



ORIGINAL ARTICLE

Health-related Quality of Life in Chronic Kidney Disease; A Descriptive Study in Pakistan.

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ABSTRACT ... Objective: To explore, examine, investigate, analyze, and interpret the harshness or evil effects of chronic kidney disease, and to measure, describe and evaluate the psychological distress level and health associated quality of life in chronic kidney disease patients. **Study Design:** Descriptive Cross-sectional Survey. **Setting:** Department of Nephology, DHQ Teaching Hospital, District Dera Ghazi Khan, Province Punjab, Pakistan. **Period:** 18th December 2020 to 18th April 2021. **Material & Methods:** Total three hundred and seventy two (372) chronic kidney disease patients participated and were enrolled in this research. Kidney Disease Quality of Life-Short Form was selected and utilized to explore, examine, investigate, and describe the health associated quality of life. General Health Questionnaire (GHQ) was utilized and used to identify and determine the psychological distress. **Results:** revealed that most respondents 29.8% ratified poor or worse health. 63.29% participants extremely or strongly limited their physical activities. 78.5% of respondents reduced duration of time on their work. 29.8% of the respondent's emotional/physical health problems/troubles restricted or interfered with their social activities for most of the time. Only 24.3% of the study participants had positive emotional health for most of the time or often they felt relax, happy and cheerful. 48.1% of the respondents were somewhat/moderately satisfied about the support and aid taken or received from family and friends. **Conclusion:** In conclusion, we found a negative or poor health associated and related quality or attribute of life of chronic renal disorder.

Key words: Chronic Kidney Disease, Emotional, Physical Health, Quality Of Life.

INTRODUCTION

Chronic Kidney Disease or renal disorder is a broad worldwide, universal, global, and public health problem or issue, with disastrous and fatal consequences of renal failure, and causes many disabilities like cardiovascular diseases, and sudden death (Wang et al., 2019). The exact statement or description of Chronic Kidney disease have evolved with time, but according to the definition of recent international guidelines: Chronic Kidney Disease is defined as "Renal damage or reduction in kidney function or glomerular filtration rate less than 60 milliliter/minutes/1.73m² for three months or more, without regard for root factors, causes or potential issue."¹

Due to its long-term existence, it creates or leads to a situation and condition of uncertainty, anxiety,

depression, and stress about what is going to be next in their current diseased status. In the reported patients it has increased a tremendous, immense, or huge level of anxiety and stress because it has no permanent cure, no permanent drugs, and no permanent vaccination or a permanent treatment still that assured the life expectancy.² Another issue that a chronic kidney disease patient face is financial difficulties, issues and problems, difficulty in maintaining a career, despair, and fear of mortality or death. A planned lifestyle pertains to therapeutic hemodialysis therapy (for example, implementation of hemodialysis therapy two to three times a week for three to four hours) that has a negative, worse, poor effect or impact on quality or attributes of life of chronic sufferers. Patients also suffer disruptions in their thinking, concentration, and attention. A descriptive study

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to demonstrate the health-associated or related quality or attribute of life and the variables that influence chronic renal disease patients in a rural region of Sri Lanka. One thousand one hundred and seventy four chronic kidney disease patients were recruited in the research. The Kidney Disease Quality of Life-Short Form was utilized or used to measure and analyze the health-associated or related quality or attribute of life of chronic renal disorder sufferers. They inferred that chronic renal disease sufferers had worsened the health-associated or related quality or attribute of life.³

A cross-sectional or descriptive study in Thailand to look at the links and connections between intellectual or cognitive impairment or disabilities, quality of life, and healthcare utilization in three hundred and seventy-nine chronic kidney disease patients of stages three to four. The Mini-Mental State Examination was used to examine, assess, and analyze psychological and cognitive function, and the five-dimension European quality or attribute of life questionnaire was utilized and used to assess, report, and evaluate the quality of life. They concluded that cognitive impairment was linked to poorer or worsen the quality of life and greater or enhanced healthcare utilization in chronic kidney disease patients.⁴

