efeito secundário comum do tratamento do cancro, geralmente, observada em cerca de 70% a 100% dos pacientes submetidos a tratamento em estágio inicial (Schnur et al., 2011a; Schnur, et al., 2011b), sendo que estes sintomas surgem entre a primeira e a quarta semana de tratamento (McQuestion, 2011). Sendo assim, podem aparecer irritações da pele, rubor, hiperpigmentação, alterações nas unhas, fotossensibilidade, prurido, erupção papulopustular, síndrome mão-pé e mucosite como principais reações causadas pelo tratamento oncológico (Ra et al., 2012). Para além disso, podem também ser reportados casos de alopecia, tricomegalia das pestanas e aumento de pelo na cara, nas narinas e nas sobrancelhas (Lacouture & Lai, 2006). Importa referir que estes efeitos secundários e, de acordo com a incidência e apresentação clínica, podem variar conforme a frequência da administração, a dose, dose cumulativa, regime de pré-medicação, regime quimioterapêutico (como é o caso de associações) ou ainda a presença subjacente do cancro (Poi et al., 2013; Susnjar et al., 2008). Paralelamente, características como a idade, a época do ano e outros tratamentos, a área irradiada, o estado familiar ou de relacionamento e tabagismo, afetam a experiência de toxicidade cutânea (Hofsø et al., 2013; Schnur et al., 2011a; Schnur et al., 2011b). Estes eventos podem afetar a pele (e seus anexos) ou mucosas e podem ser leves a moderados (grau 1/2) (Sibaud et al., 2016). Por sua vez, grande parte dos efeitos secundários dermatológicos podem induzir coceira, dor, desconforto físico/cosmético e também comprometimento da mobilidade, que, adicionado à toxicidade do tratamento clássico, pode afetar o paciente a nível psicológico e sobretudo comprometer a sua adesão à terapêutica (Ra et al., 2012; Saltz et al., 2004). Adicionalmente, estudos qualitativos anteriores relataram que as toxicidades cutâneas induzidas pelo tratamento perturbam os pacientes na sua vida diária, afetando negativamente a sua autoimagem, envolvimento social e relacionamentos íntimos, para além de causar um desconforto físico real (Charalambous & Charalambous, 2016; Coleman et al., 2011), levando a que os pacientes percam confiança e sintam vergonha devido à imagem alterada (Fobair et al., 2006). Sendo assim, é importante ter em atenção as toxicidades dermatológicas, tendo em conta a sua elevada ocorrência e associação a vários efeitos psicológicos negativos como a depressão, a ansiedade e a vulnerabilidade (Haley et al., 2011; Zabora et al., 2001). É de salientar, no entanto, que a toxicidade cutânea raramente é fatal, ainda que possa produzir um impacto profundo na qualidade de vida (QV) afetando o bem-estar emocional, psicossocial e físico dos pacientes (Joshi et al., 2010). Assim, estas toxicidades diminuem de forma profunda a QV dos pacientes, o que por sua vez, afeta a adesão ao tratamento, comprometendo o seu sucesso e, por consequência, afeta a sobrevivência dos pacientes sem progressão (Lacouture & Sibaud, 2018). Estas toxicidades são dignas de nota, uma vez que apresentam associação negativa com a QV (Ra et al., 2012).

De acordo com a Organização Mundial de Saúde, a QV é definida como *"a perceção do indivíduo acerca da sua posição na vida, no contexto de cultura e dos sistemas de valores em que vive e em relação aos seus objetivos, expectativas, padrões e preocupações"* (GROUP, 1995), assumindo-se como um construto multidimensional que consiste em pelo menos três domínios amplos: físico, mental e social (Johnson et al., 2010). Por sua vez, a qualidade de vida relacionada com a saúde (QVRS), abrange uma ampla gama de experiências humanas, incluindo funções e respostas subjetivas à doença (Katsi et al., 2017), ou seja, refere-se a avaliações multidimensionais que englobam os domínios físico, emocional (ou psicológico) e social, mas também pode incluir outros domínios como é o caso do funcionamento cognitivo, sexualidade e espiritualidade (Osoba, 2011). Este construto representa um indicador chave significativo de como uma condição afeta a vida do paciente (Pagels et al., 2012), assumindo-se como um conceito importante no que toca à tomada de decisões acerca da prevenção e tratamento de doenças (Chai et al., 2010). A QVRS diz respeito a um resultado importante no tratamento do cancro (Halverson et al., 2015), assumindo-se como um critério de vital importância para avaliar o benefício geral de novos tratamentos (Strosberg et al., 2018).

Tendo por base o que foi dito anteriormente, importa fazer ainda referência ao ramo da psicodermatologia que se assume como um campo interdisciplinar da dermatologia que envolve a interação entre a pele, mente e cérebro (psiquiatria, psicologia e dermatologia) (Gkini et al., 2020; Handjani et al., 2020), ou seja, envolve o estudo de doenças que afetam a pele e a psique, o efeito do *stress* na pele, assim como o efeito das doenças de pele na psique (Shenoi & Prabhu, 2018). Contudo e, apesar da alta relevância das questões psicodermatológicas na prática diária, estas não são bem reconhecidas/compreendidas pela maioria dos médicos (Leon et al., 2013).

Por sua vez, e dada a sua relevância neste contexto, é importante definir os conceitos de autocompaixão e inibição social. Sendo assim, a autocompaixão envolve ser atencioso e compassivo em relação a si mesmo face a situações de dificuldade e inadequação, englobando um processo de reconhecimento de que se é imperfeito, que se cometem erros e que na vida se encontram dificuldades que fazem parte da experiência humana (Neff et al., 2007). Esta variável tem vindo a ser abordada em diferentes condições de pele, como é exemplo a acne, a psoríase e o eczema(Almeida et al., 2020; Sherman et al., 2019) assim como em casos de vitiligo (Kharatzadeh et al., 2018). Por outro lado, a inibição social, assumindo-se como uma vertente da Personalidade Tipo D, diz respeito à tendência para inibir a expressão de emoções/comportamentos nas interações sociais de modo a evitar a desaprovação por parte dos outros (Denollet, 2005) e tem vindo a ser estudada em doenças de pele, como é o caso da acne, psoríase e da hidradenite supurativa (Almeida et al., 2017; Molina-Leyva et al., 2015; Ramos-Alejos-Pita et al., 2020; Sereflican et al., 2019).

De uma forma geral, uma investigação recente demonstrou que as toxicidades da pele foram classificadas como os eventos adversos de maior impacto no tratamento do cancro, em conjunto com as náuseas/vómitos, maiores do que fadiga e queda de cabelo (Tischer et al., 2018). Assim, torna-se importante descrever com precisão os sintomas cutâneos e identificar os tratamentos dermatológicos mais adequados, a fim de garantir o bem-estar físico e psicológico dos pacientes assim como proporcionar condições ótimas de tratamento para o cancro de modo a limitar as reduções da dose e a descontinuação do tratamento (Bouché et al., 2019). Para além disso, é importante incentivar os pacientes a desempenhar comportamentos proativos de proteção da pele de forma a minimizar as toxicidades dermatológicas e maximizar a QV (Ra et al., 2012).

Posto isto, há que considerar que estas lesões na pele podem tornar-se algo desconfortável e desfigurante, perturbar a maneira como as pessoas se veem e como percecionam o seu futuro. Assim, os efeitos secundários dermatológicos, por ação do tratamento oncológico, devem ser considerados como componentes importantes e aspetos relevantes de uma avaliação clínica abrangente. Deste modo, é necessária uma visão integrada terapêutica, que vise o acompanhamento do doente por uma equipa multidisciplinar, devendo o tratamento do paciente englobar componentes físicos, psicológicos e sociais.

Objetivos

Este estudo teve como objetivo avaliar o impacto psicossocial dos efeitos secundários dermatológicos resultantes do tratamento oncológico, particularmente na QV. Os resultados obtidos poderão ser utilizados para orientar os profissionais de saúde, particularmente os psicólogos, nas estratégias terapêuticas a adotar numa visão terapêutica integrada de tratamento do doente oncológico.

Metodologia

Desenho do Estudo

Nesta investigação foi levado a cabo um estudo exploratório e transversal baseado na percepção que os pacientes oncológicos atribuem aos efeitos secundários dermatológicos resultantes do tratamento anticancerígeno, sendo que para tal foram administrados questionários que permitem avaliar a QV, a autocompaixão e a Personalidade tipo D.

Participantes

Seleção da Amostra

A seleção da amostra teve como objetivo obter uma representação de pacientes com doença oncológica, tendo em conta, a sua perceção acerca dos efeitos provocados pelas reações dermatológicas geradas pelo tratamento anticancerígeno, ao nível da QV.

Os participantes foram selecionados através da divulgação do estudo via *online* que foi desenvolvido na plataforma *"Google Docs"*. Simultaneamente, foram abordadas cerca de 20 instituições de pacientes com doença oncológica a fim de colaborarem neste estudo.

Foram definidos como critérios de inclusão, indivíduos com diagnóstico de cancro e que apresentaram problemas dermatológicos no pós-tratamento, com mais de 18 anos e escolarizados, para que dessa forma fossem capazes de compreender e consequentemente responder às questões colocadas.

Caracterização da Amostra

A amostra do presente estudo é composta por 42 indivíduos com cancro e que tiveram problemas dermatológicos após os tratamentos oncológicos, sendo a esmagadora maioria do sexo feminino. A média de idades é de aproximadamente 43 anos. A maior parte da amostra não se encontra numa relação (solteiros e divorciados). Relativamente às habilitações literárias, a mesma proporção possui o ensino secundário ou tem uma licenciatura (Tabela 1).

São encontradas pessoas das mais distintas regiões do país, englobando pessoas do norte, centro e sul, sendo que a maior proporção vive a sul. No que toca à situação profissional, a maior parte da amostra encontra-se empregada, com pessoas provenientes de profissões diferentes, sendo que da mesma profissão apenas existem 5 professores, 3 assistentes sociais, 3 advogados, 3 funcionários públicos e 2 operadores de supermercado (Tabela 1).

Maioritariamente, os participantes têm cancro da mama e realizaram quimioterapia. Nesta amostra, em média, estas pessoas têm um diagnóstico há cerca de 44 meses, tendo iniciado os tratamentos em média há cerca de 34 meses, sendo que a evidência dos efeitos secundários na pele se faz sentir em média há cerca de 24 meses (Tabela 2).

No que toca à existência de uma doença de pele prévia ao tratamento, registaram-se casos de acne, rosácea, dermatite numular, dermatite seborreica, pele atópica e alergia ao sol. Toda a amostra refere alterações na pele no pós-tratamento mesmo não existindo uma doença de pele prévia (pele: dermatite, comichão/prurido, dores, erupção cutânea/borbulhas, xerose/pele seca, pele dura ou fina, pele atópica, descamação, estrias, nevo displásico e sensação de queimadura; cabelo: alopecia, descoloração e lanugo; unhas: alteração da cor das unhas). Relativamente às partes do corpo mais afetadas, as pessoas relataram várias partes do corpo, cabeça e membros como os locais mais lesados. Por último, a maioria das pessoas refere que tem cuidados com a pele, uma vez por dia, sobretudo hidratação (Tabela 2).

Instrumentos

Neste estudo, foi utilizada uma ficha sociodemográfica (Anexo 1) e uma ficha clínica (Anexo 2). Foram também utilizados como instrumentos de avaliação o *Dermatology Life Quality Index* (DLQI), o *Acceptance and Action Questionnaire* (AAQ-II), a *Self-Compassion Scale* (SCS) e a *Type-D Scale* (DS14).

Dermatology Life Quality Index (DLQI)

O DLQI (Finlay & Khan, 1994) é um instrumento composto por 10 questões, que visa avaliar a perceção dos pacientes acerca do impacto das doenças de pele nos diferentes aspetos da sua QV, referentes à última semana (Basra et al., 2008).

Os itens do DLQI englobam aspetos como sintomas e sentimentos (questões 1 e 2), atividades diárias (questões 3 e 4), lazer (questões 5 e 6), trabalho ou escola (questão 7), relações pessoais (questões 8 e 9) e tratamento (questão 10) (Finlay & Khan, 1994). Cada item é pontuado numa escala *Likert* de 4 pontos, em que: 0 = "Nada/não relevante"; 1= "Um pouco"; 2 = "Muito"; 3 = "Bastante"(Basra et al., 2008; Finlay & Khan, 1994). Nas perguntas 3, 4, 5, 6, 7, 8, 9 e 10, existe mais uma opção de resposta: 5= "Não aplicável". Adicionalmente, na pergunta 7, para além do referido acima, existem outras duas opções de resposta denominadas de "Sim" e "Não".

As pontuações do DLQI são interpretadas a partir da soma dos índices dos 10 itens avaliados, podendo variar entre 0 (nenhum impacto na QVRS) a 30 (impacto máximo na QVRS) (Finlay & Khan, 1994; Hongbo et al., 2005; Lewis & Finlay, 2004). Assim, pontuações mais altas indicam maior comprometimento da QV (Basra et al., 2008; Finlay & Khan, 1994).

Na sua versão original, este instrumento apresenta uma consistência interna muito boa[1] (α =.99) (Finlay & Khan, 1994). Contudo, o DLQI não apresenta uma versão para a população portuguesa, mas apenas para a população brasileira, tendo sido traduzida e adaptada por Ferraz et al., (2006) apresentando um nível muito bom de consistência interna (α =.96).

Acceptance and Action Questionnaire (AAQ-II)

O AAQ-II (Bond et al., 2011) é um instrumento com 10 itens que visa avaliar o evitamento experiencial e a inflexibilidade psicológica (Bond et al., 2011).

As respostas são medidas numa escala *Likert* de 7 pontos entre 1 = "Nunca verdadeiro" e 7 = "Sempre verdadeiro" (Bond et al., 2011), sendo que a pontuação total varia de 10 a 70 e é calculada através do somatório das pontuações dos itens individuais (Fledderus et al., 2012); pontuações mais altas indicam uma maior inflexibilidade

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[1] Todos os níveis de qualidade dos alfas de *Cronbach* em todos os instrumentos foram determinados segundo Pestana & Gageiro (2008).

psicológica (Bond et al., 2011).

Na sua versão original, este instrumento apresenta um nível bom de consistência interna (α =.88) (Bond et al., 2011). A versão portuguesa foi traduzida e adaptada por Pinto-Gouveia et al., (2012), apresentando um nível muito bom de consistência interna (α =.90).

Self-Compassion Scale (SCS)

A SCS (Neff, 2003) visa avaliar as emoções, pensamentos e comportamentos associados aos vários componentes da autocompaixão (Neff, 2016). Este instrumento é composto por 26 itens que incluem seis subescalas: autobondade, autojulgamento, condição humana, isolamento, *mindfulness* e sobre-identificação, sendo cada item cotado numa escala de tipo *Likert* de 5 pontos, entre 1 = "Quase nunca" e 5 = "Quase sempre"(Castilho et al., 2015; Neff, 2003).

A pontuação total é obtida através do somatório da pontuação de todos os itens, sendo que as pontuações médias obtidas nas seis subescalas podem ser calculadas (resultados parciais), após a codificação reversa dos itens negativos, de modo a criar uma pontuação geral de autocompaixão. Assim sendo, cotações mais altas significam um nível mais elevado de autocompaixão (Castilho et al., 2015).

Na sua versão original, este instrumento apresenta um nível muito bom de consistência interna (α =.92) e não evidencia correlações significativas com a medida de desejabilidade social (Neff, 2003). A versão portuguesa foi traduzida e validada por Castilho et al., (2015) apresentando o mesmo valor de consistência interna (α=.92).

Type-D Scale (DS14)

O DS14 (Denollet, 2005) é derivado da sua antecessora DS16 (Denollet, 1998) e visa avaliar duas dimensões: a afetividade negativa e a inibição social de uma forma confiável e padronizada (Denollet, 2005).

Assim sendo, os indivíduos classificam a sua personalidade através de uma escala tipo *Likert* de 5 pontos, que varia entre 0 = "Falso" e 4 = "Verdadeiro". As subescalas de afetividade negativa e inibição social podem ser pontuadas como variáveis contínuas, num intervalo de 0-28, para avaliar os traços de personalidade cada um da sua maneira.

Tendo como referência a avaliação da personalidade do tipo D, 10 é o ponto de corte para ambas as subescalas (Denollet, 2005).

Na sua versão original, este instrumento apresenta um nível bom de consistência interna para ambas as subescalas (afetividade negativa: α=.88; inibição social α=.86) (Denollet, 2005). A versão portuguesa foi traduzida e validada por Rocha (2015) apresentando uma consistência interna de (α=.51) para a subescala de afetividade negativa e uma consistência interna de (α=.77) para a subescala de inibição social.

Procedimentos

Recolha dos Dados

Os participantes foram selecionados de acordo com os critérios de inclusão. A recolha de dados e administração dos instrumentos teve início em março de 2020 e finalização em novembro de 2020, através de um questionário *online* divulgado por toda a equipa de investigação. No sentido de respeitar os princípios éticos subjacentes a este estudo, bem como a confidencialidade, foi proposto e solicitado a cada um dos participantes desta amostra, o seu consentimento.

Análise Estatística

Após a recolha dos dados, recorreu-se ao programa informático *Statistical Package for the Social Sciences* ® (SPSS ®) versão 27.0. para análise e tratamento dos mesmos. Numa primeira fase, procedeu-se a uma análise descritiva das variáveis em questão, por meio da elaboração de tabelas de frequência e percentagem, média, desvio padrão e valores de mínimo e máximo.

Tendo em conta o valor da assimetria e da curtose da amostra, assim como o facto de a amostra não seguir uma distribuição normal e ser reduzida, fez com que fossem utilizados apenas testes paramétricos. Sendo assim, procedeu-se à utilização de regressões lineares múltiplas a fim de predizer a QV nestes pacientes.

