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ORIGINAL ARTICLE

Coping strategies, meaning in life and health-related quality of life among young adults with haemophilia

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ABSTRACT

OBJECTIVE: To investigate the association between coping strategies, meaning in life, and health-related quality of life (HRQoL) among young adults with haemophilia.

METHODS: This cross-sectional study was conducted from February 2023 to August 2023 at the Haemophilia Welfare Centre in Lahore, Pakistan. A purposive sampling technique was used to select the sample size of 80 young adults with haemophilia with an age range of 18 to 40 years. Three scales, along with demographic performa were used for data collection. The data was collected by using the World Health Organization Quality of Life Brief Version Scale 16, Coping Scale 14, and Meaning in Life Questionnaire 15, along with demographic performa.

RESULTS: The reliability of all study scales was satisfactory. Study comprised of 40 males and 40 female participants, ranging in age from 18 to 30 years. Most study participants were educated and diagnosed with type A haemophilia. Thirty-five percent of the participants were suffering from moderate levels of haemophilia. Results of the study revealed a significant positive relationship between HRQoL, coping strategies ($r = .235^{*}$, $P<0.01$), and meaning in life ($r = .468$, $P<0.01$). Regression analysis revealed meaning in life ($\beta = .76$, $p<.001$) as a positive predictor for HRQoL. Coping strategies were found to mediate between meaning in life and HRQoL among young adults with haemophilia.

CONCLUSION: Our study highlights the positive correlation between HRQoL, coping strategies, and meaning in life, with coping strategies partially mediating this relationship. Addressing psychosocial factors is crucial for improving the well-being of individuals with haemophilia.

KEYWORDS: Quality of Life (MeSH); Coping (Non-MeSH); Meaning in life (Non-MeSH); Haemophilia A (MeSH); Adults (MeSH).

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INTRODUCTION

Haemophilia is a genetic disease in which patients develop severe blood coagulation disorders due to a lack of certain clotting factors in the blood (decrease or absence of coagulation factor Ⅷ (haemophilia A) or factor Ⅸ (haemophilia B).[1] Haemophilia A accounts for approximately 85% of the haemophilia cases.[2] Both haemophilia A and B can be classified into three levels, depending on the coagulation factor activity: mild, moderate, and severe.[3] The patients usually suffer from spontaneous hemorrhage of joints, muscles, and soft tissues. About 80% of the bleeding events occur in the knee, elbow, and ankle joints. Repeated joint bleeding can result in deformation of the joints (labelled as target joints), hemophilic arthropathy and disability,[4] seriously jeopardizing the quality of life (QoL) of the patients.[5] Individuals with haemophilia exhibit markedly diminished health-related quality of life (HRQoL) compared to the general populace.[6,7] More target joints are associated with lower HRQoL.[8] To cope with or solve problematic circumstances, good medical treatment and psychological resources or strategies are equally important.[9,10] In general, there are two forms of coping: problem-oriented and emotion-oriented. In chronic diseases, the problem-oriented strategy is considered the most effective and adaptive strategy, while the emotion-oriented strategy is a resource for more acute situations.[11,12] Purpose in life, which is highly related to psychological well-being and optimal functioning, is frequently associated with having meaning in life. Having a sense of purpose in life is thought to alleviate stress stemming from complex situations. Meaning in life is directly linked to how people cope with stressful life circumstances. The relevance of meaning in life, psychological flexibility for well-being, and (QoL) are very much interlinked.[13]

The current literature lacks a comprehensive understanding of the interplay between coping strategies, meaning in life, and HRQoL among young adults with haemophilia. While previous research has examined the impact of coping strategies and psychosocial factors on HRQoL in various populations, there is limited research specifically focusing on individuals with haemophilia. Additionally, the role of meaning in life in influencing coping mechanisms and HRQoL outcomes in this population remains understudied. Addressing this gap in knowledge is essential for developing targeted interventions aimed at improving the well-being and QoL of individuals living with haemophilia.

The study was designed to explore the associations between various study variables, with a focus on predicting the impact of meaning in life and coping strategies on HRQoL in adults with haemophilia. Additionally, the study aimed to investigate the mediating role of coping strategies in the relationship between HRQoL and meaning in life.

METHODS

The current study used an ex post facto research design. Data for the current study was collected from the Haemophilia Welfare Centre in Lahore, Pakistan, from February 2023 to August 2023. A sample of young adults with Haemophilia (N = 80) was included, with an age range of 18 to 30 years. The sample size was determined using G-Power software.

Inclusion Criterion

- Registered themselves at hospitals for the treatment of chronic disease.
- Patients with age range of 18-30 years of age
- Informed Consent

Exclusion Criterion: Having a history of psychiatric issues such as depression, anxiety, or other psychiatric disorders predating the diagnosis of haemophilia.

