

Effect of humor intervention on well-being, depression, and sense of humor in hemodialysis patients

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Abstract

Objective: To evaluate whether visualization of humor movies during hemodialysis sessions improves subjective well-being and sense of humor, while decreasing stress / anxiety and depression levels, in hemodialysis patients.

Material and Method: A pre-test / post-test design study with a non-equivalent control group was carried out in patients with chronic kidney disease undergoing hemodialysis, in two hemodialysis units of Diaverum Clinics. The study included 34 patients in the intervention group and 33 patients in the control group. The intervention consisted in the visualization of humor movies during hemodialysis sessions for ten sessions over a four-week period. The control group watched neutral movies.

Data were collected using a sociodemographic and health information questionnaire (age, gender, nationality,

education, occupation, marital status, dialysis session length, presence of hypertension and diabetes); the Subjective Happiness Scale; the satisfaction with life in general; the Depression Anxiety Stress Scale 21, and the Multidimensional Sense of Humor Scale. Student t-tests and t-tests for paired samples were performed. The response to change was evaluated using: the percentage of change, ceiling effect and floor effect, effect size, and the standardized response mean.

Results: The levels of subjective happiness and sense of humor increased in the intervention group, but there were no significant increases in satisfaction with life in general. Only depression levels decreased significantly in the intervention group.

Conclusions: The visualization of humor movies as a nursing intervention improved the levels of subjective happiness and sense of humor, while decreasing the perception of depressive symptoms.

KEYWORDS: renal dialysis; happiness; quality of life; depression; wit and humor as topic.

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Efecto del uso del humor en el bienestar, depresión y sentido del humor en pacientes en hemodiálisis

Resumen

Objetivo: Evaluar si la visualización de películas de humor durante las sesiones de hemodiálisis mejora el bienestar subjetivo y el sentido del humor, al tiempo que disminuye los niveles de estrés / ansiedad y depresión, en pacientes con hemodiálisis.

Material y Método: Se realizó un estudio pre-post intervención con un grupo de control no equivalente, en pacientes con enfermedad renal crónica en hemodiálisis, en dos unidades de hemodiálisis de Diaverum Clinics. El estudio incluyó a 34 pacientes en el grupo de intervención y 33 pacientes en el grupo de control. La intervención consistió en la visualización de películas de humor durante diez sesiones de hemodiálisis en un período de cuatro semanas. El grupo control vio películas neutrales.

Los datos se recogieron mediante un cuestionario de información sociodemográfica y de salud (edad, sexo, nacionalidad, educación, ocupación, estado civil, duración de la sesión de diálisis, presencia de hipertensión y diabetes); la escala subjetiva de felicidad; la escala de satisfacción general con la vida; la escala de depresión, ansiedad y estrés (DASS-21) y la escala multidimensional de sentido del humor. Se emplearon pruebas t-Student y pruebas t para muestras pareadas. La respuesta al cambio se evaluó utilizando: el porcentaje de cambio, el efecto pico y el efecto base, el tamaño del efecto y la media de respuesta estandarizada.

Resultados: Los niveles de felicidad subjetiva y de sentido del humor aumentaron en el grupo de intervención, pero no hubo aumento significativo en la satisfacción general con la vida. Solo los niveles de depresión disminuyeron significativamente en el grupo de intervención.

Conclusiones: La visión de las películas de humor como una intervención de enfermería mejoró los niveles de felicidad subjetiva y de sentido del humor, al tiempo que disminuyó la percepción de los síntomas depresivos.

PALABRAS CLAVE: diálisis renal; felicidad; calidad de vida; depresión; ingenio y humor como tema.

Introduction

Hemodialysis leads to changes in the lifestyle of both patients and their families, presenting limitations in terms of emotional, economic, social and occupational aspects. It is also observed that the constant exposure to adverse factors inherent to Chronic Kidney Disease (CKD), such as the time spent in the hemodialysis sessions, the constant medical appointments, the laboratory tests, the diet, the expectation of transplantation and the frequent hospital admissions, have contributed to the emergence of psychoaffective diseases¹.

Patients undergoing hemodialysis suffer several changes in their lives, due to both illness and treatment. It causes anxiety and depressive disorders, emotional state changes², and it has consequences in the patients' well-being and quality of life³. These psychological and emotional conditions are influenced by life metamorphosis (what disease and treatment causes in a person's life), by the various types of pain they experience, and by the way treatment invades the person's life⁴.

Nevertheless, a study performed in CKD patients verified that the physical component of Quality of Life (QoL) is positively related to dimensions of subjective well-being, namely: subjective happiness, satisfaction with life in general, and positive affect. Furthermore, the mental component of QoL is positively associated with subjective happiness, satisfaction with life in general, positive affect, and negatively related to negative affect⁵. Subjective happiness, negative affect and the physical component of the QoL, all influence the cognitive dimension of subjective well-being (satisfaction with life in general)⁴. In this sense, there have been studies that prove the effectiveness of humor intervention such as, laughter yoga⁶ and the happiness reinforcement program⁷, in CKD patients during dialysis.

Together with the different theoretical approaches, in an attempt to evaluate the effects of humor on health, several methodological approaches are advocated to investigate these effects. The most commonly used approaches include experimental studies and simple correlational studies. In the experimental approach, participants are typically exposed to comedy audios or videos, alone or in small groups and in a controlled environment⁸.