Resultados

Estatística descritiva dos instrumentos

Na tabela 3, apresenta-se a estatística descritiva dos itens do DLQI (Finlay & Khan, 1994; Versão brasileira: Ferraz et al., 2006). De acordo com os valores de referência de

Kline (2011), cujos valores normativos de assimetria e curtose são $|sk| < 3$ e $|ku| < 10$, os itens deste instrumento apresentam uma distribuição normal. O item 8 ("Na última semana o estado da sua pele criou-lhe problemas no relacionamento com colegas de trabalho, o/a seu/sua companheiro/a, alguns amigos próximos ou familiares?") é o que apresenta a média mais elevada, enquanto o item 7 ("Na última semana o seu problema de pele impediu-o/a de trabalhar ou estudar?") apresentou a média mais baixa. A modalidade de resposta "Não" é a que apresenta a frequência mais alta no item 7 ("Na última semana o seu problema de pele impediu-o/a de trabalhar ou estudar?"), enquanto a modalidade de resposta "Bastante" apresenta valores mais baixos nos itens 5 e 6 ("Na última semana até que ponto o seu problema de pele afetou o convívio com outras pessoas ou mesmo os seus tempos livres?" e "Na última semana até que ponto o seu problema de pele o/a impediu de praticar desporto?", respetivamente), assim como a modalidade de resposta "Sim" que apresentou uma frequência mais baixa no item 7 ("Na última semana o seu problema de pele impediu-o/a de trabalhar ou estudar?"). Na tabela 4 encontram-se os valores médios do total do DLQI com o valor de alfa de *Cronbach* inferior ao do estudo original e ao da versão brasileira.

Na tabela 5, é apresentada a estatística descritiva dos itens do AAQ-II (Bond et al., 2011; Versão portuguesa: Pinto-Gouveia et al., 2012). De acordo com os valores de referência de Kline (2011), acima citados, os itens deste instrumento apresentam uma distribuição normal. O item 10 ("Os meus pensamentos e sentimentos, não interferem no modo como quero viver a minha vida.") é o que apresenta uma média mais elevada e o item 3 ("Tenho medo dos meus sentimentos.") é o que apresenta uma média mais baixa. A modalidade de resposta "Algumas vezes verdadeiro" é a frequência mais elevada no item 4 ("Não ser capaz de controlar as minhas preocupações e sentimentos é algo que me preocupa.") sendo que a modalidade de resposta "Quase sempre verdadeiro" apresenta uma menor frequência nos itens 3 e 5 ("Tenho medo dos meus sentimentos" e "As minhas memórias dolorosas impedem-me de ter uma vida em pleno.", respetivamente) assim como a modalidade de resposta "Sempre verdadeiro" nos itens 3 e 8 ("Tenho medo dos meus sentimentos" e "Parece que a maior parte das pessoas gerem as suas vidas melhor do que eu", respetivamente) e ainda a modalidade de resposta "Nunca verdadeiro" no item 10 ("Os meus pensamentos e sentimentos, não interferem no modo como quero viver a minha vida."). Na tabela 6 encontram-se os valores médios do total do AAQ-II com valor de alfa de *Cronbach* inferior aos valores do estudo original e da versão portuguesa.

Na tabela 7, apresenta-se a estatística descritiva dos itens da SCS (Neff, 2003;

Versão portuguesa: Castillo et al. 2015). De acordo com os valores de referência de Kline (2011), os itens deste instrumento apresentam uma distribuição normal. O item 9 ("Quando alguma coisa me aborrece ou entristece tento manter o meu equilíbrio emocional (controlo as minhas emoções) ") é o que apresenta uma média mais elevada e o item 20 ("Quando alguma coisa me aborrece ou entristece deixo-me levar pelos meus sentimentos.") é o que apresenta uma média mais baixa. A modalidade de resposta "Algumas vezes" é a que apresenta uma frequência mais elevada nos itens 17, 25 e 26 ("Quando eu falho em alguma coisa importante para mim tento manter as coisas em perspetiva (não dramatizo)."; "Quando falho em alguma coisa importante para mim, tendo a sentir-me sozinho/a no meu fracasso" e "Tento ser compreensivo/a e paciente em relação aos aspetos da minha personalidade de que não gosto", respetivamente) sendo que a modalidade de resposta "Quase Nunca" é a que apresenta uma frequência mais baixa nos itens 3,7,9,14,15,17,19 e 23 (" Quando as coisas me correm mal vejo as dificuldades como fazendo parte da vida, e pelas quais toda a gente passa."; "Quando estou em baixo lembro-me que existem muitas outras pessoas no mundo que se sentem como eu."; "Quando alguma coisa me aborrece ou entristece tento manter o meu equilíbrio emocional (controlo as minhas emoções)."; "Quando alguma coisa dolorosa acontece tento ter uma visão equilibrada da situação."; "Tento ver os meus erros e falhas como parte da condição humana."; "Quando eu falho em alguma coisa importante para mim tento manter as coisas em perspetiva (não dramatizo)."; "Sou tolerante e afetuoso/a comigo mesmo/a quando experiencio sofrimento." e "Sou tolerante com os meus erros e inadequações.", respetivamente) assim como a modalidade de resposta "Raramente" no item 15 ("Tento ver os meus erros e falhas como parte da condição humana."). Na tabela 8 encontram-se os valores médios do total da SCS com valor de alfa de *Cronbach* superior ao do estudo original e ao da versão portuguesa. Nas subescalas autobondade, autojulgamento, isolamento e *mindfulness* o valor de alfa de *Cronbach* é superior ao da versão original e inferior nas subescalas condição humana e sobre-identificação em comparação com a versão original. O alfa de *Cronbach* é superior em todas as subescalas quando comparado à versão portuguesa.

Na tabela 9, está apresentada a estatística descritiva dos itens do DS-14 (Denollet, 2005; Versão portuguesa: Rocha, 2015). De acordo com os valores de referência de Kline (2011), os itens deste instrumento apresentam uma distribuição normal. Os itens 5 e 12 ("Fico irritado/a muitas vezes" e "Costumo preocupar-me sempre com alguma coisa") são os que apresentam uma média mais elevada, e os itens 1 e 10 ("Estabeleço facilmente contacto quando conheço pessoas." e "Sou uma pessoa fechada.", respetivamente) são os que apresentam uma média mais baixa. A modalidade de resposta "Falso" é a que apresenta a frequência mais elevada nos itens 10 e 13 ("Sou uma pessoa fechada." e "Muitas vezes sinto-me no lixo.") bem como a modalidade de resposta "Um pouco verdadeiro" no item 12 ("Costumo preocupar-me sempre com alguma coisa."). A modalidade de resposta "Verdadeiro" é a que apresenta uma frequência mais baixa nos itens 1, 10 e 11 ("Estabeleço facilmente contacto quando conheço pessoas."; "Sou uma pessoa fechada." e "Prefiro manter as outras pessoas afastadas.", respetivamente). Na tabela 10 encontram-se os valores médios do total do DS-14 com um valor de alfa de *Cronbach* ligeiramente inferior ao original e superior à versão portuguesa na subescala de afetividade negativa e com valor de alfa de *Cronbach* igual ao original e superior ao da versão portuguesa na subescala de inibição social.

Modelo de Associação

Através da realização de uma regressão linear múltipla (método *enter*), verificou-se que a autocompaixão (sobre-identificação), a autocompaixão (isolamento), a autocompaixão (*mindfulness*) e a Escala Tipo D (inibição social), no seu conjunto constituem um modelo explicativo para a QV, explicando 16,7% da variância, observável na Tabela 11; embora, apenas a sobre-identificação e a inibição social sejam significativas.

Discussão/Conclusão

As toxicidades na pele representam um dos efeitos secundários mais comuns do tratamento para o cancro, afetando cerca de 70% a 100% dos pacientes (Schnur et al., 2011a; Schnur et al., 2011b) e têm vindo a ser classificadas como os efeitos secundários de maior impacto, em simultâneo com as náuseas/vómitos, maiores até do que fadiga e queda de cabelo (Tischer et al., 2018). Por sua vez, estes efeitos podem causar um grande número de consequências (e.g: coceira ou comprometimento da mobilidade), afetando dessa forma o paciente a nível psicológico e sobretudo comprometendo a sua adesão à terapia (Ra et al., 2012; Saltz et al., 2004). Neste estudo foi verificado que os efeitos secundários dermatológicos provocados pelo tratamento oncológico afetam os diferentes domínios da vida de um indivíduo, apesar de uma forma mais atenuada do que aquela que é relatada na literatura.

Adicionalmente, e tendo em conta a subescala da sobre-identificação (autocompaixão), este estudo revelou que quase metade da amostra, algumas vezes, sente que quando falha em alguma coisa que é importante para si, martiriza-se com sentimentos de inadequação, quando alguma coisa os aborrece ou entristece deixam-se levar pelos seus sentimentos e quando alguma coisa dolorosa acontece tendem a exagerar na sua importância. Por sua vez, uma boa parte da amostra (38,1%) destaca que quando se sente em baixo tende a fixar-se e a ficar obcecado/a com tudo aquilo que está errado.

Para além disso, estudos anteriores destacaram que as toxicidades dermatológicas provocadas pelo tratamento afetam de forma negativa os relacionamentos íntimos e o envolvimento social (Charalambous & Charalambous, 2016). No entanto, neste estudo, e quando avaliada a inibição social (Personalidade Tipo D), verificou-se que apesar de poucas pessoas estabelecerem facilmente contacto quando conhecem outras, estes indivíduos não se assumem como pessoas fechadas nem preferem manter os demais afastados.

Relativamente ao construto da qualidade de vida, a literatura evidencia que as toxicidades cutâneas apesar de quase nunca serem fatais, podem provocar um impacto profundo na qualidade de vida, afetando assim o bem-estar físico, psicossocial e emocional dos pacientes (Joshi et al., 2010). Em contrapartida, neste estudo, foi encontrado que o estado da pele não cria problemas no relacionamento com colegas de trabalho, o/a, seu/sua companheiro/a, amigos próximos ou familiares nem impede os pacientes de trabalhar ou estudar. Para além disso, os problemas de pele não afetam os convívios com outras pessoas, os tempos livres e não impedem a prática de desporto.

Os construtos da inibição social e sobre-identificação assumem-se como os mais impactantes e consequentemente significativos neste estudo, porém a qualidade de vida, no seu todo, é explicada através da autocompaixão (sobre-identificação, isolamento e *mindfulness*) e da Personalidade Tipo D (inibição social). Assim, e embora na literatura não existam estudos que associem a qualidade de vida com a inibição social e a qualidade de vida com a sobre-identificação nas doenças dermatológicas, esta relação tem vindo a ser abordada em outras patologias, mais concretamente destacando a Personalidade Tipo D, onde se insere a inibição social e a autocompaixão, onde se insere a sobre-identificação.

Neste sentido, a personalidade tipo D relaciona-se com um risco aumentado de morbilidade e mortalidade (Denollet et al., 2010; O'Dell et al., 2011) indicando então que o Tipo D está associado a uma reduzida qualidade de vida em pacientes cardiovasculares (Pedersen et al., 2010). Para além disso, sobreviventes de cancro com personalidade Tipo D tendem a apresentar uma qualidade de vida mais prejudicada e problemas de saúde mental, assumindo-se a Personalidade Tipo D como um fator de vulnerabilidade geral a ser rastreado na prática clínica (Mols et al., 2012). Por outro lado, num estudo conduzido por Pinto-Gouveia et al., (2014), com pacientes com doenças crónicas e pacientes com cancro, foi observado que esta amostra tende a evidenciar uma autocrítica intensificada, onde veem as suas experiências de uma maneira isoladora e sobre-identificada com os seus pensamentos, sentimentos e sensações. Verificou-se ainda que uma menor autocompaixão está associada ao aumento de sintomas psicopatológicos de *stress* e depressão e a pontuações mais baixas de qualidade de vida.

No que toca às limitações deste estudo é importante salientar o facto de a amostra ser reduzida, devido em parte à situação pandémica do país, o que fez com que não fosse possível realizar recolha presencial. Para além disso, outra limitação prende-se ao facto de o protocolo ser demasiado extenso, o que pode ter levado a que certos participantes tenham desistido do seu preenchimento.

Sob o ponto de vista clínico, e como a literatura acerca desta temática é escassa, deveriam ser elaboradas investigações futuras neste contexto, de modo a que sejam encontradas intervenções psicológicas eficazes que sejam capazes de atenuar ou reverter o impacto psicológico provocado por estas alterações cutâneas.

Em suma, é importante estabelecer uma cooperação entre a psicologia e a dermatologia, uma vez que as doenças cutâneas podem comprometer de forma acentuada a saúde mental, e como tal é fundamental que haja uma maior sensibilização perante o sofrimento destas pessoas. Assim, estes indivíduos, para além de tratamentos farmacológicos, precisam de ser alvo de intervenções integradas que tenham em vista os diferentes aspetos psicológicos, ou seja, é importante que ocorra uma interdependência e colaboração entre a psicologia e a dermatologia.

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Tabelas

Tabela 1. Caracterização sociodemográfica da amostra

		***n* (%)**
Total		42
Idade	*M*= 42.95; *DP*= 11.03 Mínimo: 20 Máximo: 64	
Género	Feminino	39 (92.9)
	Masculino	3 (7.1)
Estado Civil	Solteiro	13 (31.0)
	Casado	18 (42.9)
	Divorciado	11 (26.2)
Habilitações Literárias	9ºano- 12ºano	19 (45.2)
	Licenciatura	19 (45.2)
	Mestrado	3 (7.1)
	Doutoramento	1 (2.4)
Situação Profissional	Empregado	31 (73.8)
	Desempregado	5 (11.9)
	Reformado	5 (11.9)
	Estudante	1 (2.4)
Zona de Residência	Norte	16 (38.1)
	Centro	2 (4.8)
	Sul	24 (57.1)

Tabela 2. Caracterização clínica da amostra

(Meses)	*M*	*DP*	*Mínimo*	*Máximo*
Tempo de diagnóstico	44.02	44.85	3	228
Tempo de início do tratamento	33.73	41.32	2	168
Tempo da evidência dos efeitos secundários do tratamento na pele	24.07	39.68	0	180

		***n* (%)**
Localização da Doença	Mama	25 (59.1)
	Mama e outro local	2 (4.8)
	Outra localização	14 (33.3)
Tipo de tratamento anticancerígeno	Quimioterapia	23 (54.8)
	Hormonoterapia	4 (9.5)
	Imunoterapia	4 (9.5)
	Cirurgia	1 (2.4)
	Vários	10 (23.8)
Doença de pele pré-tratamento	Sim	7 (16.7)
	Não	35 (83.3)
Agravamento de problemas de pele prévios, pós-tratamento	Sim	7 (16.7)
	Não	19 (45.2)
	Não responderam	16 (38.1)
Alterações na pele pós-tratamento	Sim	42 (100)
Partes do corpo mais afetadas	Várias	19 (45.2)
	Cabeça	11 (26.2)
	Tronco	1 (2.4)
	Membros	11 (26.2)
Cuidados habituais da pele	Sim	40 (95.2)
	Não	2 (4.8)
Frequência dos cuidados	1 vez ao dia	23 (54.8)
	2 vezes ao dia	19 (45.2)
Tipo de cuidados com a pele	Hidratação	32 (76.2)
	Limpeza	3 (7.1)
	Ambas	7 (16.7)

Tabela 3.

Estatística descritiva dos itens do Índice de Qualidade de Vida em Dermatologia (DLQI)

							Modalidades de Resposta						
							Nada/Não relevante	Um pouco	Muito	Bastante	Não aplicável	Sim	Não
Item	*Min*	*Max*	*M*	*DP*	S_{KW}	K_{RT}	*n* (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)
1. Na última semana sentiu a pele irritada e mais sensível, comichão ou sensação de picadas?	1	4	2.74	.939	-.553	-.423	8 (19.0)	21 (50.0)	6 (14.3)	7 (16.7)			
2. Na última semana sentiu-se embaraçado(a) ou incomodado(a) por causa do estado da sua pele?	1	4	2.90	.726	-.655	.940	7 (16.7)	26 (61.9)	2 (4.8)	7 (16.7)			

3. Na última semana até que ponto o seu problema de pele prejudicou a sua vida normal (fazer compras, cuidar da casa, tratar das plantas, etc.)?	1	5	3.55	.861	-1.357	2.244	25 (59.5)	11 (26.2)	2 (4.8)	2 (4.8)	2 (4.8)
4. Na última semana a escolha da roupa que usou teve que ver com o estado da sua pele?	1	5	3.19	1.042	-.673	-.092	17 (40.5)	14 (33.3)	4 (9.5)	5 (11.9)	2 (4.8)
5. Na última semana até que ponto o seu problema de pele afetou o convívio com outras pessoas ou mesmo os seus tempos livres?	1	5	3.64	.958	-1.478	2.428	26 (61.9)	8 (19.0)	3 (7.1)	1 (2.4)	4 (9.5)

6. Na última semana até que ponto o seu problema de pele o(a) impediu de praticar desporto?	1	5	3.60	.989	-1.151	1.604	22 (52.4)	11 (26.2)	3 (7.1)	1 (2.4)	5 (11.9)		
7. Na última semana o seu problema de pele impediu-o(a) de trabalhar ou estudar?	1	3	2.26	.497	.479	-.343					12 (28.6)	1 (2.4)	29 (69.0)
7.1 Se a sua resposta foi NÃO, até que ponto a sua pele foi problema no trabalho ou na escola?	2	4	3.50	.655	-.970	-.090	21 (50.0)	12 (28.6)		3 (7.1)			
8. Na última semana o estado da sua pele criou-lhe problemas no relacionamento com colegas de trabalho, o/a seu/sua	1	5	3.86	.872	-1.568	4.060	26 (61.9)	7 (16.7)	2 (4.8)		7 (16.7)		

companheiro (a), alguns amigos próximos ou familiares?										
9. Na última semana até que ponto o seu problema de pele afetou a sua vida sexual?	1	5	3.71	1.111	-1.190	1.299	20 (47.6)	9 (21.4)	4 (9.5)		9 (21.4)
10. Na última semana até que ponto os tratamentos para a sua pele lhe criaram problemas, por exemplo de sujar a casa ou de lhe tomarem demasiado tempo?	1	5	3.64	1.008	-1.013	1.493	19 (45.2)	13 (31.0)	3 (7.1)		7 (16.7)

Nota: *N* = frequências; *Mín* = Mínimo; *Máx* = Máximo; *M* = Média; *DP* = Desvio-Padrão.

