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■ Review

Efficacy of theories related to extracorporeal life support specialist assisting client during the COVID-19 pandemic

COVID-19 pandemisindeki vücutdışı yaşam desteğinde uygulayıcıların hastalara destek olma teorilerinin etkinliği

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Abstract

As the wave of respiratory and cardiac failure due to an unprecedented pandemic hits our medical centers, extracorporeal life support (ECLS) specialists have become more involved with long term intensive care; our relationship to patient care has been altered. ECLS and Ventricular Assist Devices have become essential tools in the care of critically ill patients with respiratory failure, post-cardiotomy failure, and viral infection. During this pandemic, there have been many advancements and rapid growth towards options of long term mechanical cardiopulmonary support, especially in the adult patient population. ECLS cases reported to the International Extracorporeal Life Support Organization registry, showing >73,000 patients. With the growth of this patient population and the changing "ECLS specialist-Patient" family relationship, it is essential to explore handling the grief of the patients. Individuals dealing with pain demonstrate a variety of reactions as they adjust to a life without a loved one. This review examines the efficacy of theories related to ECLS specialists, assisting a client, and families grieving the loss of a significant person in their life.

Keywords: extracorporeal life support; extracorporeal membrane oxygenation; cardiopulmonary bypass

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Öz

Pandeminin beklenmedik şiddetiyle sarsılan hastanelerimizde vücutdışı yaşam desteği (VDYD) uygulayıcıları hastaların uzun süreli bakımlarında daha çok yer almakta ve hastalar ve aileleriyle daha yoğun iletişime girmektedir. VDYD ve ventrikül destek cihazları ileri derecede hasta olan bu grupta solunum desteği, kardiyotomi sonrası yetmezlik ve viral enfeksiyon tedavisinde ön plana çıkmaktadır. VDYD kullanımıyla ilgili olarak da pandemic dönemde uzun süreli destek özellikle erişkin hastalar için yaygınlaşmıştır. Uluslararası VDYD Derneği verilerine göre uygulama sayıları 73.000'eri geçmiştir. Sayıların bu denli artmasıyla hasta ve hasta ailesiyle olan ilişkilerin optimumda yürütülmesi de önem kazanmıştır. Sevenlerinin hasta olması veya kaybedilmesi yoğun bir hüznün ve acı oluşturmaktadır. Bu derleme VDYD uygulayıcılarının hastalara veya ailelerine yönelik destekleri üzerine geliştirilmiş teorilerin etkinliğine açıklık getirmek üzerine hazırlanmıştır.

Anahtar kelimeler: ekstrakorporeal yaşam desteği; ekstrakorporeal membran oksijenasyonu; kardiyopulmoner bypass

Introduction

Background

There is no one definitive way for extracorporeal life support (ECLS) specialists to comfort families as they grieve, endure, and witness this critical experience. Every individual is uniquely different in how they attempt to manage the loss of a mechanically supported patient. Historically, many researchers and scholars have contributed ideas and theories examining methodologies that may assist in the grief process. This review examines several methods utilized to enable the grieving person to cope and recover from the effects of bereavement and subsequent grief. One theory looks at the concept of grief within a psychosocial transition context [1], including aspects such as disposition and active participation in personal growth, thereby enabling a positive outcome.

A second theory under investigation relates to the viability of collaboration between family and other care support, creating a systematic step by step approach that facilitates recovery from bereavement [2]. This second theory is further defined by Shapiro when stating, "the family's priority will be to bring overwhelming experiences back to a manageable level and restore routines of everyday life". This implies that a concerted effort is focused by the family to enable 'return to normality,' aided and supported by the collaboration between the immediate family and external assistance. Set against this background, sources such as the National Cancer Institute point out that questions are posed by some researchers, regarding if outside assistance is required by these determined

to be suffering from the 'normal' reaction when faced with bereavement [3]. Within their study, it is noted that further questions are raised by researchers regarding the credibility of providing additional counseling; maintaining that time in itself acts as a 'healer.' Thereby allowing the inference that 'normally' such persons experiencing bereavement will adapt to a changed 'environment' over a given period. They also raise the question of available resources, suggesting that supporting care should be allocated to those who may not be experiencing the process of 'normal grief.'

Countering NCI's theory, such external resources, by acting in an appropriate supporting role, "may alleviate the probability of future ill-health and complications" [4]. Nevertheless, the author also agrees in part with [5], further questioning the viability of support from health care professionals, due to issues such as their lack of knowledge or understanding pertaining to a case. Dent defends the sustainability of the professional's personal experience but maintains that their 'understanding' may be limited by experience.

