Mental health and multimorbidity: psychosocial adjustment as an important process for quality of life

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Abstract: BACKGROUND: Multimorbidity (the co-occurrence of two or more chronic diseases) can be seen as a prototypical situation in which psychosocial adjustment is required. Even though most patients adapt successfully, a significant number of individuals show adaptation problems and develop additional mental health problems. OBJECTIVE: For this reason, this article focuses on the importance of psychosocial adaptation as a core process in the context of quality of life. RESULTS: Important findings pointing at the association between multimorbidity and mental health are summarized, and the stress-response perspective on psychosocial adjustment is introduced. Furthermore, cognitive-affective processing of the disease (in the context of illness perceptions) and interpersonal emotion regulation are presented as relevant examples for processes involved in psychological adaptation to multimorbidity. As an intervention possibility, expressive writing is given as a feasible example. CONCLUSION: Viewing adjustment problems to multimorbidity from a stress-response perspective offers a framework for a deeper understanding of core processes regarding multimorbidity and quality of life that is not only important for research but also for clinical practice. This article ends with a general summary and an outlook on clinical implications of the introduced stress-response concept of adjustment to multimorbidity.

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Mental Health and Multimorbidity: Psychosocial Adjustment as an Important Process for Quality of Life

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Key Words
Multimorbidity · Mental health · Chronic illness · Psychosocial adjustment · Stress-response syndrome · Quality of life

Abstract
Background: Multimorbidity (the co-occurrence of two or more chronic diseases) can be seen as a prototypical situation in which psychosocial adjustment is required. Even though most patients adapt successfully, a significant number of individuals show adaptation problems and develop additional mental health problems. Objective: For this reason, this article focuses on the importance of psychosocial adaptation as a core process in the context of quality of life. Results: Important findings pointing at the association between multimorbidity and mental health are summarized, and the stress-response perspective on psychosocial adjustment is introduced. Furthermore, cognitive-affective processing of the disease (in the context of illness perceptions) and interpersonal emotion regulation are presented as relevant examples for processes involved in psychological adaptation to multimorbidity. As an intervention possibility, expressive writing is given as a feasible example. Conclusion: Viewing adjustment problems to multimorbidity from a stress-response perspective offers a framework for a deeper understanding of core processes regarding multimorbidity and quality of life that is not only important for research but also for clinical practice. This article ends with a general summary and an outlook on clinical implications of the introduced stress-response concept of adjustment to multimorbidity.
Multimorbidity requires psychosocial adjustment to a stressful situation that sometimes fails. Most individuals adapt well to the demanding situation; however, high levels of quality of life in spite of the challenging multimorbid situation will not occur without successful psychosocial adaptation. Mental health consequences may not be recognized at first sight in the somatic medical setting, but besides its impact on quality of life it furthermore shows relevant associations with the course of disease and even mortality [2]. Thus, the search of indicators of successful or failed adaptation to multimorbidity and its integration in the view on quality of life is highly relevant.

The aim of this paper is to give a short overview of the relevance of psychological adaptation and the elevated risk for mental health problems in multimorbidity. Recent suggestions for a stress-response perspective on psychological adjustment [3] are promising in order to get a better understanding of the processes involved and how they might be intervened. Furthermore, the importance of cognitive-affective processing of the multimorbid situation is highlighted. As examples that seem particularly interesting in this context, illness perceptions and the possibility of fostering adaptive coping processes through expressive writing are briefly introduced.

**When Psychological Adjustment Fails**

Adjustment disorder is defined as a state of subjective distress and emotional disturbance characterized as a maladaptive reaction to identifiable stressors or changes in life circumstances. In contrast to depression there is a clear etiological assumption implied in the concept of adjustment disorder: adjustment disorder is defined as a maladaptive reaction to a stressor. In the ICD-10 [4] it is proposed that there should be strong, though possibly presumptive, evidence that the disorder would not have occurred without the stressor (in this case the physical disease). In the DSM-5 [5] any other mental disorder diagnosis is an exclusion criterion for the disorder. Psychological adjustment problems are characterized by emotional impairment, subjective stress and social dysfunction [6]. Depression, anxiety, a feeling of loss of control and a loss of coping ability may be manifestations of the disorder [7]. Adjustment disorders are often found in patients with chronic physical illnesses. Compared to the general population, patients with a chronic disease have a 1.5- to 2-fold increased risk for a mental disorder [2]. In physical diseases, the prevalence of adjustment disorders is 6–20% [8]. In the study of Maercker et al. [3], 17% of patients of a heart center reported an adjustment disorder and in studies with inpatients, 26.6% of cases were diagnosed with it. Interestingly, the acceptance of the diagnosis ‘adjustment disorder’ is comparatively high, since it meets the need of causal explanation [8]. Furthermore, it is important to note that adjustment disorders form a risk factor for increased morbidity and mortality of these physical illnesses [2]. Elevated levels of depressive symptoms – that can be seen as one aspect of adjustment problems – are the most common mental health problem that goes along with physical disorders [9, 10]. The prevalence of clinically significant levels of depression linked to breast cancer lies at 10–25%, to cardiac infarction at 16–23% and to chronic heart failure at 22% [11], and there is a predominant comorbidity of depressive disorders with diabetes, heart disease, apoplexy and neurodegenerative disease [12]. However, in many of these studies the primary focus has been on the prevalence of depression within a single chronic physical condition, neglecting probable multimorbid constellations [13].