Tabela 4.

Confiabilidade do Índice de Qualidade de Vida em Dermatologia (DLQI);

Comparação com os valores do instrumento na versão original e a sua adaptação para a população brasileira.

Instrumento	*N*	*M* ± *DP*	*Min*	*Max*	α	α*	α**
Índice de Qualidade de Vida em Dermatologia (DLQI)	36	3.43 ±.71	1.20	4.70	.91	.99	.96

Nota: *N* = frequências; *M* = média; *DP* = desvio padrão; *Mi*n = mínimo; *Ma*x = máximo; *α* = alfa de *Cronbach*; * = valores referentes ao estudo de validação do instrumento (Finlay & Khan, 1994); ** = valores referentes ao estudo de adaptação para a população brasileira (Ferraz et al. 2006).

Tabela 5.

Estatística descritiva dos itens do Questionário de Aceitação e Ação (AAQ-II)

							Modalidades de Resposta						
							Nunca verdadeiro	Muito raramente verdadeiro	Raramente verdadeiro	Algumas vezes verdadeiro	Frequentemente verdadeiro	Quase sempre verdadeiro	Sempre verdadeiro
Item	*Min*	*Max*	*M*	*DP*	S_{KW}	K_{RT}	*n* (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)
1. Não há qualquer problema quando me lembro de algo desagradável.	1	7	3.83	1.637	.036	-.822	3 (7.1)	8 (19.0)	6 (14.3)	10 (23.8)	8 (19.0)	5 (11.9)	2 (4.8)
2. As minhas experiências e memórias dolorosas dificultam que eu viva uma vida que valorize.	1	6	3.26	1.380	.262	-.553	4 (9.5)	9 (21.4)	12 (28.6)	9 (21.4)	5 (11.9)	3 (7.1)	

3. Tenho medo dos meus sentimentos.	1	7	3.07	1.552	.410	-.573	7 (16.7)	12 (28.6)	5 (11.9)	10 (23.8)	6 (14.3)	1 (2.4)	1 (2.4)
4. Não ser capaz de controlar as minhas preocupações e sentimentos é algo que me preocupa.	1	7	3.86	1.601	-.092	-.448	4 (9.5)	6 (14.3)	3 (7.1)	17 (40.5)	5 (11.9)	5 (11.9)	2 (4.8)
5. As minhas memórias dolorosas impedem-me de ter uma vida em pleno.	1	7	3.38	1.667	.418	-.244	6 (14.3)	9 (21.4)	5 (11.9)	14 (33.3)	4 (9.5)	1 (2.4)	3 (7.1)
6. Controlo a minha vida.	1	7	3.40	1.781	.626	-.440	5 (11.9)	11 (26.2)	8 (19.0)	8 (19.0)	4 (9.5)	2 (4.8)	4 (9.5)

7. As emoções originam problemas na minha vida.	1	7	3.74	1.754	.222	-.744	4 (9.5)	9 (21.4)	5 (11.9)	10 (23.8)	8 (19.0)	2 (4.8)	4 (9.5)
8. Parece que a maior parte das pessoas gerem as suas vidas melhor do que eu.	1	7	3.38	1.667	.185	-1.020	6 (14.3)	10 (23.8)	6 (14.3)	7 (16.7)	9 (21.4)	3 (7.1)	1 (2.4)
9. As minhas preocupações atravessam-se no caminho do meu sucesso.	1	6	3.40	1.563	-.036	-1.054	6 (14.3)	8 (19.0)	6 (14.3)	11 (26.2)	7 (16.7)	4 (9.5)	
10. Os meus pensamentos e sentimentos, não interferem no modo como quero viver a minha vida.	1	7	4.60	1.398	-.402	.299	1 (2.4)	3 (7.1)	3 (7.1)	11 (26.2)	15 (35.7)	5 (11.9)	4 (9.5)

Nota: *N* = frequências; *Mín* = Mínimo; *Máx* = Máximo; *M* = Média; *DP* = Desvio-Padrão.

Tabela 6.

Confiabilidade do Questionário de Aceitação e Ação (AAQ-II);

Comparação com os valores do instrumento na versão original e a sua adaptação para a população portuguesa.

Instrumento	*N*	*M* ± *DP*	*Min*	*Max*	α	α*	α**
Questionário de Aceitação e Ação (AAQ-II)	42	3.60 ±1.03	2.00	6.60	.84	.88	.90

Nota: *N* = frequências; *M* = média; *DP* = desvio padrão; *Mi*n = mínimo; *Ma*x = máximo; *α* = alfa de *Cronbach*; * = valores referentes ao estudo de validação do instrumento (Bond et al., 2011); ** = valores referentes ao estudo de adaptação para a população portuguesa (Pinto-Gouveia et al., 2012).

Tabela 7.

Estatística descritiva dos itens da Escala da Autocompaixão (SCS)

							Modalidades de Resposta				
							Quase nunca	Raramente	Algumas vezes	Muitas vezes	Quase sempre
Item	*Min*	*Max*	*M*	*DP*	S_{KW}	K_{RT}	*n* (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)
1. Desaprovo-me e faço julgamentos acerca dos meus erros e inadequações.	1	5	3.24	1.100	-.039	-.208	3 (7.1)	5 (11.9)	20 (47.6)	7 (16.7)	7 (16.7)
2. Quando me sinto em baixo tendo a fixar-me e a ficar obcecado/a com tudo aquilo que está errado.	1	5	3.17	1.248	-.252	-.634	6 (14.3)	4 (9.5)	16 (38.1)	9 (21.4)	7 (16.7)
3. Quando as coisas me correm mal vejo as dificuldades como	1	5	3.55	.993	-.217	-.248	1 (2.4)	4 (9.5)	16 (38.1)	13 (31.0)	8 (19.0)

fazendo parte da vida, e pelas quais toda a gente passa.											
4. Quando penso acerca das minhas inadequações e defeitos sinto-me mais separado/a e desligado/a do resto do mundo.	2	5	3.43	.941	.124	-.793		7 (16.7)	16 (38.1)	13 (31.0)	6 (14.3)
5. Tento ser carinhoso/a comigo próprio/a quando estou a sofrer emocionalmente.	1	5	3.55	1.064	-.386	-.071	2 (4.8)	3 (7.1)	16 (38.1)	12 (28.6)	9 (21.4)
6. Quando falho em alguma coisa que é importante para mim martirizo-me com sentimentos de	1	5	3.21	1.138	-.235	-.336	4 (9.5)	5 (11.9)	17 (40.5)	10 (23.8)	6 (14.3)

inadequação.											
7. Quando estou em baixo lembro-me que existem muitas outras pessoas no mundo que se sentem como eu.	1	5	3.55	1.041	-.201	-.520	1 (2.4)	5 (11.9)	15 (35.7)	12 (28.6)	9 (21.4)
8. Quando passo por tempos difíceis tendo a ser muito exigente e duro/a comigo mesmo/a.	1	5	3.07	1.197	.125	-.667	4 (9.5)	9 (21.4)	16 (38.1)	6 (14.3)	7 (16.7)
9. Quando alguma coisa me aborrece ou entristece tento manter o meu equilíbrio emocional (controlo as minhas emoções).	1	5	3.81	1.042	-.415	-.394	1 (2.4)	2 (4.8)	15 (35.7)	10 (23.8)	14 (33.3)

10. Quando me sinto inadequado/a de alguma forma, tento lembrar-me que a maioria das pessoas, por vezes, também sentem o mesmo.	1	5	3.29	1.215	-.327	-.435	5 (11.9)	3 (7.1)	17 (40.5)	9 (21.4)	8 (19.0)
11. Sou intolerante e pouco paciente em relação aos aspetos da minha personalidade que não gosto.	1	5	3.07	.997	.161	-.095	2 (4.8)	9 (21.4)	19 (45.2)	8 (19.0)	4 (9.5)

12. Quando atravesso um momento verdadeiramente difícil da minha vida dou a mim próprio/a a ternura e afeto que necessito.	1	5	3.24	1.226	-.314	-.627	5 (11.9)	5 (11.9)	14 (33.3)	11 (26.2)	7 (16.7)
13. Quando me sinto em baixo tenho tendência para achar que a maioria das pessoas é, provavelmente mais feliz do que eu.	1	5	2.95	1.306	-.046	-.938	8 (19.0)	6 (14.3)	14 (33.3)	8 (19.0)	6 (14.3)
14. Quando alguma coisa dolorosa acontece tento ter uma visão equilibrada da situação.	1	5	3.64	.958	-.255	.017	1 (2.4)	2 (4.8)	17 (40.5)	13 (31.0)	9 (21.4)

15. Tento ver os meus erros e falhas como parte da condição humana.	1	5	3.76	.958	-.366	.091	1 (2.4)	1 (2.4)	16 (38.1)	13 (31.0)	11 (26.2)
16. Quando vejo aspetos de mim próprio/a que não gosto fico muito muito em baixo.	1	5	3.19	1.018	-.257	.102	3 (7.1)	5 (11.9)	19 (45.2)	11 (26.2)	4 (9.5)
17. Quando eu falho em alguma coisa importante para mim tento manter as coisas em perspetiva (não dramatizo).	1	5	3.43	.991	.129	-.256	1 (2.4)	4 (9.5)	21 (50.0)	8 (19.0)	8 (19.0)

18. Quando me sinto com muitas dificuldades tendo a pensar que para as outras pessoas as coisas são mais fáceis.	1	5	3.12	1.173	-.051	-.641	4 (9.5)	8 (19.0)	15 (35.7)	9 (21.4)	6 (14.3)
19. Sou tolerante e afetuoso/a comigo mesmo/a quando experiencio sofrimento.	1	5	3.40	1.061	.133	-.633	1 (2.4)	6 (14.3)	19 (45.2)	7 (16.7)	9 (21.4)
20. Quando alguma coisa me aborrece ou entristece deixo-me levar pelos meus sentimentos.	1	5	2.81	.969	.402	.437	3 (7.1)	12 (28.6)	20 (47.6)	4 (9.5)	3 (7.1)

21. Posso ser bastante frio/a e duro/a comigo mesmo/a quando experiencio sofrimento.	1	5	3.29	1.195	-.498	-.425	5 (11.9)	4 (9.5)	13 (31.0)	14 (33.3)	6 (14.3)
22. Quando me sinto em baixo tento olhar para os meus sentimentos com curiosidade e abertura.	1	5	3.26	.989	.390	-.789		10 (23.8)	17 (40.5)	9 (21.4)	6 (14.3)
23. Sou tolerante com os meus erros e inadequações.	1	5	3.29	.995	.162	-.329	1 (2.4)	7 (16.7)	19 (45.2)	9 (21.4)	6 (14.3)
24. Quando alguma coisa dolorosa acontece tendo a exagerar na sua importância.	1	5	3.38	1.188	-.343	-.359	4 (9.5)	3 (7.1)	17 (40.5)	9 (21.4)	9 (21.4)

25. Quando falho em alguma coisa importante para mim, tendo a sentir-me sozinho/a no meu fracasso.	1	5	3.12	1.109	-.246	-.002	5 (11.9)	3 (7.1)	21 (50.0)	8 (19.0)	5 (11.9)
26. Tento ser compreensivo/a e paciente em relação aos aspetos da minha personalidade de que não gosto.	1	5	3.19	.994	.067	.104	2 (4.8)	6 (14.3)	21 (50.0)	8 (19.0)	5 (11.9)

Nota: *N* = frequências; *Mín* = Mínimo; *Máx* = Máximo; *M* = Média; *DP* = Desvio-Padrão.

Tabela 8.

Confiabilidade da Escala da Autocompaixão (SCS)

Confiabilidade das subescalas da Escala da Autocompaixão (SCS)

Comparação com os valores do instrumento na versão original e a sua adaptação para a população portuguesa.

Instrumento	*N*	*M* ± *DP*	*Min*	*Max*	α	α*	α**
Escala da Autocompaixão	42	3.31 ±.70	1.54	4.96	.95	.92	.92
Subescalas da Escala da Autocompaixão	*N*	*M* ± *DP*	*Min*	*Max*	α	α*	α**
Autobondade	42	3.32 ±.86	1.60	5.00	.88	.75-.81	.70
Autojulgamento	42	3.12±.84	1.40	5.00	.83	.75-.81	.72
Condição Humana	42	2.82±.61	1.00	4.00	.72	.75-.81	.70
Isolamento	42	3.17±.95	1.25	5.00	.87	.75-.81	.70
Mindfulness	42	3.52±.86	1.50	5.00	.86	.75-.81	.60
Sobre-identificação	42	3.16±.82	1.50	5.00	.71	.75-.81	.66

Nota: *N* = frequências; *M* = média; *DP* = desvio padrão; *Mi*n = mínimo; *Ma*x = máximo; *α* = alfa de *Cronbach*; * = valores referentes ao estudo de validação do instrumento (Neff, 2003) ** = valores referentes ao estudo de adaptação para a população portuguesa (Castillo, 2015; Santos, 2012).

Tabela 9.

Estatística descritiva dos itens da Escala Tipo D (DS14)

							Modalidades de Resposta				
							Falso	Um pouco falso	Neutro	Um pouco verdadeiro	Verdadeiro
Item	*Min*	*Max*	*M*	*DP*	S_{KW}	K_{RT}	*n* (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)
1. Estabeleço facilmente contacto quando conheço pessoas.	0	4	1.07	1.045	.794	.116	15 (35.7)	14 (33.3)	9 (21.4)	3 (7.1)	1 (2.4)
2. Costumo preocupar-me muito com coisas sem importância.	0	4	2.19	1.254	-.145	-.762	5 (11.9)	6 (14.3)	15 (35.7)	8 (19.0)	8 (19.0)
3. Costumo conversar com estranhos.	0	4	1.93	1.045	.283	-.695	2 (4.8)	15 (35.7)	12 (28.6)	10 (23.8)	3 (7.1)
4. Sinto-me infeliz	0	4	1.90	1.206	-.072	-1.058	6 (14.3)	11 (26.2)	9 (21.4)	13 (31.0)	3 (7.1)

muitas vezes.										
5. Fico irritado/a muitas vezes.	0	4	2.43	1.172	-.536	-.562	3 (7.1)	7 (16.7)	8 (19.0)	17 (40.5)	7 (16.7)
6. Sinto-me muitas vezes inibido/a em interações sociais.	0	4	2.21	1.371	-.228	-1.176	6 (14.3)	8 (19.0)	8 (19.0)	11 (26.2)	9 (21.4)
7. Tenho uma visão negativa das coisas.	0	4	1.48	1.348	.367	-1.198	14 (33.3)	9 (21.4)	7 (16.7)	9 (21.4)	3 (7.1)
8. Acho difícil iniciar uma conversa.	0	4	1.48	1.234	.302	-1.013	12 (28.6)	10 (23.8)	10 (23.8)	8 (19.0)	2 (4.8)
9. Estou de mau humor muitas vezes.	0	4	1.40	1.170	.481	-.610	11 (26.2)	13 (31.0)	10 (23.8)	6 (14.3)	2 (4.8)
10. Sou uma pessoa fechada.	0	4	1.07	1.218	.794	-.674	19 (45.2)	10 (23.8)	5 (11.9)	7 (16.7)	1 (2.4)
11. Prefiro manter as outras pessoas afastadas.	0	4	1.24	1.144	.533	-.724	14 (33.3)	12 (28.6)	9 (21.4)	6 (14.3)	1 (2.4)
12. Costumo preocupar-me sempre	0	4	2.43	1.252	-.730	-.480	5 (11.9)	5 (11.9)	6 (14.3)	19 (45.2)	7 (16.7)

com alguma coisa.											
13. Muitas vezes sinto-me no lixo.	0	4	1.38	1.464	.418	-1.473	19 (45.2)	5 (11.9)	4 (9.5)	11 (26.2)	3 (7.1)
14. Quando socializo, não encontro as coisas certas para falar.	0	4	1.38	1.306	.481	-1.149	14 (33.3)	12 (28.6)	4 (9.5)	10 (23.8)	2 (4.8)

Nota: *N* = frequências; *Mín* = Mínimo; *Máx* = Máximo; *M* = Média; *DP* = Desvio-Padrão.

Tabela 10.

Confiabilidade da Escala Tipo D (DS14);

Confiabilidade das Subescalas da Escala Tipo D (DS14)

Comparação com os valores do instrumento na versão original e a sua adaptação para a população portuguesa.

Instrumento	*N*	*M* ± *DP*	*Min*	*Max*	α	α*	α**[2]
Escala Tipo D (DS14)	42	1.69±.82	.14	3.07	.90		
Subescalas da Escala Tipo D (DS14)	*N*	*M* ± *DP*	*Min*	*Max*	α	α*	α**
Afetividade Negativa	42	1.89±.96	.00	3.57	.87	.88	.51
Inibição Social	42	1.48±.88	.00	3.29	.86	.86	.77

Nota: *N* = frequências; *M* = média; *DP* = desvio padrão; *Min* = mínimo; *Max* = máximo; *α* = alfa de *Cronbach*; * = valores referentes ao estudo de validação do instrumento (Denollet et al., 2005); ** = valores referentes ao estudo de adaptação para a população portuguesa (Rocha, 2015).