Chronic renal disorder impacts and influences health-associated or related quality and attribute of life and demonstrate and elaborates the aspects, parameters, and variables that significantly affecting chronic renal disorder patient's health-associated or related quality and attribute of life. They concluded that in all domains or areas, the general population had a greater, or significant better health-related quality of life as compared to chronic renal disorder patients. Pre-dialysis (before undergone dialysis) and post-transplant (after kidney transplantation) patients had a more significantly higher health-associated or related quality and attribute of life than the chronic renal disorder patients who undergone for dialysis. Many variables and parameters, including depression, anxiety, and cognitive or intellectual impairment or disabilities, social domain, physical domain, and mental domain had a detrimental influence and impact on health-associated or

related quality and attribute of life in chronic renal disorder patients.⁵

Chronic kidney disease had an impact on the health-associated or related quality or attribute of life of chronic kidney disorder sufferers and caregivers as well as behavioral complications and psychological issues of chronic kidney disease patients and mental health concerns or status of caregivers.⁶ A cross-sectional research on thirty individuals with chronic renal failure to determine overall health-associated or related quality or attribute of life by using renal disorder health-associated or related quality or attribute of life short form of the Indonesian version. They executed those average patients had good health-associated or related quality or attribute of life.⁷

The study purpose was to enroll the chronic kidney disease patients and describe their health-related quality of life.

MATERIAL & METHODS

A descriptive cross-sectional survey research was enacted, conducted, and carried out in patients with advanced chronic renal disorder who undergone for hemodialysis, twice or thrice weekly. The survey or research was held in department of Nephology, DHQ Teaching Hospital, district Dera Ghazi Khan, province Punjab, Pakistan. Chronic kidney disease patients on maintenance hemodialysis, with advanced stages of chronic kidney disease who were also receiving care from local clinics were also included and recruited in this research.

The study was being started and initiated for the period and duration of four months from 18th December 2020 to 18th April 2021. Total three hundred seventy-two chronic kidney disease patients were participated and enrolled in this research who undergone for dialysis.

Convenient sampling method was utilized and used.

All the chronic kidney disease patients of DHQ Teaching Hospital, Dera Ghazi Khan.

The chronic kidney disease patients who were critically ill and mentally retarded excluded from the research. This survey was conducted and performed after the ethical approval from the Ethical Review Committee Order No 60/52082-81/Teach:Hosp:Dated D.G Khan the 12/12/2020. Divisional Head Quarter Teaching Hospital, district Dera Ghazi Khan, province Punjab, Pakistan. Informed written consent was taken or obtained from the research participants to start collection of data. The respondents were assured that their responses would remain confidential.

First, participants were enrolled or recruited who were on dialysis and with advanced chronic kidney disease stages. Research aims and objectives of the current study or research were explained, briefed and elaborated to the study participants and all the concerns or queries were answered politely, cheerfully and happily. Data from study participants were collected and gathered by face-to-face interviews and self-administrated questionnaires. Data collector was trained. Interviews lasted for approximately twenty to thirty minutes for each patient. Sociodemographic data was assessed and gathered from the study participants like name, occupation, employment, education, age, gender, income status, marital status and comorbidities status.

After collection of sociodemographic data or information following instruments or tools were administrated and utilized, Kidney Disease Quality of Life-Short Form (KDQOL-SF).⁸ The questionnaire was used in both English and Urdu version. Questionnaire in Urdu version was prepared by researcher with the help of supervisor. This questionnaire was divided into two components and parts, specific component of kidney disease and short form health survey-thirty-six. Out of seventy-nine questions in eighteen domains form Kidney Disease Quality of Life-Short Form KDQOL-SF, forty-one questions in ten domains were about kidney disease specific component that assess, analyze or interpret health associated or related quality and attribute of life and thirty six questions in eight domains were about physical functioning and emotional/mental components.

Data entry was done on Microsoft Excel spreadsheet. First, responses were encoded. The collected data were examined and checked for consistency, regularity, and completeness, categorized and a specific code was given for each variable. Data analysis was done on Statistical Package for the Social Sciences Software version 20.0. Data were arranged and compiled in SPSS sheet data. Qualitative data or categorical data was presented in descriptive frequency tables. Quantitative data was also presented in descriptive frequency tables. Correlation and multiple linear regression tests were performed.