Moreover, many studies on multimorbidity exclude psychiatric conditions, although Thiem et al. [14] have found that mental health problems are even mentioned before patients have expressed their somatic problems. On that account, it is important to note that in an Australian cross-sectional study, Gunn et al. [15] reported that the prevalence of depression increases with the number of chronic physical diseases (1 condition: 23%; 2 conditions: 27%; 3 conditions: 30%; 4 conditions: 31%; 5 or more conditions: 41%). According to that, mental health problems seem to be a central feature of multimorbidity. Similarly, in studies with depressed patients a higher number of chronic disorders as well as a lower level of physical health and a lower health-related quality of life are commonly reported [16]. Furthermore, it is important to keep in mind that the directions of the relationship between affective symptoms and physical diseases are not fully understood: inflammatory processes are involved in both pathogenic processes [17]. Therefore, there might be a bidirectional relationship between mental and physical health, particularly in those cases in which the chronic diseases accumulating to multimorbidity involve inflammatory processes.

**Adjustment Disorder as Stress-Response Syndromes**

Maercker et al. [3] introduced a prevailing model of adjustment disorder in which the symptoms are characterized as a particular form of a stress-response syndrome.
that has been somewhat revised and included as a beta-version proposal for ICD-11 [18]. They describe adjustment disorder as maladaptive reactions to identifiable psychosocial stressors or changes in life circumstances. Stressor events are, for example, divorce, illness, financial problems and many more. Nevertheless, it is important to mention that those stressors are defined as emotionally demanding but not as traumatic events, which marks a difference to posttraumatic stress disorder. The central processes and symptoms are as follows: (1) preoccupation, (2) failure to adapt and (3) avoidance – concepts that will be introduced later. The subtypes of adjustment disorder also play an important role. The main reaction types are depressed mood, anxiety, disturbance of conduct and mixed states. Table 1 introduces the disorder criteria.

### Preoccupation

Preoccupation or intrusive symptoms involves involuntary, recurrent and worrying memories, which either occur spontaneously or are triggered by a cue from the environment. One example could be a patient who always thinks about the experiences or characteristics of the illness and cannot stop ruminating about the same topic over and over again, e.g. daily activities that the illness impedes him from doing.

### Failure to Adapt

Failure to adapt reflects behavioral and personality changes in the aftermath of the stressor. It includes the difficulty of concentrating and coping with everyday life or work – more than the somatic situation would suggest – as well as intrapersonal changes [8]. ‘I still have not found a way to deal with the limitations of the diseases. It’s hard to accept this change’ said a patient telling about her illness. It is important to be aware of emotional reactions like depression, anxiety and impulsivity when the patients talk about their situations.

### Avoidance

Avoidance means that the affected individuals try to avoid and forget the thoughts and feelings of the stressful event, as well as cues and activities that go along with the stressor [3]. One example would be a person after a heart attack who acts like nothing happened. The third symptom seems a little bit contradictory to the first one, which includes repetitive thinking about the very same topic, but in the psychological literature there is a known phenomenon called the ironic effects of thought suppression. The difficulty of thought suppression occurs because the mere intention to suppress a thought activates a monitoring process that ironically increases the cognitive accessibility of the unwanted thought [19]. ‘Do not think about a white bear – NOW!’ is a paradox instruction illustrating this effect. Therefore, all three symptoms of the stress response go along with one another and include a wide variety of impairments in social or/and occupational functioning, as well as possible symptoms of depression, anxiety and impulse control problems. In addition, patients

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Table 1. Proposed diagnostic criteria for adjustment disorders