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[2] Não foi evidenciado na literatura um alfa de *Cronbach* para a escala total, tanto ao nível da versão original como da versão portuguesa.

Tabela 11.

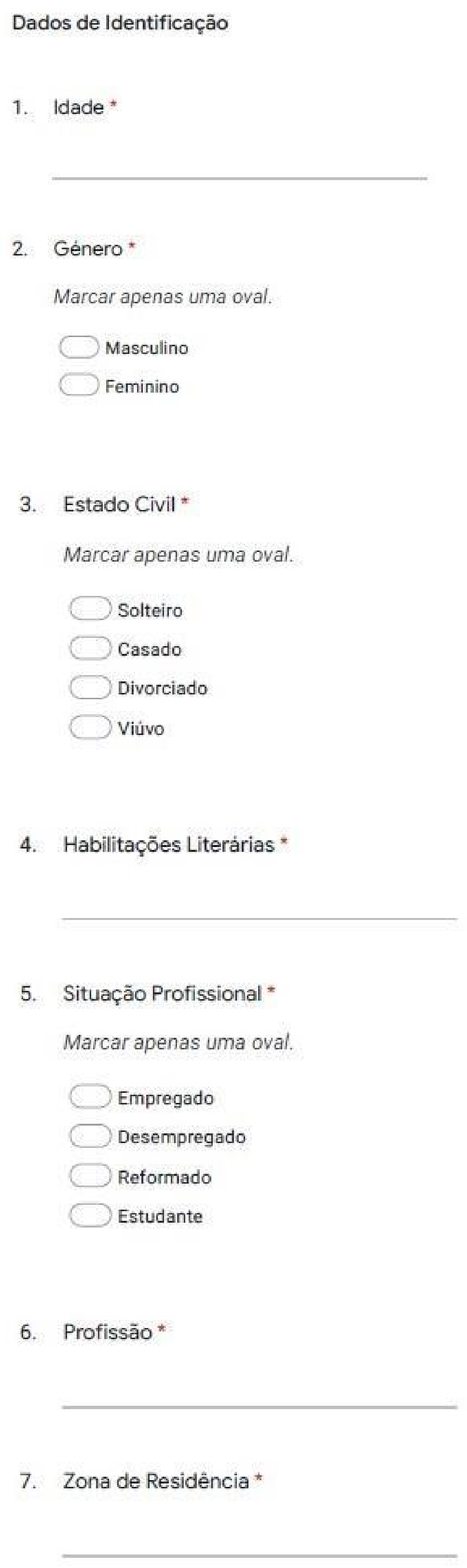
Variáveis Preditoras da Qualidade de Vida.

					Estatísticas de Mudança			
Modelo	R	R^2	R^2 ajustado	**Desvio-padrão da estimativa**	**Mudança de R^2**	***gl*1**	***gl*2**	**Mudança de F**
1	.51	.26	.167	.66	.26	4	31	2.75

		Coeficientes não padronizados		Coeficientes Padronizados		
Modelo		**β**	**Desvio-padrão**	**Beta**	t	p
1	(Constante)	4.28	.95		4.47	.00
	Autocompaixão (sobre-identificação)	.52	.24	.58	2.18	.04
	Autocompaixão (isolamento)	-.30	.19	-.41	-1.60	.12
	Autocompaixão (*mindfulness*)	-.19	.21	-.21	-.93	.36
	Escala Tipo D (inibição social)	-.36	.19	-.45	-1.97	.06

Anexos

Anexo 1: Ficha Sociodemográfica



Dados de Identificação

1. Idade *

2. Género *

Marcar apenas uma oval.

○ Masculino
○ Feminino

3. Estado Civil *

Marcar apenas uma oval.

○ Solteiro
○ Casado
○ Divorciado
○ Viúvo

4. Habilitações Literárias *

5. Situação Profissional *

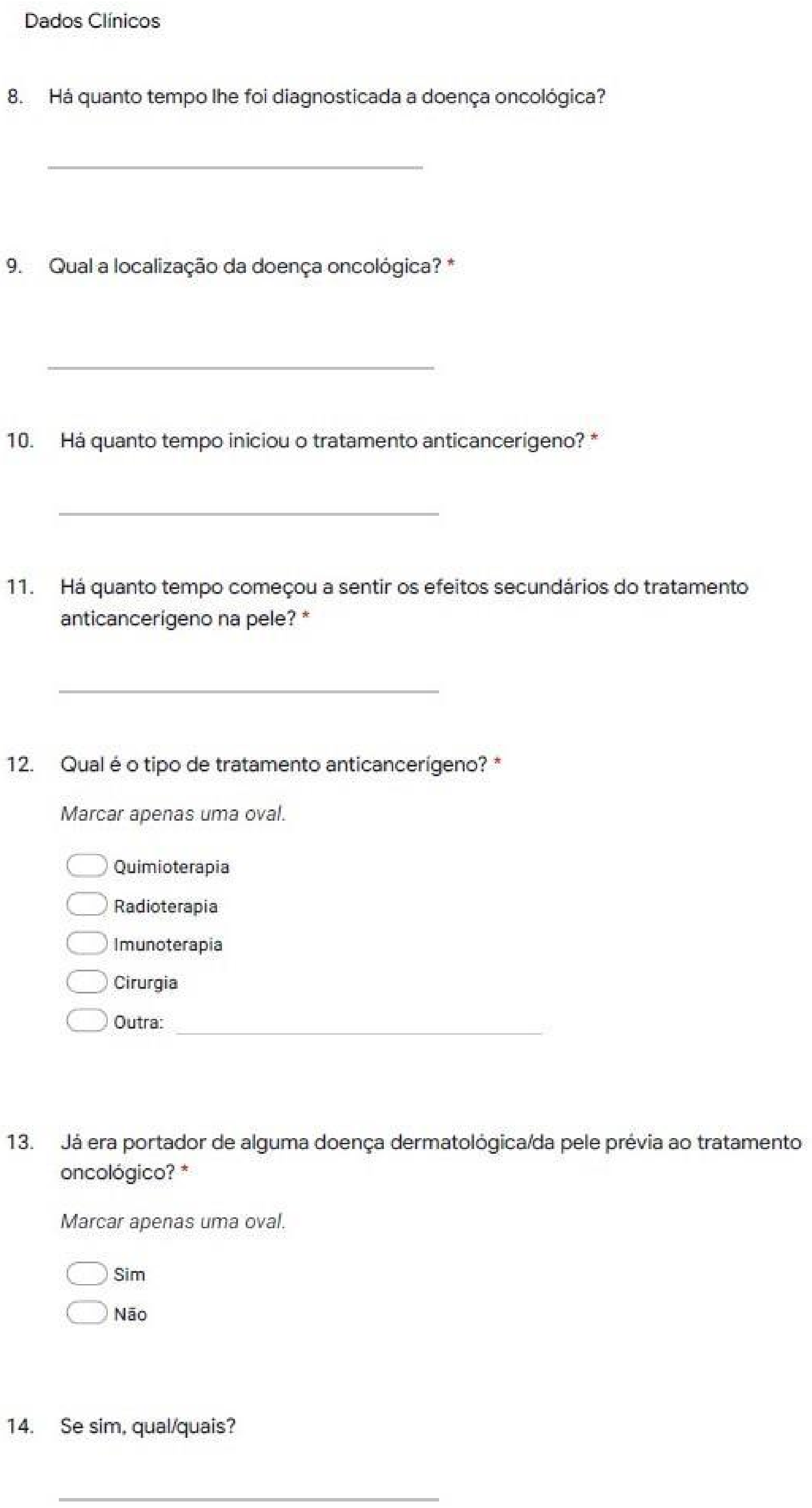
Marcar apenas uma oval.

○ Empregado
○ Desempregado
○ Reformado
○ Estudante

6. Profissão *

7. Zona de Residência *

Anexo 2: Ficha Clínica



Dados Clínicos

8. Há quanto tempo lhe foi diagnosticada a doença oncológica?

____

9. Qual a localização da doença oncológica? *

____

10. Há quanto tempo iniciou o tratamento anticancerígeno? *

____

11. Há quanto tempo começou a sentir os efeitos secundários do tratamento anticancerígeno na pele? *

____

12. Qual é o tipo de tratamento anticancerígeno? *

Marcar apenas uma oval.

○ Quimioterapia
○ Radioterapia
○ Imunoterapia
○ Cirurgia
○ Outra: ____________________

13. Já era portador de alguma doença dermatológica/da pele prévia ao tratamento oncológico? *

Marcar apenas uma oval.

○ Sim
○ Não

14. Se sim, qual/quais?

____

15. Essa doença dermatológica/da pele agravou-se com os tratamentos oncológicos?

Marcar apenas uma oval.

○ Sim
○ Não

16. Depois de iniciar o tratamento anticancerígeno, sentiu alterações na pele? *

Marcar apenas uma oval.

○ Sim
○ Não

17. Se sim, qual/quais?

Marcar apenas uma oval.

○ Alopecia/ queda de cabelo
○ Xerose/ pele seca
○ Dermatite/ alergia
○ Alteração na cor das unhas
○ Prurido/ comichão
○ Erupção cutânea/ borbulhas
○ Outra: ________________________

18. Qual/quais a(s) parte(s) do corpo mais afetada(s)?

____

19. Cuida da pele habitualmente? *

Marcar apenas uma oval.

○ Sim
○ Não

20. Se sim, com que frequência? *

Marcar apenas uma oval.

○ 1 vez ao dia
○ 2 vezes ao dia
○ Outra: ____________________

21. Que cuidados costuma ter com a pele? *

Marcar apenas uma oval.

○ Limpeza
○ Hidratação
○ Outra: ____________________

Anexo 3

Dermatological effects of cancer treatment – quality of life implications

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Abstract

Introduction: Cancer is one of the most common diseases worldwide and, consequently, the dermatological effects resulting from anticancer treatment have a major impact on the patient's quality of life, affecting his physical and psychological health. This study aims to understand which factors are predictors of quality of life in a sample of individuals who presented dermatological problems after cancer treatment.

Materials and Methods: To a sample of 42 volunteers diagnosed with cancer and with post-treatment dermatological changes, who participated in the study, a sociodemographic and clinical form and the Dermatology Life Quality Index, the Acceptance and Action Questionnaire, the Self-Compassion Scale and the Type-D Scale instruments were applied. Descriptive statistics were performed for all instruments, as well as multiple linear regressions in order to understand the predictive variables of quality of life.

Results: The results demonstrate the absence of associations between quality of life and dermatological changes in the post-treatment. The variables of self-compassion (over-identification, isolation and mindfulness) and social inhibition predict 16,7% of quality of life.

Discussion and Conclusion: Although the literature on this topic is scarce, this study found variables that influence quality of life. In this sense and taking into account the importance of the present investigation, it becomes essential to reinforce the realization of future investigations in the scope of psychodermatology based on the oncological context.

Keywords: Cancer; Dermatological Problems; Oncological Treatment; Quality of Life; Self-Compassion; Type D Personality;

Anexo 4

Dermatological side-effects of cancer treatment: Psychosocial implications- Literature Review

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Abstract

Objective: Cancer is a leading cause of mortality and morbidity all over the world and the second leading cause of death (25%) in Portugal. Dermatological side effects resulting from cancer treatment have a psychosocial impact in patients' life, such as quality of life, body image, cognitive fusion and social inhibition.

Taking this into account, this systematic review aims to explore and synthesize the psychosocial impact of Dermatological side-effects of cancer treatment.

Methods: PRISMA guidelines for systematic reviews and meta-analyzes were followed and guided a systematic search through the PubMed, Cochrane Library and PyscNet databases. The considered studies correlate cancer, cancer treatments and its psychological and psychosocial outcomes and consequences showing psychodermatological findings. The studies found were published in a peer-reviewed journals.

Results: Cancer treatment causes the most varied skin changes that consequently reduce self-esteem and quality of life, disturb body image and contribute to cases of stress, depression and anxiety.

Conclusions: It is known that that there are various psychosocial consequences caused by the dermatological side effects induced by treatments. However, there is still limited literature that profoundly investigates the experience of living with these skin toxicities.

KEYWORDS

Dermatological side effects, psychosocial implications, alopecia, body image, cancer treatments, cognitive fusion, quality of life, and social inhibition.

1. INTRODUCTION

Cancer continues to be a leading cause of mortality and morbidity over the world (1). Most of the oncological diseases are treated based on chemotherapy or radiotherapy alone, or in combination with other treatments, being the side effects of these treatments a clinical limitation of her administration.

Thus, health related side effects induced by the oncological treatment may appear during, or long time after the treatment ends and often rely on the patients' radiosensibility (2).

With treatments, the patient usually has serious side effects such as pain, nausea, diarrhea, cardiotoxicity, hair loss, dark or dry skin and depression of the immune system (3–5).In this sense, therapies related to oncological diseases end up disrupting the cutaneous barrier role (6).Similarly, patients with skin diseases often need to deal with a condition that leads to physical disfigurement, psychological destruction and social stigma (7). However, dose reduction and discontinuation of treatment can adversely affect treatment outcomes (8).

The present review will allow to present the relationship between dermatological effects caused by oncological treatment and the psychosocial impact resulting from these effects and it is assumed to be crucial. The purpose of this review is to synthesize the evidence from studies that examine the psychosocial impact of dermatological effects resulting from cancer treatment.

2. BACKGROUND

It is possible to highlight that dermatological toxicities are assumed as common side effects caused by cancer treatment (9) which, if not properly managed, can become uncomfortable and disfiguring (6,10–14). These symptoms usually appear around the second to the third week of treatment (15) and although they are mild at first, they can become severe over time (16).

The impact of cancer on patients is multifaceted and has been well documented in the literature (17,18). Thus, the emotional results observed in people with cancer are depression, worry, fear, anger and guilt (19,20). Also, emotional stress has been described as the "sixth vital sign" in cancer patients, and it is routinely assessed alongside the pulse, breathing, blood pressure, temperature and pain (21).

In addition to the direct effects, the associations between cancer and psychosocial outcomes can be mediated by the physical symptoms of the cancer or the side effects of its treatment (22). This premise is supported by a study by Zaza & Baine (2002) in which the authors found that higher degrees of pain from cancer were related to the decrease in social activities, social support and social functioning (23). At the same time, fatigue, another common cancer symptom, has been found to be a predictor of depression and anxiety (24). This systematic review intends to synthesize the psychosocial impact resulting from dermatological lesions caused by cancer treatment, with results that cover different time periods and identifies gaps for future studies.

3. METHODS

3.1 Search strategy

The Preferred reporting items guidelines for systematic reviews and meta-analyzes (PRISMA) guided a systematic search through the PubMed, Cochrane Library and PyscNet databases. In turn, the keywords were used in a combined manner using the following: "Dermatological side effects of cancer", "Skin side effects of cancer", "Alopecia and body image", "Body image cancer", "Body image in the dermatological side effects of cancer treatment", "Cancer treatments and quality of life in dermatological patients with cancer", "Skin side effects of chemotherapy", "Psychosocial implications of skin diseases", "Social inhibition in patients dealing with dermatological diseases" and "Cognitive fusion in patients dealing with dermatological diseases". Some additional records where assessed through these articles references. Resulting studies were filtered, however no time limit was imposed. The articles considered are in the English and French languages.

3.2 Inclusion criteria

The studies' titles and abstracts were assessed and screened for inclusion following some criteria: a) Complete studies (no protocols); b) Studies correlating cancer and its psychological and psychosocial outcomes; c) Studies evolving specific cancer treatments and its psychological and psychosocial outcomes; d) studies that assessed the psychological and psychosocial consequences of skin toxicities; e) psychodermatology findings; and f) studies published in peer-reviewed journals.

3.3 Exclusion criteria

Studies were excluded if they only focused on cancer and its physical outcomes and not on its psychological or psychosocial impacts or focused only on dermatological literature, not establishing a relationship with psychology. Studies not in English or French or where its focus was only on the impact of the family/loved ones/caregivers (being that their view could be biased), were also rejected. It was also excluded articles that were not published in peer-reviewed journals or unfinished, that only mentioned pharmacological therapies and with a small sample size.

3.4 Screening

The titles/abstracts of the studies were selected independently by each of the authors, always based on the inclusion and exclusion criteria. Discrepancies between the authors were resolved through discussion, in order to better select all the material.

3.5 Quality Assessment

The studies methodological quality was assessed by its journals Q Index using Scimago Journal & Country Rank.

Out of the 46 articles, 29 were in the Top impactful 25% (Q1)(12,16,25-29,31-34,36-40,43,45,46,48,49,51,53,56,58,59,65-67), 16 were in the Less Impactful 25% (Q2)(30,35,41,42,44,47,50,52,54,55,57,60,61,63,64,68) and 1 was in the Lesser Impactful 25% (Q3)(62). The one article categorized as Q3 was used to find a definition for "Body Image".

To explain methodological issues and to make future investigation recommendations, studies lower than the ideal Q1 were still included.

Therefore, in a final phase, the authors present a discussion of discoveries and future considerations.

4. RESULTS

The initial searches through the databases resulted in a total of 716 articles, of which 213 were removed because they were duplicates.

The abstracts of the remaining 503 studies were screened, being that 397 were excluded. From the remaining 106 full-text articles, 60 were ruled out resulting in 46 articles for review (Figure 1).