Moreover, personal bias or subjective perceptions may interfere with the process of fully understanding each patient's situation and circumstance due to the possibility that the professional's understanding may be "colored by subjective values and prejudices". Notwithstanding, this does not negate support from family members in close friends, perhaps in part supporting Shapiro's [2] thesis regarding collaboration between perfusionists and family members. Logically such support by professionals can be seen as indirectly connected to the bereaved person, yet directly assisting the family

members. Riley et al. [1] pursue a different perspective in which a process is enabled that allows the bereaved to develop a positive mindset, thereby revising their viewpoint of the new psychological environment in which they find themselves. This theory lends to promote an attitude of 'self-support' and perhaps by inference, a 'survivalist' approach.

Research Problem and Findings

Normal Grief

According to [6], normal grief is a process that is "self-limiting", enabling the operation of emotions that eventually result in recovery. Additionally, Woof et al. maintain that most of those suffering from grief have the wherewithal to adapt. This process of adaption can be likened to a form of transition. A viewpoint offered by Wortman & Boerner [7], expands on Riley et al.'s theory regarding coming to terms with psychosocial development and the bereaved person's ability to accept and play a role in the healing process. Wortman et al. maintain that "personal loss is considered to be an important part of successful adult development". Based on this thesis, an inference can be drawn, or assumption can be made that without the 'bereavement' experience, an individual's personal development is incomplete. Therefore, leading from this notion, such an experience is 'part of life'; thereby, a natural process.

Added to this, is the ability of the bereaved to develop a "sense of coherence construct"[8], thereby including personality characteristics such as "resilience and hardiness." Almedom further expands by suggesting that both "positive and negative aftermaths, "recovery" and "chronic trauma," respectively, are necessarily two sides of the same coin". This further adds weight to the notion that both outcomes, be it temporary or prolonged, be part of a natural process, therefore, be allowed to evolve over a period of time. This again asks the question regarding the viability of intervention by health care personnel or specialist professionals, while seeking to assist the bereaved.

As the spread of cardiac and respiratory collapse continues to grow in numbers, perfusionists are being utilized in these forums at increasing rates. A further recent study looks at the possibility in which persons experiencing trauma may emerge from a "traumatic event in a better psychological state" after coming to terms with the "adversity" of the event [9]; thereby supporting Riley et al., Wortman et al. & Almedom's theory discussed earlier. When referring to a bereaved child, Pasternak points

out the necessity for adaption, both from the child's viewpoint and the surrounding environment. In addition, Pasternak claims that the purpose of enabling the adaption process is to discover alternative ways to meet the child's requirements while completing the "developmental roles of the child".

In an interesting development, a study conducted in both the United States of America and China depicted the influence of culture within a 'normal grief' scenario [10]. In this study, they attempted to measure grief processing and deliberate grief avoidance in two different cultures. Although their attempt to establish a definitive pattern to this management of grief was inconclusive, evidence supported the importance of ritual, especially in China. The study showed how rituals offered "comforting guidelines" that enabled clarity and support to the bereaved. Bonanno et al. continue to note that such Chinese rituals include communal aspects that benefit from "interpersonal connectedness", which is essentially part of Chinese social culture.

Furthermore, it would appear that emotional bonds between the 'departed' and the bereaved are encouraged as part of the process of 'healing,' thereby perhaps lessening the impact of grief. This inclusion of communal support lends credibility to Shapiro's thesis in which the theory of cultural and developmental systems is discussed. Here the similarity between the construction of "collaborations between care providers and families" and communal "interpersonal connectedness". This supports the theory of a supportive environment rather than the method Riley et al. leans toward, a process of psychosocial transition leading a positive outcome. The individual disposition to achieve such a result enables the bereaved individual is regarded as an "active participant"; and to acquire resilience and hardiness.

Doren et al. [11] notes how the bereaved focus on how their loved one had lived, rather than on their 'passing.' This adds another viewpoint in how identifying with family or extended family positively can facilitate relief when faced with the prospect of bereavement, further validating Shapiro's theory. Doren et al. also suggest that external support, such as specialist, should consider assisting the bereaved by encouraging ways in which they can remember the 'departed.' This is enabled through "displaying pictures or commemorating special days such as birthdays and death anniversaries". Also, this allows the bereaved to allow the 'past' (death) to be connected with the future [12].



Perhaps this practice goes against beliefs and cultures, which may focus more on enabling the bereaved ability to forget and to 'resume' their daily lifestyle; therein more biased towards Riley et al. 's thesis. Regarding a psychosocial transition in which, the bereaved are more likely to independently 'work' through the grief process, and proceed to a sustainable outcome and a sense of finality or resolution. Another methodology encouraged by healthcare professionals incorporates the bereaved undergoing 'grief work' to enable recovery from losing a loved one. Bonanno [13] illustrating this process by describing it as "a period of working through the thoughts, memories, and emotions associated with the lost relationship...". Furthermore, another viewpoint maintains that this is "a way of neutralizing the stimuli" [14], which leads to reduced distress.