Instruments: A demographic form was prepared by the researcher to find the characteristics of the participants, i.e., age, type of disease, and severity of disease, which were taken as demographic variables. Three different scales were used in this study. Coping scale, the Meaning in Life Questionnaire, and the Quality-of-Life Scale. The Coping Scale 14 was used to measure their coping skills, which contained an assessment of their abilities to overcome problems. The questionnaire consisted of 13 items with a Likert scale of 1-4, so the value range was 13–52. This scale consists of items reflecting both appraisal and behavioral methods of coping. Internal consistency reliability coefficient alphas were found from .79 to .93 respectively. The Meaning in Life Questionnaire-15 was utilized to evaluate participants' understanding of the meaning and purpose of life and its impact on both physical and psychological health. It is a 10-item questionnaire designed to measure two dimensions of meaning in life: Presence of Meaning how much respondents feel their lives have meaning, and Search for Meaning, how much respondents strive to find meaning and understanding in their lives.

The World Health Organization Quality of Life Brief Version (WHOQOL-BREF)[16] is a 26-item scale. Each item of the WHOQOL-BREF is scored from 1 to 5 on a response scale, which is stipulated as a five-point ordinal scale.

After the approval from the Ethics and Research Committee and Board of Studies of Lahore College for Women University (Reference no. 1571, dated: 06-04-2023) current study was conducted. All the suggestions and recommendations were followed as instructed by the board. After getting permission from the authorities of Haemophilia Welfare Society, the data collection was started. All the participants were voluntarists in this study and made aware that they could withdraw all information that was given was anonymous at any time. Confidentiality of the information was assured to the participants.

Table I: Demographic characteristics of the sample (n=80)

Variables		Frequency	Percentage
Age	Early Adulthood (18-30 years)	80	100
Gender	Male	40	50
	Female	40	50
Type of Haemophilia	Type A	67	83.8
	Type B	13	16.3
Severity of disease	Mild	31	38.8
	Moderate	35	43.8
	Severe	14	17.5

Statistical Analysis: SPSS version 24 was used for the analysis of data.

Hypothetical Model of Mediation: The Hypothetical model of Mediation was developed. Many research investigations have been conducted to find out how coping strategies and disease adjustment correspond. Coping self-statements were found to be positively connected to patients' ability to adapt to the problem of chronic pain, and improve QoL. In the current study meaning in life was taken as an independent variable whereas HRQoL was taken as a dependent variable, and coping strategies (behavioural and appraisal) were taken as a mediator.

RESULTS

The age range of participants was from 18 to 30 years. Most participants with type A haemophilia were educated. Thirty-five percent of participants were suffering from moderate levels of haemophilia as shown in Table I. The reliability coefficient of all scales which were used in the current study was found satisfactory as shown in Table II. Table III shows the significant positive relationship between HRQoL, coping strategies ® =.235*, $p<0.01$) and meaning in life (r =.468, $p<$ 0.01). Table IV shows the findings of the regression analysis. Meaning in life (β =.76, $P<.001$) was found to be a positive predictor for HRQoL.

Coping strategies (behavioural and appraisal) were found to mediate between meaning in life and HRQoL among adults with Haemophilia. It was hypothesized that coping strategies (behavioural and appraisal) will mediate between meaning in life and HRQoL in adults with Haemophilia. In order to check the hypothesis linear and multiple linear regression were used in three steps. In the first step outcome variable was regressed on the predictor health related quality of life to establish that there is an effect to mediate coping strategy with meaning in life outcome score as c=.586(Se_c=.125, β=.468). In the second step coping strategies (behavioural and appraisal) are regressed on the predictor variable HRQoL to establish (path a) = a=.431, (Se_a=.202,β = .235).

In the last step, the meaning in life is regressed on both predictor and mediator (path b and $c^{\prime}$) score as b=.494(Seb=.043, β=.724). $c^{\prime}$=.374(Seb=.043, β=.724). Coping strategies (behavioural and appraisal) partially mediate between HRQoL and meaning in life $c^{\prime}<c$.

DISCUSSION

The purpose of the study was to find out the relationship among coping strategies, meaning in life, and HRQoL in haemophilia patients. HRQoL is related to high levels of psychological health and meaning (coping strategy and meaning in life). Different hypotheses were tested and formulated. The first hypothesis in the current study was that "there will be a positive relation between coping strategy, meaning in life and HRQoL among adults with haemophilia." The findings of our study showed that meaning in life and coping strategies positively correlate with HRQoL. According to previous research conducted by Foubert et al (2022)[17] findings are consistent, which showed that coping behaviours in haemophilia patients showed quality of life and meaning in life. Another study conducted by Wilski et al (2019)[18] showed patients who use more problem-solving and avoidance coping strategies and less emotional coping strategies assess their HRQoL highly.