4.1 Study Characteristics

Study characteristics (n = 46) are reported in Table 1. Two studies (4.35%) included various type of cancer patients[37,42] five studies (10.9%) narrowed their sample by recruiting patients with a specific cancer type[29,30,32,34,63] one study (2.2%) addresses skin conditions and cancer[36], seven studies (15.2%) address the psychosocial/psychological impact of skin diseases[44,47,48,55,58-61] , nine studies (19.6%) address skin conditions[43,50-

[54,56,57,68] fourteen studies (30.4%) address the impact of treatments[12,16,25-28,31,33,35, 38-41,60], three studies (6.5%) address the role of body image in skin diseases/cancer[62,64,65,] two studies (4.35%) address psychodermatology[45,46], one study (2.2%) addresses psychological intervention[49,] one study (2.2%) addresses cognitive fusion in skin conditions[67] and one study (2.2%) addresses psychological inflexibility[66.] There were three studies that are case reports[32,33,36] one pilot observational and non-interventional comparative study[34], eighteen literature reviews[12,16,25-27,29,35,41,44,47,48,53-55,57,59,61,64] ,two retrospective studies[28,31],twelve quantitative studies[30,37-39,56,58,60,62,65-68], one multi-center randomized study[40],one prospective longitudinal study[42], one qualitative study [43] , one study report [46], one clinical review [45], two cross-sectional studies [49,51], one descriptive study[50] , one exploratory study [52] and one prospective study[63]. Eighteen studies (39.1%) were conducted in the United States[16,25,26,28,32,33,35-37,41,47,48,52,55,62,64-66] while twenty-eight (60.9%) were international[12,27,29-31,34,38-40,42-46,49-51,53,54,56-61,63,67,68].

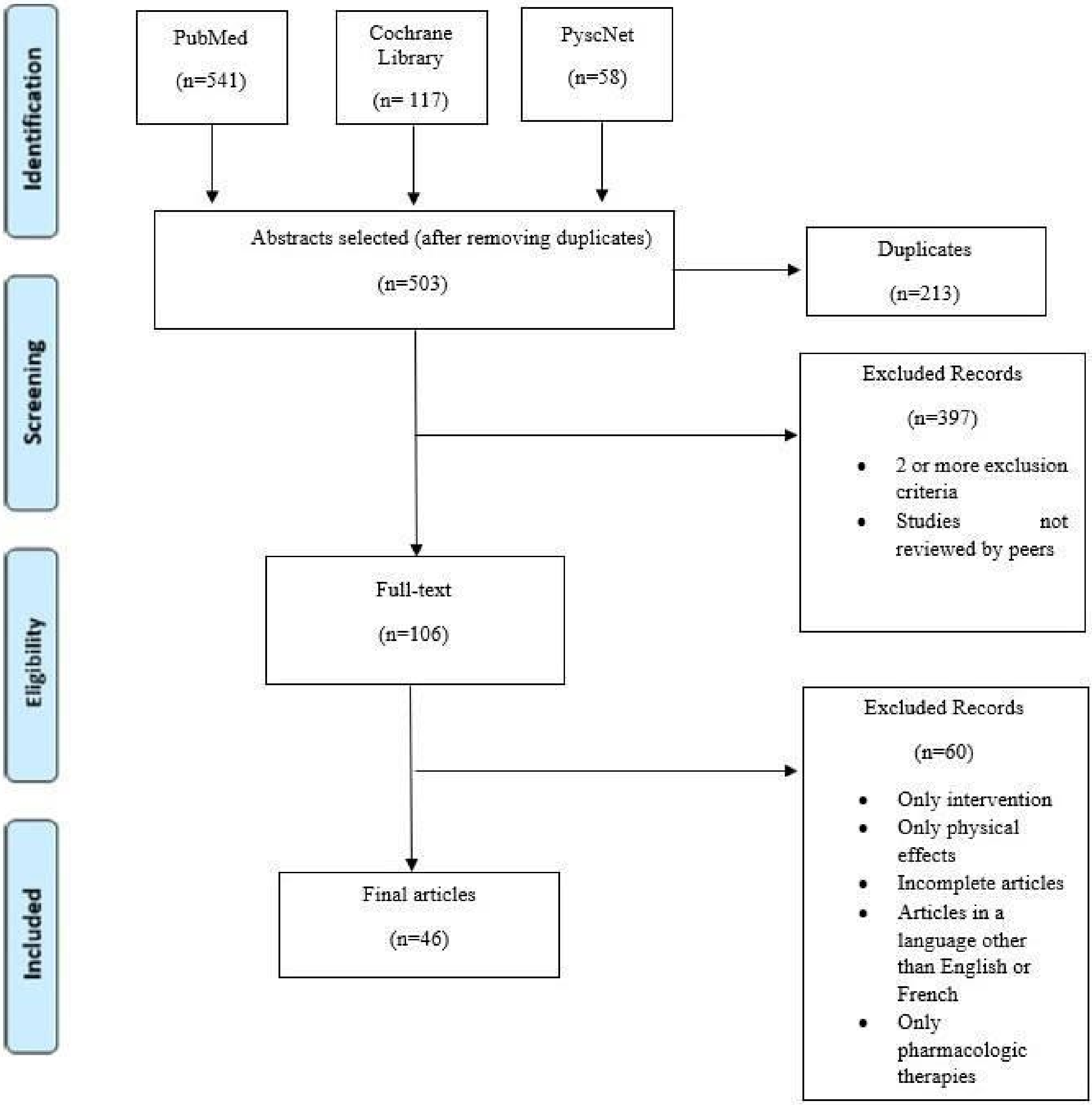

FIGURE 1. PRISMA diagram

Study	**First Author**	**Aim**	**Methodology**	**Results**	**Discussion/ Conclusion**	**Journals' Quality**[3]
Clinical signs, pathophysiology and management of skin toxicity during therapy with epidermal growth factor receptor inhibitors	Segaert et al[12]	To outline the broad spectrum of cutaneous side-effects of EGFR inhibitors, discuss possible underlying mechanisms and provide practical guidelines for the management based on literature data and on personal experience.	Literature Review.	Cutaneous effects of EGFR inhibitors represent a totally unique new group of class-specific side-effects consisting essentially of an itchy acneiform papulopustular eruption, telangiectasia and xerosis. During longer treatment nail fold inflammation, hair changes and hyperpigmentation may also arise. These side-effects compare well in their tolerance to those seen with cytotoxic drugs. The underlying mechanisms are poorly understood but are most likely linked to inhibition of EGFR in the skin.	Given the growing evidence between the relationship between treatment effectiveness and skin rash, the latter may serve as a substitute marker for tumor response. In turn, these effects on the skin seem to be based on mechanisms linked to the inhibition of the action of EGFR, however the pathophysiology	Q1 (high)

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[3] According to Scimago Journal & Country Rank.

Epidermal Growth Factor Receptor Inhibitor–Associated Cutaneous Toxicities: An Evolving Paradigm in Clinical Management	Lynch et al[16]	Discussion of the mechanisms underlying dermatological toxicities and the therapeutic interventions used. To reach a consensus on management strategies.	Literature Review.	Presence of rash, paronychia and fissuring, hair changes (alopecia, eyelash growth) dry skin, hypersensitivity reactions, mucositis, acne, xerosis, acneiform dermatitis, erythema, exfoliation, nail disorders (paronychia) and pruritus.	EGFRIs play a significant role in the treatment of some types of cancer, but their use is commonly associated with a generalized class effect: dermatological reactions of different severities. In this sense, different interventions must be adopted in order to maximize the quality of life of patients who are being treated with these agents.	Q1 (high)
Search for evidence-based approaches for the prevention and palliation of hand-foot skin reaction (HFSR) caused by the multikinase inhibitors (MKIs)	Anderson et al[25]	Systematically review the literature on the prevention and palliation of MKI-associated HFSR, to identify areas for further clinical study, and to provide a foundation for evidence-based guidelines for HFSR management.	Systematic searches of the National Library of Medicine's PubMed database, Cochrane Reviews, BIOSIS, CancerLit, and the American Society of Clinical Oncology website were conducted using search terms for cutaneous toxicities associated with chemotherapeutic agents. Articles were categorized (C) based on type of agent and cutaneous reaction as: C1 (MKI and HFSR); C2 (MKI and other cutaneous toxicity); C3 (other antineoplastic agents and HFSR); and	Of the 2,069 abstracts screened, 350 (17%) met the criteria for C1-C4, with 56 (16%) coded as C1 with details of HFSR histology, pathogenesis, clinical outcome, QoL impact, and/or prevention and treatment approaches in MKI-treated patients. No randomized, controlled trials (RCTs) on prevention/palliation of HFSR were identified. Anecdotal evidence or expert opinion advocated protective measures, preventive and therapeutic skin care, systemic analgesics for pain, vitamin B (6) and MKI dose modification.	No articles containing evidence from RCTs on preventive/palliative approaches to MKI-associated HFSR have been published. Systematic study of optimal treatment strategies for HFSR is needed to advance development of evidence-based treatment guidelines.	Q1 (high)

			C4, other.			
Dermatologic side effects associated with the epidermal growth factor receptor inhibitors	Agero et al[26]	Description of the clinical characteristics of the dermatological adverse reactions caused by EGFR; To discuss the pathology, possible causes and suggested treatments.	Literature Review.	The most common adverse dermatological effect was mild skin toxicity, characterized by a follicular and sterile pustular skin rash. In turn, the secondary adverse skin reactions observed include xerosis, pruritus, paronychia, capillary abnormality, stomatitis/mucositis, hypersensitivity reactions and nail changes.	Although the precise mechanism for the development of rash is not well defined, it is related to the inhibition of EGFR signaling pathways in the skin and can serve as a visible marker of antitumor activity and therapeutic efficacy. At the same time, these dermatologic reactions are relatively common and generally mild, but may also cause clinical distress to the patient. Lastly, it is important that dermatologists can properly diagnose these side effects and differentiate them from other skin disorders.	Q1 (high)

Cutaneous side-effects of kinase inhibitors and blocking antibodies	Robert et al[27]	Discussion of skin side effects observed after treatment with epidermal growth factor receptor (EGFR) inhibitors.	Literature Review.	Presence of: folliculitis, hair modifications (alopecia, facial hair growth) paronychial inflammation, xerosis, acral erythema after sunitinib and sorafenib treatment, subungual splinter hemorrhages with sunitinib and sorafenib, periocular oedema with imatinib (common), sunitinib (occasional) and facial erythematous rash.	Although tyrosine kinase inhibitors increase life expectancy in people with cancer, their use is associated with a wide range of chronic skin side effects.	Q1 (high)
Effects of epidermal growth factor receptor inhibitor-induced dermatologic toxicities on quality of life	Joshi et al[28]	Examine the effect of skin toxicities cause by epidermal growth factor receptor (EGFR) inhibitors on QoL.	Patients completed the Skindex-16, a questionnaire that measures the effects on 3 domains of QoL: symptoms, emotions, and functioning. The severity of dermatologic toxicities was assessed using the National Cancer Institute Common Terminology Criteria for Adverse Events, version 3.0 (NCI-CTCAE). Correlations of dermatology QoL scores with NCI-CTCAE grade, skin phototype (SPT), sex, age, type of EGFR inhibitor, and cancer type were investigated.	Concordant with greater severity of rash grade, there was an increase in median scores for symptoms, emotions, function, and overall score. There was an inverse correlation between age and emotions and overall score. There was a significant difference between patients aged<or=50 years and patients aged>50 years about symptoms, emotions, functioning, and overall score. There were no significant differences between QoL and SPT, sex, treatment type, or cancer type.	Toxicities, including rash, xerosis, paronychia, and pruritus, adversely affected QoL, and rash was associated with a QoL greater decrease. Younger patients reported lower overall QoL than older patients who had the same toxicities. The current results support using the NCI-CTCAE as a correlative tool for measuring the effects of rash on dermatology-specific QoL.	Q1 (high)

Management of cutaneous side-effects of cetuximab therapy in patients with metastatic colorectal cancer	Ocvirk et al[29]	Achievements of a literature review on the management of skin toxicity during treatment with cetuximab.	31 patients with metastatic colorectal cancer were treated with cetuximab between November 2005 and December 2007, having been followed up at least once a week. Skin toxicity classification: National Cancer Institute's Common Toxicity Criteria (NCI CTC).	6 patients had grade I rash; 16 grade II and 9 patients with type I acne as a rash. To a lesser extent, cases of itching, dry skin, scaling, capillary modification, conjunctivitis, telangiectasias, paronychias or fissures were observed. Cetuximab therapy was descontinued at grade III.	In treatment with EGFRI, it is necessary to recognize and manage adverse reactions, in order to guarantee quality of life for the patient and allow the continuation of therapy, without the need to reduce or discontinue the medication.	Q1 (high)
Psychological effects of cetuximab-induced cutaneous rash in advanced colorectal cancer patients	Romito et al[30]	Investigate the psychological and social sequelae of skin rash.	Patients affected by advanced CRC and treated with cetuximab-based therapy entered the trial. The following questionnaires were used: the Functional Assessment of Cancer Therapy-Colorectal (FACT-C) to measure quality of life (QoL) and the Psychological Distress Inventory (PDI). A single item regarding social avoidance was added with a three-point Likert scale. Toxicity was assessed using the National Cancer Institute Criteria (NCI-2).	Eighty patients were recruited; 41% presented psychological distress. Regarding to social avoidance, 53% of patients answered that they did not avoid going out at all. The rest of the sample answered that they "very much" (22%) or "somewhat" (25%) avoided going out. Psychological distress and social avoidance were not correlated to skin rash, but only to QoL.	Skin rash was not found to impact patients' psychological status or social life. Two likely explanations for this finding were that (a) patients with advanced cancer consider skin rash as a part of the complex suffering caused by cancer and (b) patients are encouraged by oncologists to continue treatment because skin rash is indicative of response to therapy. This expectation brings hope and helps patients bear the drug-related side effects.	Q2 (medium)

Cutaneous side-effects in patients on long-term treatment with epidermal growth factor receptor inhibitors	Osio et al[31]	Conducting a prospective study in patients undergoing epidermal growth factor receptor inhibitors for more than 6 months.	Detailed dermatological examination; Dermatology Quality of Life Index (DLQI).	100% had cutaneous side effects at the time of the examination; 5% grade I or II folliculitis; 100% xerosis; 69% mucositis; 5% capillary abnormalities; 5% trichomegaly of the lashes; 56% facial hypertrichosis; 56% painful paronychia; 44% onycholysis; 5% needed reduction or discontinuation of the EGFRI dose; 25% suffered moderate to strong impact on quality of life.	As cancer therapy improves, patients are treated for longer periods and side effects also become chronic. In this sense, cutaneous side effects are found in all patients treated with EGFRI for more than 6 months and this represents a significant impact in terms of quality of life, marked by significant physical and psychosocial discomfort. In turn, the clinical spectrum of skin manifestation varies over time.	Q1 (high)
Trastuzumab-Associated Flagellate Erythema: Report in a Woman with Metastatic Breast Cancer and Review of Antineoplastic Therapy-Induced Flagellate Dermatoses	Cohen[32]	Understand the association between antineoplastic agents and the appearance of flagellated erythema.	Literature Review. PubMed was used to search for the following terms, separately and in combination: agent, antineoplastic, bendamustine, bleomycin, breast, cancer, chemotherapy, dermatitis, dermatosis, docetaxel, erythema, flagellate, Herceptin, pigmentation, peplomycin, therapy and trastuzumab.	A few days after the administration of trastuzumab, a 64-year-old woman started to develop itching and to notice the existence of a rash on the chest, abdomen, arms and legs. Presence of flagellated erythema in conjunction with similar erythematous and hemorrhagic linear streaks on the legs.	Antineoplastic agents such trastuzumabe, bendamustine, docetaxel, bleomycin and peplomycin have been associated with the emergence of flagellated erythema induced by chemotherapy.	Q1 (high)

Tufted hair folliculitis in a woman treated with trastuzumabe	Rosman et al[33]	Presentation of a case of adorned hair folliculitis in a woman being treated with trastuzumab, a selective inhibitor of the human epidermal receptor (HER2).	Case Report.	A 47-year-old woman experienced an itchy scalp level for several months accompanied by flaking. After treatment with doxorubicin and before trastuzumab, she also reported significant hair loss. Scalp examination revealed perifollicular erythema and hyperkeratosis. Scar alopecia and enlarged follicular openings were also observed.	Chemotherapeutic agents aimed at the family of human epidermal receptors (HER), have been used with increasing frequency in a variety of solid tumors. In turn, cutaneous side effects are commonly reported with HER inhibitors, especially agents that inhibit the epidermal growth factor (EGFR) receptor.	Q1 (high)
Inter-observer agreement between dermatologists and oncologists in assessing dermatological toxicities in patients with metastatic colorectal cancer treated by cetuximab-based chemotherapies: A pilot comparative Study	Duffour et al[34]	Measure the agreement between observers of two teams, composed of three dermatologists and oncologists in terms of the identification and classification of dermatological toxicities induced by cetuximab.	98 photographs of 15 patients with metastatic colorectal cancer undergoing chemotherapy based on cetuximab were observed.	Both teams defined the same eight toxic effects in total of 13 (62%). Discrepancies between teams: labeling of skin flaking, hand-foot syndrome and classification of various toxicities such as paronychia or xerosis. The acneiform rash was equally approved, although oncologists gave it a lower rating.	This study highlighted the need for a real consensus between oncologists and dermatologists in order to label and classify dermatological toxicities.	Q1 (high)