<table>
<thead>
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<th>Criteria</th>
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<tr>
<td>(1) Reaction to an identifiable stressor occurring within 1 month of the stressful event</td>
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<td>(2) Intrusive/preoccupation symptoms</td>
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<tr>
<td>Recurrent, distressing and involuntary recollections of the event</td>
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<td>Repetitive thoughts or constant rumination about the event, occurring most days for at least 1 month</td>
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<td>Stress if reminded</td>
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<td>(3) Failure to adapt</td>
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<td>Loss of interest in work, social life, care for others, leisure activities</td>
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<td>Difficulty concentrating, trouble sleeping</td>
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<td>Lack of self-confidence when engaging in familiar activities</td>
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<td>(4) Avoidance</td>
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<tr>
<td>Avoidance of stimuli associated with the event</td>
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<tr>
<td>Efforts to avoid thoughts associated with the event, usually in vain</td>
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<tr>
<td>Efforts to avoid feelings associated with the distressing event</td>
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<tr>
<td>Efforts to avoid talking about the event</td>
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<tr>
<td>Withdrawal from others</td>
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<tr>
<td>Additional characteristics determining the subtype</td>
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<td>With depressed mood: the predominant manifestation involves symptoms of depressed mood</td>
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<tr>
<td>With anxiety: the predominant manifestation involves symptoms of anxiety</td>
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<tr>
<td>With disorders of impulse control: the rights of others are violated, e.g. by aggressive behavior</td>
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with an adjustment disorder also have a much higher suicide rate than persons from the general population [8]. Nevertheless, in the clinical setting of somatic medicine, patients often do not speak openly about their adjustment to the problems. For this reason, it is important to keep the above-mentioned symptoms in mind to have the opportunity to respond individually to a patient’s needs.

Once it is discovered that the patient suffers from an adjustment disorder, several factors play an important role in intervening in this process. As an example, two relevant concepts will be shortly introduced that are important in the context of multimorbidity and psychological adjustment problems: illness perception and interpersonal emotion regulation, with social support as a coping strategy. Furthermore, expressive writing might be a promising minimal intervention fostering successful coping that could be applied in this field.

Illness perception is a construct that represents the cognitive representations of the patient’s own illness. It includes different dimensions such as the perceived controllability (by the medical system as well as by the individual him- or herself), the severity and the time dimensions of the disease [20]. A multitude of studies have shown the impact of illness perception on the adjustment process in physical disease. For example, in a study of cardiac patients, the perceived control over the disease by the patient had an impact on somatic and psychological indicators of the further progress of the disease after surgery and above the initial objective parameters of disease severity [21]. First studies investigating illness perception in multimorbidity underline the importance of person-specific factors in the formation of illness perceptions above and beyond the characteristics of the diseases [22]. Illness perceptions are formed as a result of cognitive-emotional processing by the patient, which is not only influenced by characteristics of the disease and interpersonal factors but also by communication with representatives of the health system and related parties, as well as with the social network. This is one of many reasons why the socio-interpersonal context plays an important role in the adaptation to a stressful life event [23]. The romantic partner, as commonly the closest significant other in adulthood, can be seen as a resource when coping with the disease, a phenomenon referred to as dyadic coping [24] in general, and when it comes to the emotional processing of the event in the dyad as interpersonal emotion regulation [25]. A key strategy of interpersonal emotion regulation is disclosure – the verbal sharing of thoughts and feelings [26]. Especially when dealing with serious illnesses, it is important to talk about feelings and thoughts within a partnership [27] as it replaces avoidant reactions, reducing the paradox effects of thought suppression, and allows a more adaptive cognitive-affective processing of the stressor. Furthermore, if disclosure is followed by a responsive reaction of the listening partner it triggers the establishment of psychological closeness or intimacy, and improves relationship quality. Relationship quality in turn has raised more and more attention in the scientific community as an important predictor of a more adaptive adjustment to stressful situations: studies have shown that psychological intimacy and social embedment are associated with positive effect [25], well-being and health [28]. Discussed pathways of this effect are known associations between the social context and neuroendocrine parameters (e.g. like oxytocin) as well as gains in adaptive behavior [28]. Across 148 studies a recent meta-analysis has indicated a 50% increased likelihood of survival for participants with stronger social relationships in all ages [29]. In our studies, a patient said in an interview while smiling at his wife when asked how the couple was coping: ‘My wife was always there for me. She has supported me. She has so often visited me in the hospital and she fulfilled my every wish.’ As a result, it seems important to involve the partner in the treatment to improve the healing process of the disease. Even if the partner might not be able to provide instrumental support, the mere quality of the relationship is fostering not only a better coping ability with multimorbidity psychologically but might also be associated with improved somatic indicators of the disease [29].