The second hypothesis that was formulated and tested was "Meaning in Life and Coping Strategy will significantly predict Health Related Quality of Life." Multiple regression analysis was employed to test the hypothesis, revealing that both meaning in life and coping strategies emerged as significant predictors of HRQoL. According to research conducted by Lo Buono et al., (2017),[19] there was an association between coping strategies and quality of life. Specifically, individuals employing accommodative or active coping strategies exhibited better quality of life outcomes. In this way,

Table II: Reliability coefficients and descriptive statics of study scales (n=80)

Scales	K	M	SD	α
Coping Strategies (behavioural and appraisal)	13	55.10	26.76	.68
Meaning in Life Questionnaire	10	66.12	18.25	.56
Quality of Life Scale	26	91.56	14.57	.87

Note. M=Mean, K = Number of items, SD=Standard Deviation and a = Cronbach's alpha

Table III: Correlation among study variables (n=80)

Variables	1	2	3
Health-Related Quality of Life	-	.235*	.486**
Coping Strategies	-	-	.794**
Meaning in Life	-	-	-

Note. *P<0.05, **P<0.01

Table IV: Multiple regression analysis for predicting coping strategy, meaning in life and health-related quality of life among adults with haemophilia (n=80)

Model	Health Related Quality of Life among Adults with Haemophilia (N=80)		
	B	SE	β
Constant	66.84	5.4	
Meaning in Life	.609	.12	.76
Coping Strategy	-.202	.08	-.37
R2	.25		
F	21.9		

Note. **P<.001 R2 =Adjusted R square, B=unstandardized coefficients, SE= Standard error, β = Standard beta coefficient

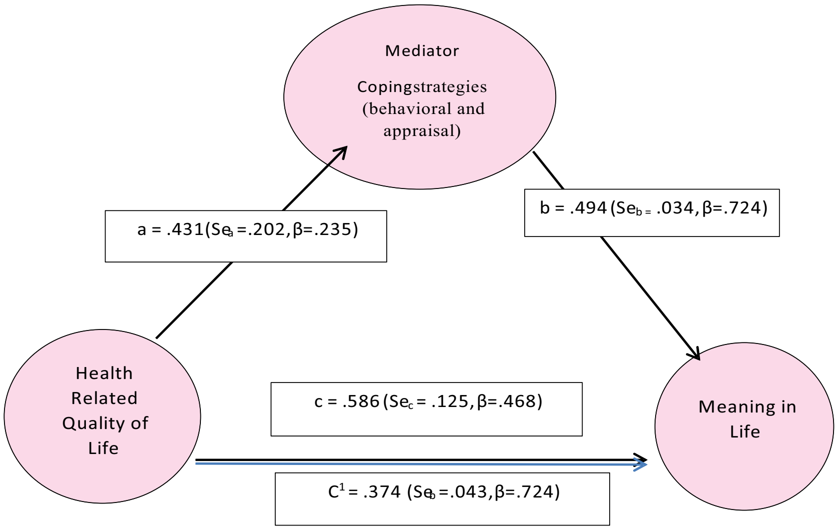

Figure 1: Multiple Regression on coping Strategies (behavioural and appraisal) as Mediator between Health-Related Quality of Life and Meaning in Life

findings revealed that meaning in life is a significant predictor of health related quality of life. The previous research by Liu et al., (2021)[20] showed that need for care, strong social support, and meaning in life might provide additional benefits in QOL.

The third hypothesis tested and formulated was "Coping strategy would mediate the relationship between HRQoL and Meaning in Life among Adults with Haemophilia." The results showed that coping strategy is a partial mediator between HRQoL and meaning in life which concludes that HRQoL is one of the reasons for meaning in life, and coping strategy. The findings are consistent with the previous study conducted by Cuesta-Barriuso et al., (2021)[21] which showed that the use of coping strategies is one of the reasons for high HRQoL.

LIMITATIONS OF THE STUDY

This study is limited by the inclusion of patients from a single treatment center for haemophilia, potentially affecting the generalizability of the findings. Additionally, other psychosocial stressors and biological factors, such as hormone levels, were not considered. Future research should explore coping strategies, meaning in life, and HRQoL among adults with various chronic diseases for a more comprehensive understanding.

CONCLUSION

The study examined the relationship between coping strategies, meaning in life, and HRQoL among young adults with haemophilia. Our study revealed a significant positive correlation between HRQoL and both coping strategies and meaning in life. Additionally, coping strategies were found to partially mediate the relationship between HRQoL and meaning in life. These findings underscore the importance of addressing psychosocial factors in interventions aimed at enhancing the well-being of individuals with haemophilia.

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AUTHORS' CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

ZZR: Acquisition of data, drafting the manuscript, approval of the final version to be published

SA: Concept and study design, analysis and interpretation of data, drafting the manuscript, critical review, approval of the final version to be published

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

CONFLICT OF INTEREST

Authors declared no conflict of interest, whether financial or otherwise, that could influence the integrity, objectivity, or validity of their research work.

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DATA SHARING STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request

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