Imiquimod in dermatology: an overview	Hanna et al[35]	Description of the evidence about the mechanism of action of topical imiquimod, its indications, uses and side effects.	Literature Review.	The cutaneous side effects caused by the use of imiquimod are: erythema, itching, burning, irritation, tenderness, pain, crusting, erosions/ulceration, cellulitis, lupus, lichen planopilaris, lichen sclerosus, lichen planus, psoriasis, eczema, vitigilio, pemphigus, telogen effluvium, eruptive epidermoid cysts, erosive pustular dermatosis of the scalp, mycosis fungoides-like histologic changes and angioedema.	Currently, topical imiquimod is approved for the treatment of anogenital warts, actinic keratosis and superficial basal cell carcinomas. However, he have beneficial effects at the level of other skin disorders. In turn, side effects are generally well tolerated and most commonly limited to the site of application.	Q2 (medium)
Imiquimod 5% cream induced psoriasis: a case report, summary of the literature and mechanism	Patel et al[36]	Presentation of a case of psoriasis induced by imiquimod 5%.	Literature Review and Case Report.	Two weeks after imiquimod administration, a man presented with erythematous puriginous plaques and well-defined scaling, which developed on the scalp, face, trunk and extremities. Two biopsies performed in distant temporal periods dictated the diagnosis of psoriasis.	Psoriasis exacerbated by imiquimod has been associated with a previous history of this skin condition, however in this patient there was no family or personal history of psoriasis.	Q1 (high)

Information and Participation Preferences Among Cancer Patients	Cassileth et al[37]	Explore the degree to which patients prefer to become informed about and to participate in their medical care. Determine medical and demographic characteristics of patients who seek detailed information and prefer to participate in their own care versus those who want a minimum of information and who do not want to participate in treatment decisions.	The subject population comprised a total of 256 patients. Patients had a median age of 55.5 years and had been diagnosed for an average of 10 months. Consenting patients were interviewed to obtain demographic data and information on diagnosis and treatment. Performance status was assessed using a five-point rating scale applied in Eastern Cooperative Oncology Group clinical studies, in which patients are rated from 0 (capable of all normal activity) to 4 (100% bedridden). Performance status was assessed by the interviewers or, when problematic, by medical staff. Patients completed two questionnaires: an Information Styles Questionnaire designed and pretested for this study and the Beck Hopelessness Scale.	Patients' behavior and beliefs were found to incorporate the contemporary standard of informed and active involvement. Significant age trends were found: The younger the patients, the more closely they conformed to the well-informed participant standard of patient behavior; the older the patients, the more likely they were to prefer the older, nonparticipatory patient role. Patients who wanted to be involved in treatment decisions were significantly more hopeful than others. Most patients in each age group displayed high levels of hope, preferences for open communication about their illness, and a desire for maximum amounts of information.	Clinicians often are concerned that providing patients with detailed information about their disease may create despair. It is useful to know that helping patients become well informed does not create depression but actually assists many patients in sustaining hopeful attitudes. Benefits associated with becoming knowledgeable and actively participating in one's care substantially outweigh the theoretical disadvantages of receiving potentially frightening information.	Q1 (high)

Patient perceptions of the side-effects of chemotherapy: the influence of 5HT3 antagonists	De Boer-Dennert et al[38]	Evaluate the impact of 5HT3 antagonists on patient perceptions of the side-effects of chemotherapy.	181 patients aged ≥ 18 years, who went through treatment with emetogenic chemotherapy and concomitant 5HT3 antagonists for the prevention and/or management of acute nausea and vomiting from the first treatment cycle. The survey was conducted using the questionnaire used previously by Coates et al (1983), where side-effects were divided in two groups: group A comprised 45 physical side effects and group B comprised 28 non-physical side effects. s. Patients were asked to circle all side-effects that they attributed to their chemotherapy. Subsequently, they ranked the five most distressing side-effects that they experienced from each group in order of severity. The two groups of five physical and non-physical side-effects were combined and patients then ranked	The mean number of selected physical side-effects was eight (range 0-26) and of nonphysical side-effects was five (range 0-17). Patients ranked nausea, hair loss and vomiting as the most distressing side-effects, being that they can impact quality of life and compliance with treatment. The ranking of the four most distressing side-effects was quite consistent for gender, age and marital status. Compared with men, women ranked hair loss significantly higher than vomiting and they also ranked feeling miserable (depression), anxious or tense higher than men. Men were more concerned by the thought of coming for treatment, the length of time treatment takes at the clinic and by infertility. Infertility caused more distress in the younger patients. The ranking of effects on family and partner and of feeling anxious or tense decreased with age, while the ranking of constipation and of having to have an injection increased. The thought of coming for treatment affected older patients less.	The results of our study indicate that we should remain alert to the patients' perception of the side-effects of chemotherapy, which may differ from the perception of health care workers. We do not want to underestimate the importance of the introduction of new effective means of supportive care, such as the 5HT3 antagonists, but would like to caution for overoptimistic interpretation of their relevance.	Q1 (high)

			the five most distressing side effects regardless of group.			
On the receiving end. V: Patient perceptions of the side effects of cancer chemotherapy in 1993	Griffin et al[39]	A study conducted in 1983 to identify and rank the symptoms experienced by patients receiving cancer chemotherapy reported that vomiting and nausea were the most important symptoms experienced. With the advent of new antiemetic regimens and changes in cancer chemotherapy, it was anticipated that changes may have occurred in patient perception of symptoms. The study was therefore repeated in 1993.	One hundred and fifty-five cancer patients receiving chemotherapy at a large urban teaching hospital participated in the study. Patients selected from cards listing symptoms all those experienced and the five most troublesome.	Patients reported experiencing an average of 20 symptoms (13 physical and 7 psychosocial). Nausea was reported as the most severe symptom followed by tiredness and loss of hair. Vomiting which was the most severe symptom in 1983, now ranked 5th. Differences were detected in the symptoms experienced and reported as most severe, between chemotherapy regimens, between older and younger patients and between males and females.	The results suggest a reduction in the severity of some symptoms experienced while receiving chemotherapy and a shift from concerns about physical to psychosocial issues.	Q1 (high)

Effect of Peri-operative Chemotherapy on the Quality of Life of Patients with Early Breast Cancer	Kiebert et al[40]	Investigate the impact of perioperative chemotherapy on physical, psychological and social well-being and on the activity level of patients with early stage breast cancer.	24 women received perioperative chemotherapy and 29 did not. Surgical treatment in both groups consisted of either modified radical mastectomy if the tumor size was 3 cm or more in diameter, or a breast conserving procedure plus radiotherapy if the tumor measured less than 3 cm. Physical and psychological well-being (i.e. symptoms) were measured with the Rotterdam symptom checklist (RSCL). The impact on body image and fear of recurrence and death were measured by six questions whose reliability had been estimated in a study with breast cancer patients For perceived social interaction, it was used a social experience checklist (SEC) that measures both positive and negative experiences.	In the first 2 months after surgery, patients who received perioperative chemotherapy had in sum no more physical symptoms than the controls. There was a significant difference between the two groups in fatigue (the per-i-operative chemotherapy group reported more fatigue than the control group) and, as expected, complete hair loss for patients who received peri-operative chemotherapy. The subjective evaluation of physical well-being in the patients who had perioperative chemotherapy did not significantly differ from that in the controls. No differences in psychological well-being, fears and concerns, performance of daily activities and overall evaluation of life were apparent.	Before this study, we assumed that alopecia as a side-effect of chemotherapy would negatively influence quality of life. But we found that the relations between the variables were not as simple. The question still remains how breast cancer and/or its surgical treatment affect the perception of alopecia as a side-effect of adjuvant chemotherapy.	Q1 (high)

Chemotherapy-induced alopecia: psychosocial impact and therapeutic approaches	Hesketh et al[41]	Identify the psychosocial effects resulting from chemotherapy-induced alopecia.	Literature Review.	Chemotherapy-induced alopecia (CIA) can affect quality of life and lead to significant levels of anxiety, depression, negative body image, low self-esteem and reduced sense of well-being.	Chemotherapy-induced alopecia is a significant medical condition, often with profound consequences. Thus, the CIA approach must be done individually, taking into account the needs of each patient, with a focus on the actual moment of hair loss. Support groups and self-care strategies are important components of any management approach.	Q2 (medium)
Changes in self-concept and body image during alopecia induced cancer chemotherapy	Münstedt et al[42]	To investigate which parts of the body concept are altered with chemotherapy-related loss of hair	Upon histological confirmation of predominantly ovarian cancer, 29 patients assigned to receive a complete-alopecia-inducing PEC combination chemotherapy were analyzed. Mean age of the patients was 57.5 years (median 61 years, range 28-74 years). The analysis was performed before the commencement of treatment and repeated when alopecia was complete and after completion of therapy when patients had already experienced regrowth of hair, using the Frankfurt self-concept scales (FSKN) and Frankfurt body concept scales (FKKS).	Significant differences were observed in the various evaluation scales FSAP (general ability to solve problems), FSSW (general self-esteem), SGKB (state of health), and SKEF (physical fitness). For all scales the results worsened during chemotherapy but did not return to normal or improve when patients experienced regrowth of hair. It was found that 73.3% of the patients did not feel as self-confident as before treatment and that for 46.6% alopecia was the most traumatic side effect of chemotherapy.	Since there is no chemotherapeutic regimen or any other effective treatment that can prevent alopecia, either of the following conclusions can be drawn: the observed differences may not be related exclusively to alopecia, but also associated with coping processes initiated by chemotherapy and perhaps enhanced by alopecia; or the changes persist even after the discontinuation of chemotherapy. Regrowth of hair and other adaptive processes do not normalize or improve the impaired body image and self-concept.	Q2 (medium)

The hidden cost of skin scars: quality of life after skin scarring	Brown et al[43]	Explore the influence of skin scars on the quality of life of patients and identify possible implications for clinical practice.	A needs-based approach to quality of life was adopted and semi-structured interviews were conducted with patients with scars at a specialized clinic. The data were submitted to an interpretive phenomenological analysis to identify common themes in the individuals' personal experiences.	The participants' statements were classified into 44 themes, covering five main areas: physical comfort and functioning, acceptability for themselves and others, social functioning, confidence in nature and management of the condition and emotional well-being. In this sense, most of the interviewers were unhappy with the appearance of the scar due to the perceived stigma and psychological associations, and therefore adopted different coping behaviors to hide or compensate them. However, this phenomenon sometimes made them unsociable and interfered with their communication skills, personal relationship, professional life and leisure activities.	The effects of scarring have a major influence on patients' psychological morbidity and behavior, and have important implications for clinical practice. While these effects may seem less severe than other chronic conditions, they are a major source of life disruption and should be taken into account when assessing patient's health-related QoL and in forming subsequent management strategies. Like this, support services should be made available in conjunction with professional and public education to improve management and help reduce patient suffering.	Q1 (high)

Psychosocial effect of common skin diseases	Barankin et al[44]	To increase awareness of the psychosocial effect of acne, atopic dermatitis, and psoriasis.	Literature review in the MEDLINE database between 1996 and 2000. The articles were selected from the dermatological and psychiatric literature, as well as from other relevant and posteriorly, medical journals used to discuss how skin diseases affect life of patients, also addressing the most appropriate treatment.	Dermatological problems can result in psychosocial effects that seriously affect patients 'lives, and more than an aesthetic discomfort, skin diseases can produce anxiety, depression and other psychological problems that affect patients' lives. In turn, effects such as gender, age, location of lesions must be taken into account as well as the bidirectional relationship between skin diseases and psychological distress.	The high visibility of skin diseases increases the likelihood of stigmatization. In turn, the way in which a skin disease affects an individual's psychosocial well-being has been underestimated. However, increasing understanding of psychiatric comorbidity, associated with skin diseases and adopting a handling approach will improve patients' lives.	Q2 (medium)
Psychodermatology : An update	Gupta et al[45]	Provide an overview of psychodermatology, with an emphasis on clinical aspects and psychological therapies for: cutaneous associations of psychiatric disorders and psychiatric associations for cutaneous disorders.	Literature Review.	The associations found between disorders and skin disorders are related to the appearance of delusions, hallucinations, body image problems related to the integumentary system, body dysmorphic disorder, depression, psychosis, obsessive-compulsive disorder, anxiety, panic disorder with agoraphobia, schizophrenia, difficulties in dealing with hostile feelings, stressful situations and stigmatization.	Psychosomatic factors contribute significantly to a wide range of skin disorders, and their effective handling requires that the patient be evaluated within the biopsychosocial context. As such, this is extremely important in dermatology, in which cosmetic disfigurement and social stigma often associated with a range of disorders can result in significant psychosocial morbidity. The importance of the psychosocial dimension in a wide range of cutaneous disorders underscores the need for further collaboration between dermatologists and psychiatrists and more research in this field.	Q1 (high)

Psychodermatology services guidance: the report of the British Association of Dermatologists' Psychodermatology Working Party	Bewley et al[46]	To identify the needs (rather than wants) of patients with psychocutaneous disease, to identify the minimum dermatology resources and standards to which all dermatology departments should have access, to identify and bring together the different aspects of the multidisciplinary psychodermatology team, and o support academic excellence in the research of psychocutaneous disease.	Working Party Report	There is increasing evidence that patients with psychocutaneous disease benefit from a multidisciplinary psychodermatology team approach (dermatologists, psychiatrists, psychologists, primary-care doctors and nursing). It is important for primary and secondary care to have the same agenda in treating patients with psychocutaneous disease, as any difference between approaches will be recognized by patients and will lead to dissatisfaction. Patients with psychocutaneous disease con- sider their disease to be primarily a problem with their skin and not one that requires psychiatric intervention. However, patients will often acknowledge that their skin disease has been caused by or has led to psychosocial 'stress'. Patients with psychocutaneous disease need to be managed in dermatology units by dermatologists with the crucial support of the other members of a psychodermatology multidisciplinary team.		Q1 (high)

Understanding psychocutaneous disease: psychosocial & psychoneuroimmunologic perspectives	Jafferany et al[47]	Comprehensive understanding of the complex and often neglected psychoneuroimmunologic components and pathways.	Literature Review.	Individuals with psychodermatologic disease also experience a general lower overall quality of life as it has negative implications on psychosocial, emotional, and cognitive well-being. Factors like early life interactions, body image dissatisfaction, and societal stigma play a crucial role in the development of psychosocial stress experienced by individuals with visible skin conditions. This heightened level of stress serves as a trigger in the activation of the hypothalamic-pituitary-axis (HPA), mediating immune responses that influence cutaneous disease severity and exacerbation.	In order to improve the quality of life and treatment outcomes of the patient population impacted by psychodermatologic disease, it is essential to better understand the complex interplay between the various psychosocial factors and pathophysiologic pathways involved.	Q2 (medium)
The psychosocial impact of skin disease: An overview	Ginsburg [48]	To review psychosocial impact of skin disease.	Overview.	Not discriminated.	Not discriminated.	Q1 (high)

The importance of mindfulness in psychosocial distress and quality of life in dermatology patients	Montgomery et al[49]	This study sought to examine the relationship between mindfulness and psychosocial distress in a dermatological sample. It was hypothesized that higher levels of mindfulness would be associated with lower levels of social anxiety, anxiety, depression, and skin shame, and with better quality of life.	Adult dermatology outpatients (N=120) from one hospital completed items assessing subjective severity, skin shame, fear of negative evaluation (BFNE), anxiety and depression (HADS), quality of life (DLQI), and levels of mindfulness (FFMQ).	Considering depression, 14% reported mild, 5% moderate and 2.5% severe symptoms. For anxiety, 22% reported mild, 23% moderate and 6% severe symptoms. In addition, 33.4% reported clinically significant social anxiety. After controlling for subjective severity, mindfulness explained an additional 19% of the variance in depression, 39% in anxiety, 41% in social anxiety, 13% in skin shame, and 6% in dermatological quality of life. One specific facet of mindfulness (acting with awareness) was found to be the most consistent predictor of distress.	The findings indicate that higher levels of mindfulness are associated with lower distress. This suggests that facilitating mindfulness may be helpful in reducing distress in dermatology patients and the use of mindfulness techniques warrants further investigation.	Q1 (high)

Psychosocial Effects of Dermatological-related Social Anxiety in a Sample of Acne Patients	Loney et al[50]	Examine links between anxiety pertaining to having one's skin evaluated by others and intention to participate in sport/exercise, general self-esteem and dermatological quality of life.	Fifty patients from a national acne dermatological support group consisting of 20 males and 30 females volunteered as participants for this study. Questionnaire packages were sent via post or electronic mail. It was measured the severity of the condition in a three point scale, the *Dermatological social anxiety (DSA),* the *Intention to participate in sport/exercise (IPEx),* the *Self-esteem (SE)* and the *Dermatology life quality index (DLQI).*	There were no significant differences between the responses provided by males and females. The present data suggest that the degree to which one becomes apprehensive about having their skin evaluated by others also has implications for: (1) an individual's intention to participate in sport and exercise; and (2) perceptions relating to the self (indexed in the present study by SE and DLQI). Participants who experience greater levels of skin-related social anxiety report lower intention to participate in sport and exercise, experience lower self-esteem and suffer a poorer dermatological quality of life. Anxiety pertaining to having one's skin evaluated by others may be an additional issue that researchers may wish to consider and examine within sport and exercise settings.	It would be interesting in future work to explore these interrelationships utilizing a larger heterogeneous sample of acne patients to provide a more detailed insight into the interplay between social anxiety pertaining to the kin and various psychosocial variables (e.g. IPEx, SE, and DLQI).	Q2 (medium)