However, sometimes it is difficult to openly share thoughts and feelings about the disease. For example, widowhood and social isolation are frequent in the elderly with high prevalences of multimorbidity. Expressive writing offers a method of solitary disclosure that does not require more than a pen, paper and some private space, and has proved to foster favorable ways of emotion regulation [30]. Expressive writing includes the instruction to put deepest thoughts and feelings about the difficult experiences into words while being as open and honest as possible without monitoring orthography or nice prose. The writing usually ends after 15 or 20 min and should be totally confidential. A multitude of studies show favorable effects of expressive writing on physical and mental health and psychosocial adjustment [31]. It has been demonstrated that expressive writing has positive effects on psychological and physical well-being, improves positive effect, reduces psychological stress and is associated with fewer symptoms [32]. In a recent meta-analysis [33], which includes 146 studies with different
populations, small but stable effects of this minimal inter-
vention could be confirmed. As an important finding for
elderly populations who might be impaired in terms of
seeing or writing capacities, the meta-analysis includes
studies that show positive effects also when talking into a
recorder instead of writing.

**General Summary and Future Directions**

To summarize, multimorbidity can be seen as a psy-
chological challenge that requires psychosocial adjust-
ment. The stress-response processes are crucial for a bet-
ter understanding of the patients' quality of life. They also
seem to have an impact on morbidity and mortality.
Therefore, further research on multimorbidity should in-
clude an interdisciplinary perspective including the psy-
chosocial perspective on psychological adaptation and
quality of life. Otherwise, the complexity of multimorbi-
dity and its effects on the individual and the health system
will not be captured. As in other areas of stress-response
research, it might furthermore be fruitful to investigate
not only failures of adaptation but also successful adapta-
tion to multiple diseases; so far resilience has been main-
ly studied in the context of childhood but it might also be
an important concept later on in the life span [34]. A
stress-response perspective on adjustment processes [3]
in response to multimorbidity might offer a promising
framework for the integration of already known process-
es relevant for coping with somatic diseases with regard
to multimorbidity and its associations with quality of life.
Maercker et al. [3] characterized adjustment disorder as
a particular form of a stress-response syndrome which
includes preoccupation, avoidance and failure to adapt. It
is important not to pathologize normal psychological re-
actions to the challenging situation of coping with mul-
tiple diseases. However, individuals who suffer from ad-
justment disorder in response to their multimorbidity
need help in coping with the stressful situation. In order
to detect early signs of possibly problematic coping tra-
jectories that benefit from primary and secondary pre-
ventive measures, a deeper understanding of the involved
stress response processes is crucial. Important for psy-
chosocial adjustment are the patient’s illness perception
of his/her subjective and objective health, dyadic func-
tioning and ways of cognitive-affective processing
through interpersonal or written disclosure. The possibil-
ity to talk to others about concerns and fears in order to
obtain emotional support can be fundamental. Particu-
larly in close relationships, improved relationship quality
can be seen as protective against stress and negative health
consequences and is associated with improved instru-
mental and emotional social support. Also, solitary dis-
closure by writing (or talking into a recorder) about deep-
est thoughts and feelings has been proved to be favorable,
particularly in cases in which opening up to a close one
for whatever reason seems a difficult task or there is no
significant other at reach (as in widowhood). Further re-
search should address these aspects and their interactions
over time and include at least a dyadic perspective in or-
der to capture the dynamics of the intra- and interper-
sonal processes involved.

To sum up, chronic physical diseases demand emo-
tional, cognitive and behavioral reactions of the individ-
ual, forming individual adaptation to a chronic illness
[34]. These coping efforts are mostly successful but some-
times they are not. The multimorbid patient deserves to
be treated as best as possible. Screening procedures should
be used to ensure early detection of possibly problematic
adaptation, which endangers the maintenance of quality
of life and helpful health behaviors. It also elevates the risk
for a worse prognosis in terms of physical health markers.
For that, it is important to explore the physical as well as
the mental condition of the patient. As multimorbidity
represents a prototypical situation of severe stress, the
awareness for the elevated risk of adjustment disorder
and other mental health problems should be included in
daily clinical practice. Further research is needed; it seems
about time for multimorbidity research to include inte-
grated frameworks of psychological adjustment.

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**Disclosure Statement**

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