RESULTS

When observing gender, 66.9% of the respondents were male while females were only 33.1% fewer than males. When classifying and arranging the age groups the majority and larger number of the chronic kidney disease patients (37.6%) were fall in the range between 16 to 32 years. 34.7% of the respondents had age between 33 to 49 years. 27.7% of the respondents had age between 50 to 65 years. Mostly patients 72.6% were married while 27.4% were unmarried. Over all 76.6% of the respondents had received no education, less than high school or just high school. 12.4% of the respondents had college degree and just 11.0% of the respondents had vocational degree or high school diploma. Out of three hundred and seventy-two patients of chronic kidney disease the maximum number of respondents were unemployed (64.0%). Laborers were 28.2% that was the second-highest number of respondents regarding occupations. Students were 7.8% that was the smallest number of respondents. Regarding their total household income 28.2% of the respondents had a monthly income in range of less than ten thousand to thirty thousand rupees while 45.5 % had income in range from thirty-one thousand to seventy thousand rupees which was the highest number of respondents and 26.3% had income more than seventy-one thousand rupees. Hypertension in chronic renal disorder sufferers was the most frequent, common, widespread, and prevalent about 78.0%. Diabetic patients were 33.7%. Hepatitis B reported in only eight patients. Hepatitis C were present in ninety-five patients. Anemic patients

were only fifty-seven. Disable chronic kidney disease patients were forty-three. Fits recorded in thirty-one patients as shown in Table-I.

Independent Variables	(N=372)
Gender	Frequency (Percentage)
Male	249(66.9%)
Female	123(33.1%)
Age	
16 to 32 years	140(37.6%)
33 to 49 years	129(34.7%)
50 to 66 years	103(27.7%)
Marital status	
No	102(27.4%)
Yes	270(72.6%)
Occupation	
No Occupation	238(64.0%)
Laborers/Job	105(28.2%)
Students	29(7.8%)
Education	
No education or less than High School	285(76.6%)
Vocational degree	41(11.0%)
College degree	46(12.4%)
Monthly income	
> 10000-30000 RS	105(28.2%)
31000-70000 RS	169(45.4%)
71000 RS & above	98(26.3%)
Comorbidities	
Hypertension	290(78.0%)
Diabetes	88(33.7%)
Hepatitis B	8(2.2%)
Hepatitis C	95(25.5%)
Anemia	57(15.3%)
Disability	43(11.6%)
Fits	31(8.3%)

Table-I. Baseline General Characteristics/Attributes/Features of chronic kidney disease participants.
*N=Total number of participants

Table-II revealed that most respondents 29.8% ratified poor or worse health. Participants with the ratio of 29.3% had fair or better health. Only 18.3% of patients had excellent or outstanding health. 15.9% of surveyees had good health while only 6.7% of members had very good health that was the minimum number of the respondents according to their overall general health. Out of hundred percent, 40.6% of individuals had much worse health now as compared or evaluated from

one year ago. 21.0% of participants had much finer and better health as compared or analyzed from one year ago. 20.4% of respondents had somewhat or moderately finer or better health currently than one year ago. 9.4% of patients had about the same health as one year ago. 8.6% of individuals had somewhat unsatisfactorily or moderately worse health at the time of survey in comparison from one year ago.

General Health	F(N=372) Percentage
Excellent/Outstanding	68 (18.3%)
Very Good	25(6.7%)
Good	59(15.9%)
Fair	109(29.35)
Poor/Worse	111(29.85)
Comparison or evaluation of health from 1 year ago	
Much finer, better and good	78(21.05)
Moderately or comparatively finer, better and good	76(20.45)
Same in relation to 1 year ago	35(9.45)
Moderately or comparatively poor, worse and unsatisfactorily	32(8.65)
Much poor, worse and more unsatisfactorily	151(40.65)

Table-II. Classification of the chronic kidney disease patients according to their general health and comparison of health from one year ago.
*F=Frequency *N=Total number of participants

Table-III Average 63.29% of the study participants extremely or strongly limited their physical activities which was the highest number of respondents who showed that chronic kidney disease badly affected their typical day's activities. On average 24.15% of patients did not limit or restrict their activities. On average 12.61% of individuals slightly or moderately limited their daily physical activities due to the impact of chronic renal disorder.