The influence of optimism, social support and anxiety on aggression in a sample of dermatology patients. An analysis of cross-sectional data	Coneo et al[51]	To identify psychosocial factors contributing to aggression levels in dermatology patients.	Data was obtained from ninety-one participants recruited from out-patient clinics in the north of England, UK. This study used dermatology specific data extracted from a large UK database of medical conditions collected by the Appearance Research Collaboration (ARC). This study looked at the impact of optimism (LOT-R), perceptions of social support (SFSSQ) social acceptance, fear of negative Evaluation (FNE), appearance concern (CARVAL/CARSAL), appearance discrepancy PADQ), social comparison (INCOMM) and wellbeing (HADS) on aggression levels (RAQ) in a sample of dermatology patients.	To assess the relationship between variables, a hierarchical regression analysis was performed. Dispositional style (optimism) was shown to have a strong negative relationship with aggression. Higher levels of perceived social support were significantly associated with lower levels of aggression. Anxiety was also found to have a significant positive relationship with aggression.	The study provides evidence for the importance of perceived social support and optimism in psychological adjustment to skin conditions. Psychosocial interventions provided to dermatology patients might need to address aggression levels and seek to enhance social support and the ability to be optimistic.	Q1 (high)

Psychosocial consequences of rejection and stigma feelings in psoriasis patients	Ginsburg et al[52]	To assess the connections between feelings about having psoriasis, rejection by others, and the impact on work experience, alcohol use, and psychiatric help-seeking.	100 adults with moderate to severe psoriasis responded to a specially designed questionnaire. Multiple regression analysis is used to determine whether, and how, rejection experience and stigma feelings are associated with the three psychosocial outcomes after controlling for psoriasis severity.	Nineteen percent of the subjects experienced 50 episodes of gross rejection as a result of their psoriasis, most often from a gym, pool, hairdresser, or job. Rejection experience leads to feeling stigmatized, which is then associated with help seeking and, to some degree, with interference with work. Rejection can lead to feeling stigmatized and to increased alcohol consumption, but the data show that patients may drink without conscious awareness of their feelings.	When patients experience psoriasis-related rejection, they may feel stigmatized and suffer further adverse effects on their emotional and occupational life. It is urgent that ways of helping people deal with the impact of psoriasis, its stigmatizing potential, and the consequences of psoriasis-induced rejection be emphasized.	Q2 (medium)
Adjusting to disfigurement: process involved in dealing with being visibly different	Thompson et al[53]	To describe the psychological research bearing on how people deal with and adjust to disfiguring conditions.	Literature Review.	While as a group people with a disfigurement report heightened levels of depression and, especially, anxiety, there is a wide variation in the extent to which individuals mange to deal with their own feelings and others' reactions. Various therapeutic interventions have been effective in helping people because they provide both psychological and social assistance.	There has been relatively little work on the social and cultural stereotypes associated with disfigurement, and even fewer have sought to ascertain cultural differences that may exist with regard to stereotyping. Psychological interventions have been found to be useful in assisting disfigured people who experience psychosocial difficulties. Social skills training and cognitive behavioral therapies appear to be particularly promising approaches. Future research is needed in order to evaluate the efficacy of different approaches to assisting distressed disfigured people.	Q1 (high)

Appearance-related bullying and skin disorders	Magin[54]	To study the relation between bullying and skin diseases.	Literature Review.	The limited evidence available does suggest that individuals with skin disease, particularly those with acne, psoriasis, and atopic dermatitis, are often bullied, which can adversely affect them psychologically.	Bullying and teasing are recognized as major problems in children and adolescents. Despite limited evidence, it is reasonable to conclude that children and adolescents with skin diseases are especially prone to bullying and teasing on the basis of their condition. Dermatologists and other clinicians should be aware of this and of the potential for bullying and teasing to effect their patients' psychological well-being.	Q2 (medium)
The psychosocial and occupational impact of chronic skin disease	Hong et al[55]	Identify the psychosocial and occupational impact of a skin disease.	Literature Review.	Chronic skin diseases, such as psoriasis and atopic dermatitis, have a negative impact on the quality of life of patients, as they experience significant psychological and social suffering, with increased levels of depression and fear of stigma.	Raising awareness about quality of life helps to ensure that chronic skin diseases are not underestimated, subtracted and underfunded.	Q2 (medium)

Prevalence and correlates of suicidal ideation among patients with skin disease	Picardi et al[56]	We sought to estimate the prevalence of suicidal ideation among patients with dermatologic conditions, and to identify demographic, clinical, and psychosocial correlates.	294 outpatients 172 inpatients All participants completed the completed the 12-item General Health Questionnaire, the Skindex-29, and the Patient Health Questionnaire.	8.6% of patients reported suicidal ideation The presence of suicidal ideation was associated with the female gender, state of hospitalization, presence of a depressive disorder or anxiety. 10% had psoriasis 7.1% had acne Emotional stress and impaired social functioning were independently associated with suicidal ideation.	Suicidal ideation is a common phenomenon in patients with dermatological conditions. In this sense, the development of liaison services between psychiatric consultations is mandatory to provide effective treatment and careful monitoring of patients who are suicidal.	Q1 (high)
Suicide risk in skin disorders	Picardi et al[57]	Identification of the risk factors underlying suicide in patients with skin diseases.	Literature Review.	The literature points to a higher risk of suicide in patients with psoriasis, atopic dermatitis and acne, especially in patients in whom the condition of the skin is associated with clinically significant emotional distress, alterations in body image, difficulties in intimate relationships and commitment of daily activities.	Dermatologists can play an important role in the recognition of suicidal ideation and in the prevention of fatal bodily injuries in these patients. Raising the awareness of dermatologists about this issue and developing services to link mental health consultation in dermatology environments would be essential to curb this scourge.	Q2 (medium)

Prevalence of physical symptoms of itch, pain and fatigue in patients with skin diseases in general practice	Verhoeven et al[58]	To examine the presence of itching, pain and fatigue in patients with skin disorders.	A total of 826 questionnaires were sent to patients with diseases, however only 492 were counted. Visual analogue scales (VAS), Skin Status Scale (SSS), Dermatological Life Quality Index (DLQI), General list of possible comorbidities (eg: diabetes, respiratory disease or kidney failure), disease measurement from the beginning of diagnosis and evaluation of demographic variables using a general checklist by age, sex and educational level.	Skin disease patients experience particularly symptoms of itching and fatigue. 50% reported the symptoms mentioned above 25% experienced these symptoms as relatively severe 23% reported pain, although not very severe Strong correlations with quality of life related to the disease and moderate correlations with comorbidity variables and demographic variables.	The physical symptoms of itching, pain and fatigue are assumed as consequences of skin diseases and as such have a high frequency in these patients. Therefore, physicians should be encouraged to carefully assess these symptoms, and when appropriate, focus on treating them.	Q1 (high)
Psychiatric and Psychological Co-Morbidity in Patients with Dermatologic Disorders	Gupta et al[59]	Address psychiatric and psychological comorbidity in patients with skin diseases.	Literature Review.	Skin diseases are associated with the presence of psychiatric disorders such as psychosocial stress, major depressive disorder, obsessive-compulsive disorder, body dysmorphic disorder or social anxiety disorder.	In many cases, the impact of the skin disorder on quality of life is a stronger predictor of psychiatric morbidity than the clinical severity of the disorder, according to medical assessments. Therefore, a biopsychosocial approach (psychological factors such as the impact of the skin disease on the psychological aspects of life and social aspects such as the impact on the level of social and occupational functioning) for the evaluation of the dermatological patient will help the dermatologist to outline the general areas of psychological and psychiatric comorbidity.	Q1 (high)

Impact of Skin Toxicities Associated with Targeted Cancer Therapies on Body Image: A Prospective Study	Charles et al[60]	To describe the changes in body image that occur due to skin toxicity and their psychosocial impact on patients.	Body Image Questionnaire (BIQ); Physical Attitudes Questionnaire (PAQ); Beck Depression Inventory-II (BDI-II); Skin toxicity classification: National Cancer Institute's Common Toxicity Criteria (NCI-CTC).	94% developed skin toxicity; Body satisfaction remained stable and even slightly better during this period. 1/3 of the participants reported body image problems. Levels of body satisfaction and depression at baseline appeared to be significantly associated with body image problems after 3 months of treatment.	In the scope of dermatological handling, skin toxicities do not seem to be associated with body image problems. However, body satisfaction and depressive symptoms that emerged at the beginning of therapy, emerge as critical factors that physicians must take into account in order to avoid the deterioration of body image, and thus avoid affecting the quality of life.	Q2 (medium)
Psychologic consequences of facial dermatoses	Orion et al[61]	Discussion of the somatopsychic effect of facial skin diseases.	Literature Review.	The main consequences resulting from facial dermatoses are: impact on social status, interpersonal relationships, quality of life, emotional health and self-esteem or changes in body image.	This article highlights the need to screen for depression, anxiety and suicidal ideation among patients with acne. Regarding the other dermatological conditions , and although there is less research in this area, it can be concluded that stigmatization can lead to a lower quality of life and the consequent development of depression, anxiety, social phobia, shame or embarrassment. Therefore, it is extremely important that the dermatologist recognizes these side effects in order to refer the patient to appropriate psychological / psychiatric support.	Q2 (medium)

Predictors of body image dissatisfaction in adult men and women	Green et al[62]	Determine the prevalence of body image dissatisfaction in adult men and women.	One hundred and thirty-nine adults (94 females, 45 males) from the community were recruited. Adults were from area businesses and universities. Participants' ages ranged from 19 to 68 years, with a mean age of 42 years. Approximately two hundred questionnaires that evaluated body image (The Body Image Questionnaire), media influence (Mass Media Influence Subscale of the Socialization) Factors Questionnaire, family influence (series of yes/no questions [e.g., "Have you ever felt pressured by family members to lose weight?"]) and self-esteem (Rosenberg Self-Esteem Scale), were sent out by mail or handed out directly to individuals.	The results of our study showed that age, family pressure, and self-esteem were significant predictors of body dissatisfaction in both adult men and women. In addition, adult women report a significant level of media influence similar to that found in younger women. With the emphasis of media persuading males to engage in bodybuilding and other such activities, even if they do not believe the media influence them, more research needs to be conducted on the adult male population.	Future research should investigate other factors (e.g., influence of friends or coworkers) that may contribute to the staying power of body image dissatisfaction in adults, as it is evident that body image dissatisfaction is not strictly an issue faced solely by younger generations. Such research contributions could aid in the development of programs geared towards increasing body satisfaction in adults.	Q3 (low)

Cytokines, Fatigue, and Cutaneous Erythema in Early Stage Breast Cancer Patients Receiving Adjuvant Radiation Therapy	De Sanctis et al[63]	Investigate the hypothesis that patients developing high-grade erythema of the breast skin during radiation treatment could be more likely to present increased levels of proinflammatory cytokines which may lead, in turn, to associated fatigue.	The study group consisted of 40 patients (aged from 40 to 73 years) that were managed before, after radiotherapy (4 weeks), and during follow-up (6 months after radiotherapy) where the fatigue symptoms, skin erythema, and circulating proinflammatory cytokine levels were registered at each assessment, patients completed questionnaires for fatigue and anxiety-depression assessment and provided blood samples for laboratory examination.	Seven (17.5%) patients presented fatigue without associated depression/anxiety and grade ≥2 erythema was observed in 5 of these 7 patients A statistically significant influence of skin erythema on proinflammatory markers increase was recorded. These blood markers showed a significant impact on fatigue, and a seeming increase of fatigue, erythema, and proinflammatory markers was observed between the fourth and the fifth week of treatment followed by a decrease after radiotherapy.	The study suggests that fatigue is related to high-grade breast skin erythema during radiotherapy through the increase of cytokines levels and this increase is correlated with concurrent high-grade breast skin erythema which might be responsible for biological mechanisms of fatigue. A possible radiation therapy modulation or new drugs erythema-targeted can be developed to reduce skin erythema intensity and fatigue, increasing adherence to therapy and quality of life.	Q2 (medium)
Body image issues in women with breast cancer	Helms et al[64]	Examine body image issues and related psychological adjustment in women with breast cancer.	Literature Review.	Women diagnosed and treated for breast cancer face several physical changes. While some of these changes are life threatening, others could be considered more aesthetic. Women with breast cancer are likely to gain weight, lose their hair, and suffer significant breast disfigurement. These changes can impact a woman's sense of well-being and adjustment to life after cancer. Further, high body investment appears to potentate the impact these cosmetic changes have on psychological	Although there is a foundation of studies examining body image issues in women with breast cancer that can be built, there are a number of clear areas for future investigation such as better methodology, etiology of weight gain in relation to breast cancer, limited psychosocial oncology research and practice, lack of discussion in body image research related to breast cancer and also lack of knowledge in the impact of real physical changes on psychological well-being.	Q2 (medium)

				functioning.		
The Validity of Cutaneous Body Image as a Construct and as a Mediator of the Relationship Between Cutaneous Disease and Mental Health	Hinkley et al[65]	Validate the cutaneous body image (ICC) as a construct; To understand how ICC mediates the relationship between a skin condition, anxiety and depression.	Cutaneous Body Image Scale; Scales of Self-Perception Profile for Adults; Subscales of the Eating Disorder Inventory; Subscale of the Three Factor Eating Questionnaire-R18; The Body Esteem Scale for Adolescents and Adults; Generalized Anxiety Disorder Scale; Beck Depression Inventory-Short Form.	Cutaneous body image was more negative in those respondents with skin conditions (regression analysis B = - 0.61, standard error 0.23, p = 0.008); ICC was significantly correlated with global (r = 0.39, p \0.001) and appearance-related self-esteem (r = 0.50, p \0.001), ICC mediated the relationships between having a dermatologic condition and depression and anxiety.	The poor psychological health that many people with skin problems have may be due, in part, to the presence of feelings related to the skin, and not just a specific skin condition.	Q1 (high)
Psychological Inflexibility in Childhood and Adolescence: Development and Evaluation of the Avoidance and Fusion Questionnaire for Youth	Greco et al[66]	Development and validation of the Avoidance and Fusion Questionnaire for Youth (AFQ-Y).	Multimethod psychometric approach. 5 studies were carried out. The first study was on item development (9 children aged 8-14 years); the second study included the initial item reduction (513 young people with *M*= 12.43 years old); the third study addressed the additional item reduction and development of the AFQ-Y 8 (346 children with *M*= 12.63 years old); the fourth study is about psychometric evaluation of the AFQ-Y and AFQ-Y 8 (329 children aged	Results suggest that the AFQ-Y and AFQ-Y8 may be useful child-report measures of core processes.	Development and validation of child measures is na initial step towards expanding cognitive and behavior therapies aimed at younger populations. Thus there is critical need do develop measures that assess other clinically relevant constructs (eg. mindfulness, self-compassion). It is hoped that de availability of the AFQ-Y and AFQY8 will stimulate work in this area.	Q1 (high)

			M= 12.70 years old); the fifth study addresses the normative data and validity testing of AFQ-Y and AFQ-Y 8 (1188 children: sample of studies 2, 3 and 4).			
Experiential avoidance and cognitive fusion mediate the relationship between body evaluation and unhelpful body image coping strategies in individuals with visible differences	Zucchelli et al[67]	Investigate if component of psychological flexibility mediates the relationship between body assessment and two strategies for coping with body image (avoidance behavior and appearance-fixing behavior).	The Appearance Subscale of the Body Esteem for Adolescents And Adults; The Brief Experiential Avoidance Questionnaire; The Cognitive Fusion Questionnaire; The Body Image Life Engagement Questionnaire; The BICSI Appearance-Fixing Subscale.	Cognitive fusion partially mediated the relationship for both body image coping strategies, and experiential avoidance partially mediated behavioral avoidance but not appearance-fixing behaviors.	Cognitive Fusion may be a particularly important cognitive process in the mechanisms underpinning unhelpful body image coping strategies in a population with visible skin differences. The creation of a psychological distance in the face of distressing thoughts (cognitive defusion) can contribute to minimize the poorly adaptive coping strategies adopted by adults with visible differences.	Q1 (high)
The relation between type D personality and the clinical condition of patients suffering from psoriasis	Basińska et al[68]	Discuss the occurrence of type D personality in a group of patients with psoriasis.	Questionnaire to assess the increase in psoriasis complaints; DS14 (type D personality).	The presence of type D personality is frequent in patients with psoriasis. As the negative affectivity (type D personality component) increases, complaints about the patients' clinical condition increase.	Clinical condition is not always associated with patients' psychological well-being Monitoring of psychological well-being of psoriasis patients, especially within type D personality, seems to be a vital element.	Q2 (medium)

TABLE 1. Characteristics and results of studies

First Author	Analysis and Statistical Methods	Variables
Joshi et al [28]	*t* tests Bonferroni method Spearman correlation Wilcoxon rank-sum tests Kruskal-Wallis test	Sex Age EGFRI EGFRI-related reactions Fitzpatrick skin phototype Quality of life
Romito et al[30]	Chi-Square test Pearson's correlation Spearman's test *t* test SPSS	Sex Age Colorectal cancer Social avoidance Psychological distress Skin rash Quality of life
Osio et al[31]	Not discriminated	Sex Age EGFRI-related reactions Associated chemotherapy Duration of EGFR (months) Quality of life
Duffour et al [34]	Chi-squared test or Fisher's test (when applicable) Kappa coefficient STATA 9.0 software	Age Colorectal cancer Cetuximab
Cassileth et al [37]	Point biserial correlations Bartholomew test	Sex Age Race Education Occupation Malignancy Time from diagnosis to interview
De Boer-Dennert et al[38]	Chi-square test Fisher's test	Sex Age Marital Status Tumour types Chemotherapy
Griffin et al [39]	LASA Methodology	Sex Age Months from first diagnosis Marital status Type of cancer Extent of disease Intent of therapy Patient status Anti-emetic regimens
Kiebert et al [40]	*t* tests and χ^2 tests Two-way analyses of variance	Age Stage of disease Type of surgery Breast cancer Radiotherapy Adjuvant chemotherapy Menopausal status Time since surgery Quality of life
Münstedt et al [42]	MANOVA *t* tests Bonferroni method Cronbach's Alpha SPSS	Age Gynecological Malignancy Mainly ovarian cancer Chemotherapy