Associated with 'grief work' [15], further expand on this theory by defining stressors that are biased towards loss, thereby allowing the bereaved to primarily connect to feelings and emotions are associated with death. However, their study looks at "restoration-oriented stressors", in which focus is targeted at more secondary or perhaps less subjective viewpoints in which the bereaved can establish a path towards rebuilding their life without the deceased, and also establishing new relationships within the family environment and circles of friends.

Perhaps this viewpoint can be seen as a combination of both Riley et al. 's and Shapiro's theories relating to overcoming the loss of a loved one. First, the act of rebuilding tends to lean towards Riley et al., by enabling a psychosocial transition in which the 'patient' or bereaved actively participates in a personal growth program incorporating a positive disposition. Also seen within this 'restoration-orientated' stressor is the potential to renew or further relationships with family and friends, thereby perhaps facilitating their support as an added benefit to the recovery process. By alternatively shifting the 'grief work' between a focus that is both loss-orientated and restoration-orientated, such a process is seen as a viable and natural process which has a potentially positive outcome.

According to [16], by enabling the bereaved to enact such variation of 'grief' work facilitates temporary denial of the more 'extremity' or 'low point' encountered within the grieving process. Moreover, by shifting such orientation, the bereaved can view the bereavement experience from a more objective viewpoint [17], rather than allocating blame or 'self-

pity' to their situation and loss. Following, this paper looks deeper into Riley et al. 's and Shapiro's theories by analyzing grief from a parent/child perspective.

Parental and Family Loss

While discussing the above two theories, attention deserves to be directed at research that was conducted to ascertain the relevance of a deceased child and its implication for the parents. First, it is stated that there are significant differences between how a mother and father react [18]. The author goes on to maintain that a mother's reactions "being stronger and more prolonged". Where studies have been enacted utilizing 'depression inventories,' mother's bereaved by the loss of their child "has been shown to have higher depression scores than mothers of living children [19]. Perhaps this emphasis on the mother's loss attributes a greater severity being derived from the maternal aspect within the issue of parental grief.

Pre-Existing Relationships

ECLS specialists should be aware of another concept related to the ability of the bereaved to process loss is based on relationships formed between the deceased and the bereaved before death. Moffitt [20] discusses in-depth the critical influence of the 'quality' of the relationship when the bereaved seeks to secure a measure of 'closure.' A secure connection can enable the bereaved to process their loss by internalizing past experiences that occurred before the death of a loved one. On the other hand, a situation in which the relationship between the deceased and bereaved was compromised, a longer-term inability to effectively process grief can be a reality. Such compromise is created by either the lack of possible weakness of 'attachment,' thereby creating an uneasy relationship before bereavement.

Social Issues Derived from Bereavement

Bereavement, either in the short or long term, inevitably isolates the individual from their typical day to day social environment, creating stress like the reasonable security provided by a circle of friends and the local community can be temporarily withdrawn. Added to this, legal issues about the deceased, including medical and legal documentation, inheritance issues, lack of income can contribute to an overwhelming sense of isolation [21]. The authors also point out that this deprivation can develop new growth in order to combat the 'threat' and stress of social isolation and that "post-traumatic growth is both a process and an outcome", further

validating Riley et al. in their espousal of an individual's natural ability to successfully work through the grieving process.

Impact of Grief

Resid [22] also confirm quantitative evidence suggesting that such a loss can enable the security of the marriage relationship to be maintained, and "the ability to maintain marital closeness over time might be a key to well-being for most parents". Another variable found within the context of a marriage relationship pertains to the aspect of personal resources [23]. In their qualitative study titled 'Living after Loss' identified such resources as 'self-competence,' which can affect competency in "daily life tasks. These personal resources are primarily attributed to both financial status and health. Mrazek et al. further suggest that despite evidence pointing to non-contributing factors of "death forewarning" and "marital quality," higher competency did contribute to "more positive mental health outcomes." Inference derived from this suggestion, allows their thesis to infer that the bereaved couple's possession of more significant resources is more enabled to process their grief, thereby creating an environment favorable to recovery.

Intense or Complicated Grief

As ECLS specialist, the area of intense and complicated grief is especially a concern. According to [24], not all bereavement can be processed through 'normal grief.' Their study suggests that "others deviate from this norm", thereby allowing or initiating the "concept of abnormality and possibility the attention of health professionals".

Conclusion

This review submits that based on the above definition, normal grief can be better addressed by ECLS specialist towards being viewed and supported by Riley et al. 's theory in which a transitional psychosocial process can be found. This process utilizes qualities that include an individual's disposition towards a self-help program resulting in a positive outcome. Logical assumption leads this discussion to verify that 'normal grief' is presupposed on the outcome of the bereavement grief process, whereby abnormal grief is similarity closely connected to an unfavorable or negative result.

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