Table-IV described that on average 78.5% of respondents reduced duration of time on their work, limited or restricted their work, and faced difficulties and troubles while performing or completing their work or daily activities. 21.4% of the respondents did not limit their work, time and did work normally. According to their role-emotional on average 77.3% of the respondents

limited their work and did not perform their work carefully as a result of emotional, cognitive and mental problems or troubles such as feeling depressed or anxious. 22.6% of the respondents did their regular work usually.

Physical, bodily, and normal activities	Strongly restricted	Moderately restricted	Moderately restricted
(N=372)	F (%)	F (%)	F (%)
Average	235.4 (63.295%)	46.8 (12.61%)	89.8 (24.15%)

Table-III. Assortment of the chronic kidney disease patients regarding to their physical, bodily, and normal human activities.

*F=Frequency

*%=Percentage

*N=Total number of chronic kidney disease patients

Physical role limitations	Yes	No
(N=372)	F%	F%
Average	292.5(78.5%)	79.7(21.4%)
Role Emotional		
Average	287.6(77.3%)	84.3(22.6%)

Table-IV. Distribution of the participants corresponding to their physical role limitations and role emotional.

*F=Frequency

*%=Percentage

*N=Total number of chronic kidney disease patients

Table-V clarified that 32.8% of the research participant's physical health, cognitive, mental, or emotional problems extremely restricted or interfered in their normal social activities with family and friends. 32.8% of respondents had quite a bit response or to a certain extent limited their social activities, 19.9% of respondents had moderately response or restricted social activities to some extent. 16.7% of respondents had no restricted or interference with their physical health or emotional problems with their social activities. 6.5% of the respondents had slight interference of their physical health or emotional problems or to somewhat restricted their social activities. 29.8% of the respondent's emotional/physical health problems/troubles restricted or interfered with their social activities for most of the time. 24.5% of the respondent's emotional/physical health problems restricted or interfered with their social activities for a good bit of the time. 21.5% of the respondent's emotional/physical health problems

interfered with their social activities for all of the time. 14.8% of the respondent's emotional or physical health problems restricted or interfered with their social activities for a little of the time. 9.4% of the respondent's emotional/physical health problems restricted or interfered with their social activities for some of the time.

Social/ communal activities/ actions with family and friends	F(372) Percentage
Never restricted or interfered	62(16.7%)
Slightly or somewhat restricted or interfered	24(6.5%)
Moderately or to some extent restricted or interfered	74(19.9%)
Quite a bit or to certain extent restricted or interfered	90(24.2%)
Extremely or significantly restricted or interfered	122(32.8%)
Social activities affected by emotional/physical health problems	
Full time	80(21.5%)
Often	111(29.8%)
Considerably	91(24.5%)
Some time	35(9.4%)
Little or short time	55(14.8%)
No time	0(0%)
Table-V. Distribution of the respondents regarding their social activities and interference with family or friends due to emotional or physical health issues.	
*F=Frequency	*N=Total number of participants

Table-VI explained that 33.3% of the respondents had very severe bodily pain. 27.7% of the respondents did not feel severe pain in their bodies. 19.1% of the respondents had very severe body pain. 8.1% of the respondents had very mild/slight pain in the body. 6.2% of the respondents felt mild/slight pain in their bodies. 5.6% of the respondents had moderate pain in their bodies. 40.6% of the respondent's bodily pain extremely interfered or restricted with their daily work. 20.7% of the respondent's bodily pain did not interfere or restrict with their daily work. 16.7% of the respondents had quite a bit response, 13.7% had moderately response. 5.4% of the respondents had slight interference of pain in their normal work. Only 3.0% of the participants had very severe interference of pain in their daily work.

Bodily Pain	F(N=372) Percentage
No pain in body	103(27.7%)
Very mild/slightly pain in body	30(8.1%)
Mild/slightly pain in body	23(6.2%)
Moderate pain in body	21(5.6%)
Severe pain in body	71(19.1%)
Very Severe pain in body	124(33.3%)
Pain interfered or restricted with the normal routine work	
Never restricted or interfered	77(20.7%)
Very mild/slightly restricted or interfered	20(5.4%)
Mild/slightly restricted or interfered	51(13.7%)
Moderately restricted or interfered	62(16.7%)
Severely restricted or interfered	151(40.6%)
Very Severely restricted or interfered	11(3.0%)

Table-VI. Distribution of the participants according to their physical or bodily pain or pain interference.