Brown et al [43]	Interpretative phenomenological analysis Primary Thematic Analysis	EGFRI Type of treatment Oncology practices
Montgomery et al [49]	*t* tests ANOVA Correlations (if appropriate) Hierarchical regressions	Age Sex Type of skin condition Psychological outcomes Mindfulness
Loney at al [50]	SPSS Cronbach's Alpha ANOVA Bivariate Correlations Mediation Analysis Aroian version of the Sobel test (if partial mediation analysis)	Age Sex Dermatological social anxiety Intention to participate in sport/exercise Self-esteem Quality of life
Coneo et al [51]	SPSS Hierarchical multiple regression Pearson correlation	Age Sex Family status/living arrangements Ethnicity Dermatology patients
Ginsburg et al [52]	Pearson correlation	Age Sex Marital Status Education Hospitalized/ outpatient status Severity of psoriasis Rejection experiences Feeling stigmatized Interference with employment Help-seeking Alcohol consumption
Picardi et al [56]	*t* tests and x^2 tests Multiple logistic regressions SPSS	Age Sex Marital Status Education Inpatient/outpatient status Psychological distress Health-related quality of life Patient Health Questionnaire
Verhoeven et al [58]	SPSS Student's *t* tests Pearson correlation Point biserial correlations Sequential regression analysis	Age Sex Educational level Comorbidity Duration of skin disease Disease severity Dermatological quality of life
Charles et al [60]	Descriptive Statistics McNemar and Wilcoxon tests Chi-square test Mann-Whitney *U* test Spearman's coeficiente SPSS	Age Sex Marital status Cancer site Treatment Included in clinical trial Previous dermatological symptoms
Green et al [62]	Cronbach's Alpha	Age Sex Media influence Self-esteem Family Pressure
De Sanctis et al [63]	Student's *t* test (Heckman two-step correction)	Age Early stage breast cancer patients who

		undergone conservative surgery and radiotherapy Conserving surgery Histological type Tumor grade
Hinkley et al [65]	Regression analysis Cronbach's Alpha Bootstrapping procedure in the PROCESS macro outlined in Hayes	Participants without skin conditions Self-reported gender Ethnicity Developmental stage Weight status Participants with dermatologist-validated diagnoses of psoriasis, atopic dermatitis, or acne who were currently taking systemic medication
Greco et al [66]	Not discriminated	Age Sex Ethnicity
Zucchelli et al [67]	Linear regression Missing Not at Random (MNAR) criteria Nonparametric bootstrap mediation analysis (PROCESS) *t* tests Cohen's *d*	Age Sex Visible difference Ethnicity Race Education Relationship status
Basínska et al. [68]	Descriptive statistics Shapiro-Wilk test Student's *t* test Nonparametric *U* Mann-Whitney *z* test	Sex Age Education Healthy and psoriasis patients Type D personality

TABLE 2. Variables, Analysis and Statistic Methods.

First Author	Instruments
Joshi et al [28]	The National Cancer Institute Common Terminology Criteria for Adverse Events (NCI-CTCAE) – version3.0 Skindex-16 Fitzpatrick SPT
Romito et al[30]	The Functional Assessment of Cancer Therapy- Colorectal (FACT-C) The Psychological Distress Inventory (PDI) The National Cancer Institute Common Terminology Criteria for Adverse Events (NCI-CTCAE)
Osio et al[31]	Questionnaire Dermatology Life Quality Index (DLQI) Common Terminology Criteria for Adverse Events (NCI-CTCAE)
Duffour et al [34]	Photographs The National Cancer Institute Common Terminology Criteria for Adverse Events (NCI-CTCAE)
Cassileth et al [37]	Demographic interview Five point rating scale applied in Easter Cooperative Oncology Group clinical studies Information Styles Questionnaire Beck Hopelessness Scale
De Boer-Dennert et al[38]	Coates et al (1983) Questionnaire (Perception of the side effects of cancer chemotherapy)
Griffin et al [39]	Coates et al (1983) Questionnaire (Perception of the side effects of cancer chemotherapy) Cancer Linear Analogue Self-Assessment Scales (CLASA)
Kiebert et al [40]	Rotterdam Symptom Checklist (RSCL) Adapted Revenson Scale (and others) Modified EORTC Quality of Life Study Group questionnaire
Münstedt et al [42]	Frankfurt Body-concept Scale (FKKS) Frankfurt Self-concept Scale (FSKN)
Brown et al [43]	Manchester Scar Scale (MSS) Interviews (open questions and non-directive approach)
Montgomery et al [49]	Questionnaires
Loney at al [50]	Dermatological Social Anxiety (DSA) – and adaptation of the Social Physique Anxiety Scale (SPAS) Intention to Participate in sport/exercise (IPEx) – assed by three items developed by Chatzisarantis, Biddle and Meek (1997) Rosenberg's Global Self-Esteem Scale Dermatology Life Quality Index (DLQI)
Coneo et al [51]	Orientation Test -Revised (LOT -R) The Short Form Social Support Questionnaire (SFSSQ) Fear of Negative Evaluation (FNE) – brief version The Centre for Appearance Research Valence scale (CARVAL) The Centre for Appearance Research Salience scale (CARSAL) The Physical Appearance Discrepancy Questionnaire (PADQ) The Iowa -Netherlands Social Comparison Measure (INCOMM) The Hospital Anxiety and Depression Scale (HADS) The Refined Aggression Questionnaire (RAQ)
Ginsburg et al [52]	Questionnaire
Picardi et al [56]	Patient Health Questionnaire (PHQ) General Health Questionnaire (GHQ) – 12-item version Skindex-29

Verhoeven et al [58]	Nine-item skin status scale Visual Analogue Scale (VAS) Subscales *Social Functioning* and *Mental Health* of the Dutch version of the SF-36 questionnaire
Charles et al [60]	The National Cancer Institute Common Terminology Criteria for Adverse Events version 4.0. (NCI-CTCAE) Body Image Questionnaire (BIQ) Physical Attitudes Questionnaire (PAQ) Beck Depression Inventory-II (BDI-II)
Green et al [62]	Questionnaires The Body Esteem Questionnaire Mass Media Influence Subscale of the Socialization Factors Questionnaire Rosenberg Self-Esteem Scale
De Sanctis et al [63]	Cancer Therapy Fatigue subscale (FACT-F)- a component of FACT-G quality of life questionnaire Hospital anxiety and depression scale (HADS)
Hinkley et al [65]	Cutaneous Body Image Scale (CBI) Self-Perception Profile for Adults - *Global self-esteem* and *Appearance-related self-esteem* subscales Eating Disorder Inventory - *Body Dissatisfaction* and *Drive for Thinness* subscales Three Factor Eating Questionnare-R18- *Cognitive Restraint* subscale Body Esteem Scale for Adolescents and Adults- W*eight* subscale Generalized Anxiety Disorder Scale Beck Depression Inventory-Short Form Questionnaire
Greco et al [66]	Not discriminated
Zucchelli et al [67]	The Appearance Subscale of the Body Esteem for Adolescents and Adults (BESAA-A) The Brief Experiential Avoidance Questionnaire (BEAQ) The Cognitive Fusion Questionnaire (CFQ) The Body Image Life Engagement Questionnaire (BILEQ) The BICSI Appearance-Fixing Subscale (BICSI-AF)
Basínska et al. [68]	Personal Questionnaire Self-assessment Scale The DS-14 personality scale

TABLE 3. Instruments used

4.1.1 Quality Assessment

Using the Scimago Journal & Country Rank it was determined that 29 studies were considered to have high impact, 16 medium impact and 1 low impact. Articles which journals had very low impact were not considered (Table 1).

The samples consisted in men and women with skin diseases that came from cancer treatment (28,30,31,60), men and women with skin toxicities that did not came from oncological treatments (50-52, 56,58,67,68), patients (regardless of sex) with skin diseases that came from cancer treatment (34), men and women with cancer side-effects (38,39), women with cancer side effects (40,42,63), men and women with cancer and their participation in medical care (37), patients (regardless of sex) with skin scars (43), men and woman undergoing psychological intervention (49), female and male children and adolescents (66), patients (regardless of sex) with and without skin toxicities (65), body image in men and women (62).

Six studies (31,49,52,62,65,68) included researcher-created instruments with no evidence of validity/reliability.

4.1.2 Statistical methodology

Table 1 displays the studies' statistical methodologies. There are various methods, being that there are several types of study designs (observational and non-interventional, comparative, retrospective, quantitative, multi-center randomized, prospective longitudinal, qualitative, cross-sectional, descriptive, exploratory and prospective study), variables and goals.

4.1.3 Instrumentation

Fifty-nine different instruments were used (Table 3.), with eight being specific to patients with cancer [28 ,30,31,34,60, 37, 39, 63] and six being specific to dermatology/skin [28,34, 43, 50, 58, 65]. The majority of the studies (83%) used noncancer-specific nor dermatology/skin-specific instruments.

4.2 Clinical Treatment

There are different epidermal growth receptors inhibitors (EGFRI), which have emerged as a robust antineoplastic agent for advanced solid tumors. Although treatment with EGFRI is associated with a lower incidence of systemic side effects compared to standard chemotherapy, which can cause hand-foot syndrome (25), these have been identified as specific side effects of EGFRI (dermatological side effects) (16,26,27).

Unlike chemotherapy, which affects most replicating cells, EGFRIs target select pathways that are essential for tumor growth and survival. However, in certain tissues, such as skin, hair, and nails, EGFR is essential for normal functioning (28).

In this sense, EGRI frequently cause papulopustular skin rashes. However, other reactions such as pruritus, hand and feet erythema, xerosis, sensitivity to ultraviolet radiation, eczema, acneiform rash, fissures, telangiectasias (dilation of small blood vessels that are just below the surface of the skin), hyperpigmentation, folliculitis and paronychia may also appear (12,16,26,29).

These reactions can become painful and very disturbing, and could interfere with the daily activities of a relevant proportion of patients, leading to a significate physical and psychosocial discomfort which can result in a worsened quality of life, as well it can cause modification or discontinuation of the antineoplastic therapy (30,31).

When it comes to flagellated erythema, it can be seen as a possible side effect of trastuzumab (monoclonal antibody used to treat breast cancer and stomach cancer (32). In one of the most recent investigations, it was possible to verify the presence of capillary folliculitis in a woman who received trastuzumab monotherapy (33).

Also, the use of Cetuximab (a monoclonal antibody also known as an epidermal growth factor receptor inhibitor used for the treatment of metastatic colorectal cancer, metastatic non-small cell lung cancer and head and neck cancer) has been seen associated with numerous dermatological toxicities such as xerosis, nail changes, capillary changes, telangiectasia and follicular acneiform rash (34).

Finally, imiquimod refers to an immune response stimulating agent, indicated for the topical treatment of actinic keratosis (benign skin neoplasms), basal surface cell carcinoma and acuminate condyloma (genital wart). However, and although its use is well tolerated, it may be associated with exacerbations of generalized inflammatory skin diseases, possibly due to the systemic circulation of pro-inflammatory cytokines (35).

In this sense, imiquimod has been associated with the appearance and exacerbation of inflammatory skin eruptions, such as psoriasis, exfoliative dermatitis, erythema multiforme, pemphigus and subacute lupus (36).

4.3 Alopecia

Several surveys conducted in the 80s and 90s found that cancer patients consider hair loss to be one of the three most troubling side effect of chemotherapy (37–39). Hair loss was also ranked as the second most troublesome side effect after the effect of chemotherapy on the family or partner (40).

4.4 Psychological Factors

4.4.1 Psychosocial Implications

Little is known about how skin scars can affect patients' lives (43). The impact of skin diseases on the level of psychosocial well-being has often been underestimated by health professionals. However, dermatological problems can give rise to psychosocial effects that seriously affect patients' lives (44).

It is estimated that at least a third of dermatology patients require the management of psychosocial distress with 85% of patients indicating that such factors are an important aspect of living with a skin condition (45,46).

Patients with skin disease frequently experience a variable degree of psychosocial distress while dealing with appearance altering conditions. The individual factors that impact the level of experienced psychosocial stress in patients with skin conditions include life experiences, cultural attitudes and stigma related to the skin disease (47). In this sense, there are several factors that can mediate the psychosocial impact of dermatological disorders such as the moment of onset of the disease, the course of the disease and the age and gender of the patient (48).

Given the prevalence of psychosocial distress in dermatology patients, and being that skin diseases can cause psychological problems such as depression, anxiety, isolation and social problems such as unemployment and temporary disability (44), interventions that reduce attentional bias are likely to be beneficial (49).

The potentially visible nature of skin conditions can result in unwanted reactions from others and interfere with social interactions, causing social anxiety, fear of negative evaluations and appearance-related concerns (50). Also, visible skin conditions often experience stigmatization and discrimination. This may trigger maladaptive responses such as feelings of anger and hostility with negative consequences to social interactions and relationships (51) being that stigmatization towards individuals with skin conditions is associated with sub optimal psychological functioning and has the potential to significantly affect people's emotional wellbeing (52–54).

Thus, the psychosocial and occupational impact of skin diseases is often comparable, if not greater, than other chronic medical diseases, and these negative effects can compromise the overall quality of life (55). However, it is important to mention that although the severity of the condition can influence psychosocial wellbeing, it is important to understand that people perceive their skin conditions differently (44).

In a study conducted by Picardi et al. (2006), which evaluated the psychosocial disability related to skin diseases, it was found that there were difficulties in terms of intimate relationships (56). In addition, it was observed that emotional suffering can be associated with skin diseases and it was also recognized the presence of depression and psychosocial disability in patients with dermatological diseases (57).

Additionally Verhoeven et al. (2007) checked that patients with skin diseases when compared to the general population, presented lower scores in terms of psychosocial wellbeing. In turn, this reduced wellbeing was related to higher levels of disease severity, lower quality of life related to the disease, longer duration of illness, as well as greater presence of physical symptoms such as itching, pain and fatigue. Thus, psychosocial deficits were greater in patients with more severe and lasting skin disease, with more physical symptoms and the presence of other chronic morbidities (58).

It is possible to verify that the presence of a significant discrepancy between the assessment of the severity of the disease by the patient and the dermatologist, is usually a sign that psychosocial factors contribute to the general morbidity associated with the disease (59).For this reason, special attention should be directed to patients with reduced psychosocial wellbeing, as they may be at risk of developing more serious psychosocial impairments, such as clinical depression (58).

Increasing the understanding of psychiatric comorbidity associated with skin diseases and the biopsychosocial approach will improve the lives of these patients (44).

4.4.2 Body Image

Body satisfaction and depressive symptoms at the beginning of cancer therapy must be considered as critical factors that professionals must take into account in order to avoid deterioration of the body image, which could lead to a strong impact on life quality and compromise therapy adherence (60).

Consequently, body image is one of the aspects affected by these secondary effects of anticancer treatments. The body image that a person has about himself has a fundamental importance in the development of personality and interpersonal relationships (61), assuming himself as a complex and multifaceted construct that covers perceptual, cognitive, affective and behavioral aspects (62).

Throughout life, individual body image undergoes constant changes, as a result of various factors such as sexual function, occupations, relationships with family and friends, physical appearance or also the loss / change of any of these components (42).

Since these toxicities can negatively affect the patient's emotional and psychological state, causing low self-esteem and altered notion of self-image (63) ; the discomfort caused by the inability to function normal in the daily basis, self-objectification, habitual body monitorization and changes in body image, are considered as predictors of emotional distress, low body self-esteem and loss of body satisfaction (64). In this way, the cutaneous body image seems to mediate the relationship between suffering from a skin condition and experiencing depression or anxiety, given that the poor psychological health that many people with skin problems have, may be due, in part, to the presence of negative feelings about the skin and not just a specific skin condition (65).

4.4.3 Cognitive Fusion

Cognitive fusion represents the phenomenon by which individuals believe the literal meaning of their thoughts instead of viewing them as transient internal states (e.g., the thought, "I am hopeless", is equivalent to the psychological experience of hopelessness) (66).

So, the greater the cognitive fusion of an individual with evaluative thoughts in relation to his appearance, the more derogatory these thoughts will be, since the thought represents a fact inevitably associated with someone's appearance. Therefore, cognitive fusion can play an essential role to determine in which way individuals with visible differences respond to worrying thoughts related to their appearance (67).

4.4.4 Social Inhibition

Social inhibition translates into a tendency to refrain from expressing negative emotions and behaviors concomitant with those emotions. In addition, inhibition generally occurs in social situations, in which the individual is aware of being inhibited, and this behavior results from the fear of being reproved and rejected by others (68), in other words, to be socially inhibited involves being sensitive to other people's negative reactions, which can make stigmatization experiences especially harmful.

5. DISCUSSION AND CONCLUSION

Skin changes are often understood as minor concerns when compared to cancer symptoms, but they can seriously affect patients' quality of life, due to their unforeseen nature.

It is been know that health professionals often have limited knowledge about these effects, which causes to limit their ability to effectively support not only patients but also their families. Thus, it is important that these professionals educate themselves and also the patients about the many treatment side effects that can come along, such as changes in the appearance that may manifest over time, and also seek to help the management of de patients' physical and psychological consequences.

However, patients with the most varied types of cancer survive for longer and have been mentioning an improvement in the level of quality of life, as a consequence of cancer therapies.

There is a perception of the negative effects that dermatological side effects induced by treatments have on patients, but there is still limited knowledge on how the experience of living with these toxicities affects the psychological and social aspects in patients' daily lives. As a limitation, the majority of the studies developed in the last decades have only focused on the physical effects of oncological disease not mentioning dermatological aspects as side effects. Also, the studies that had dermatology as a point of focus had no direct association with cancer.

However, the main difficulty in this review was not finding studies who correlated cancer and its dermatologic consequences in a psychological and psychosocial view.

CONFLIT OF INTEREST

The authors have no conflict of interest to declare.

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