Table-VII exhibited the negative and positive aspects of emotional well-being and emotional health of the study respondents. On average 32.2% of respondents had negative emotional/mental health for all of the time due to sorrow, downhearted and tense. On average 22.3% of the study respondents had feelings of depression or distress for none of the time. On average 13.2% of the study respondents often had feelings of depression, dishearten, discouraged, and anxious for most of the time. On average 11.0% of the study respondents considerably had depression for some of the time. On average 10.2% of the study respondents had stress for a little bit of the time or short time. According to the positive aspects, on average 24.3% of the study participants had positive emotional health for most of the time or often they felt relax, happy and cheerful. On average 19.6% of the study participants had psychological well-being and happiness for some of the time, indicated that for some of the time they were happy, calm and peaceful. On average 18.9% of the study participants were happy for all of the time. On average 16.5% of respondents had emotional well-being for a little/short time. On average 13% of respondents considerably had mental wellbeing for a good time. On average 7.5% of

respondents had happiness and relaxation for none of the time.

Table-VIII declared that on average 28.0% of the respondents had positive views about their general health which was the highest number of the study participants. On average 11.4% of the respondents did not have positive views about their general health. On average 28.3% of the study participants did not predict their health to get worse in future. It implied that 23.4% had negative views about their health. On average 15.0% of the participants answered that they hoped their health will not get worse in future and they did not sick easier than others.

Table-IX asserted that on average 25.2% of the respondents had better cognitive function while 20.8% of the respondents had poor cognitive or intellectual function. On average 24% of the respondents had good quality or standard of social interaction while 14.7% had poor quality of social interaction or relations.

Table-X elucidated that 79.3% of the respondents did not work at paying job. While only 20.7% of the respondents did work at paying job. Table no.14 annotates that 96.5% of the respondent's health keep them away from working or restrict in their work. Only 3.5% of the respondent's health did not restrict in their work or job.

Table-XII explicated that on average 48.1% of the respondents were somewhat/moderately satisfied about the support and aid taken or received from family and friends. On average 25.9% of the respondents were somewhat/moderately dissatisfied about the support and aid taken or received from family and friends. On average 14.7% of the respondents were very/significantly satisfied regarding social support or aid and time spent with their family and friends. On average 11.1% of the respondents were very dissatisfied regarding social support or assistance and time spent with their family and friends.

Emotional Health (N=372)	Full Time F (%)	Often F (%)	Considerably F (%)	Some Time F (%)	Short Time F (%)	No Time F (%)
Average	120(32.2%)	49(13.2%)	41(11.0%)	41(11.0%)	38(10.2%)	83(22.3%)
Positive Emotional Well-being						
Average	70.5(18.9%)	90.5(24.3%)	48.5(13%)	73(19.6%)	61.5(16.5%)	28(7.5%)

Table-VII. Distribution of the respondents according to their emotional health, emotional well-being, prosperity, and welfare.

Positive Views for Health (N=372)	Definitely F (%)	Mostly F (%)	Unaware F (%)	Mostly False F (%)	Completely False F (%)
Average	67.5(18.1%)	55.5(14.9%)	102(27.4%)	104(28.0%)	42.5(11.4%)
Negative views for Health					
Average	61(16.4%)	87(23.4%)	105.5(28.3%)	62.5(16.8%)	56(15.0%)

Table-VIII. Distribution of the respondents according to their general health; negative and positive views.

Cognitive Function (N=372)	No Time F %		Little or Short Time F %		Some Time F %		Considerably F %		Often F %		Full Time F %	
Average	94	(25%)	50.3	(13.5%)	56	(15.0%)	62.3	(16.8%)	31.6	(8.5%)	77.6	(20.8%)
Quality of social interactions												
Average	89	(24%)	55	(14.8%)	49	(13.1%)	57.3	(15.4%)	66.3	(17.8%)	54	(14.7%)

Table-IX. Distribution of the respondents according to their quality or standard of social or communal interactions or relations and their cognitive or intellectual function.

Work/job at paying/wage job	F (N=372)	Percentage
Yes		77(20.7%)
No		295(79.3%)
Health restricted/hindered to work at paying/wage job		
Yes		359(96.5%)
No		13(3.5%)

Table-X. Distribution of the respondents according to their work/job status and health impacts on work/job.

Social Support/aid (N=372)	Significantly Dissatisfied F%	Moderately Dissatisfied F%	Significantly Satisfied F%	Moderately Satisfied F%
Average	41.5(11.1%)	96.5(25.9%)	55(14.7%)	179(48.1%)

Table-XII. Distribution of the respondents according to the social support/encouragement/ assistance received from family and friends.

DISCUSSION

The health-associated or related quality of life of the study population was examined, measured, described, and analyzed in this study utilizing a locally validated kidney disease quality of life short. Results of Table-I showed demographics characteristics of participants. Table-II,III,IV revealed that most respondents 29.8% ratified poor or worse health. Participants with the ratio of 29.3% had fair or better health. Average 63.29% of the study participants extremely or strongly limited their physical activities which was the highest number of respondents who showed that chronic kidney disease badly affected their

typical day's activities and 78.5% of respondents reduced duration of time on their work, limited or restricted their work, and faced difficulties and troubles while performing or completing their work or daily activities. 79.3% of the respondents did not work at paying job. As Study findings⁹ showed also Evidence demonstrates that the physical and mental poor health chronic of kidney disease patients, and dying from renal failure may be more distressed and painful than cancer. Another similar Study¹⁰ findings showed that both internationally, globally and universally, corroborate our results of poorer or worsen physical activities in chronic kidney disease

patients.

Table-V,VI,VII and VIII clarified that 32.8% of the research participant's physical health, cognitive, mental, or emotional problems extremely restricted or interfered in their normal social activities with family and friends. On average 32.2% of respondents had negative emotional/mental health for all of the time due to sorrow, downhearted and tense. On average 25.2% of the respondents had better cognitive function while 20.8% of the respondents had poor cognitive or intellectual function. Similar study¹¹ found similar results and identified a significant reduction in the physical activities rated on the short form-36 health survey in chronic kidney disease patients receiving or getting hemodialysis treatment. Similarly, a study¹² on pain in hemodialysis patients found and observed that 62% percent patients with pain suffered or experienced significant interference in their ability to participate and enjoy recreational and other physical activities, on the other hand 51% percent expressed great difficulties in cognitive and emotional functioning as a result of the consequences of their pain which restricted their social activities.

Table-IX,X and XII showed that positive aspects, on average 24.3% of the study participants had positive emotional health for most of the time or often they felt relax, happy and cheerful results also declared that on average 28.0% of the respondents had positive views about their general health which was the highest number of the study participants results also depicted that average 48.1% of the respondents were somewhat/moderately satisfied about the support and aid taken or received from family and friends. In this context no significant findings are consistent with our results. Furthermore, the majority of research or study in dialysis populations (chronic kidney disease patients) showed or pointed out that that higher income corresponds with better or good emotional well-being and mental health. But in our study or research, in terms of financial crisis/income no one patient of chronic renal disorder could anticipate how money would influence or effect on their life. In our study or research outcomes income did not correspond with mental

well-being or emotional health. This finding is unimagined and unexpected; however, it might be related to a bad self-perception of their health.

CONCLUSION

In conclusion, in our study we found a negative or poor health associated and related quality or attribute of life of chronic renal disorder, even though we were unable to find a meaningful connection between the physical activities, symptoms and effects. Health related quality evaluation or assessment tools is useful and beneficial in the overall care of chronic renal disorder patients, even in the early stages of disease, and enable or allow for timely health care aid, assistance and interventions throughout the course of the disease.

LIMITATION AND FUTURE RECOMMENDATIONS

The current study should be viewed or observed considering its limitations. First, because this was a cross-sectional descriptive study or research, problems or issues of temporal connection could not be investigated and analyzed. Furthermore, due to the limited sample size, the results are not generalizable, since they did not adequately reflect all chronic kidney disease patients in Dera Ghazi Khan, Punjab, Pakistan particularly those on hemodialysis

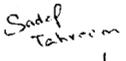
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AUTHORSHIP AND CONTRIBUTION DECLARATION

No.	Author(s) Full Name	Contribution to the paper	Author(s) Signature
1	Hafiz Shafique Ahmad	Main script preparation, Supervision, Review of study, Final prof reading, Discussion.	
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