According to the aforementioned, the aim of the study was to evaluate whether the visualization of humor

movies during hemodialysis sessions improves subjective well-being and sense of humor, while decreasing stress / anxiety and depression levels, in these patients.

The specific objectives were: 1) To determine if watching humor movies during hemodialysis sessions improves subjective well-being in hemodialysis patients, that is, subjective happiness, satisfaction with life in general; 2) To analyze if watching humor movies during hemodialysis sessions decreases stress / anxiety and depression levels in hemodialysis patients; 3) To evaluate if watching humor movies during hemodialysis sessions improves hemodialysis patients' sense of humor.

Material and Methods

Study design

This is a study with a pre-test / post-test design with a non-equivalent control group, in patients undergoing hemodialysis, in two hemodialysis units of Diaverum, in Lisbon, between May and June 2015.

Subjects and setting

As inclusion criteria, we defined: above 18 years of age, appreciate humor and motivation to participate in the study. The exclusion criteria were the following: does not appreciate humor, acute psychiatric illness, cognitive deficit and presence of visual impairment or unbalanced hearing loss. From the previous information, data collection related to humor assessment, namely humor appreciation, was verified using a humor evaluation scale⁹, while the remaining information was confirmed in each person's clinical process.

From a total of 248 patients, only 116 met the eligibility criteria. A simple randomization was performed to select participants for both groups. Each group consisted of 35 patients. During the study, three patients withdrew, one from the intervention group due to a vacation period and two from the control group due to hospitalization. The study was concluded by 34 patients from the intervention group and 33 patients from the control group.

Procedures

Approval was obtained from the ethics committees of Diaverum (Approval No 1/2015). The patients were informed of the purpose of the study and of the right to withdraw without risk to oneself, plus, guaranteed data

confidentiality. Those who met the inclusion criteria and agreed to participate gave informed consent. Privacy was guaranteed by curtains.

A script was developed to support data collection and five nurses were trained to use it. Data collection was performed during the hemodialysis sessions.

The intervention consisted in the visualization of humor movies during hemodialysis sessions. Each patient viewed the movie on their own monitor, using headphones to avoid distracting factors. The duration of the movie varied from patient to patient according to each one's preference. The intervention program was applied for four weeks, two to three times a week, on Mondays, Wednesdays and Fridays. Between nine and ten interventions were undertaken.

The movies portfolio was based on a previous study about the factors that influence the visualization of movies in patients undergoing hemodialysis⁹. Each movie lasted between 40 and 120 minutes. From the movies portfolio mentioned in the study⁹, the movies viewed during the session were selected according to each person's preference. The control group viewed neutral movies such as documentaries and television programs during ten sessions over a four-week period.

Data was collected using various tools, namely, a sociodemographic and health information questionnaire; the Subjective Happiness Scale (SHS)¹⁰⁻¹²; the satisfaction with life in general (SWLG) measured through the Personal Wellbeing Index (PWI)¹³⁻¹⁵; Depression Anxiety Stress Scale 21 (DASS-21)¹⁶⁻¹⁸, and Multidimensional Sense of Humor Scale (MSHS)¹⁹⁻²¹.

Outcomes measurement

The SHS is comprised of four items. In the second and third items, participants are asked to self-characterize themselves in comparison to their peers in both absolute and relative terms. Descriptions of happiness and unhappiness corresponded to items one and four. The score of the last item is reversed. The SHS requires the respondents to self-characterize using a visual analogue scale with seven positions. The scale is based on two antagonistic statements, expressing the level of happiness¹⁰⁻¹¹. The Portuguese version applied to hemodialysis patients presents a single factor with an internal reliability with a Cronbach's α of 0.90¹².

The SWLG consists of seven domains measuring life-satisfaction (satisfaction with the standard of living, health,

personal development, personal relationships, sense of security, connection to the community, and security for the future). The respondents are asked to classify their satisfaction for each statement using a scale from 0 (extremely dissatisfied) to 10 (very satisfied). The SWLG is calculated using a scale from 0 to 100 (maximum percentage of the scale)¹³⁻¹⁴. The Portuguese version in hemodialysis patients revealed the existence of a single factor, with an internal reliability with a Cronbach's α of 0.82¹⁵.

DASS-21 provides a method for assessing and evaluating the effects of clinical intervention directed towards the communities who suffer emotional distress^{16-17,22}. It is organized into three subscales: depression, anxiety and stress; each consisting of seven items¹⁶⁻¹⁷. The Portuguese version of DASS-21 in hemodialysis patients has a bidimensional structure, "Depression" and "Stress/Anxiety", with alpha Cronbach values of 0.86 for "Depression" and 0.88 for "Stress / Anxiety"¹⁸.

The MSHS presented an interpretable factor structure globally consistent with studies conducted with other samples, satisfactory internal consistency values. Therefore, the MSHS can be considered a valid instrument to characterize individuals regarding their "humorous state" and can describe sense of humor in its various dimensions¹⁹⁻²⁰. A structure with three factors, "Humor Production and Social Use of Humor", "Adaptive Humor and Appreciation Humor" and "Attitude Towards Humor", with alpha Cronbach values of 0.93, 0.90 and 0.83 respectively, was revealed by the Portuguese version of MSHS²¹.

Data analysis

The scales and subscales scores,^{12,15,18,21} were calculated before (t1) and after intervention (t2). The normal distribution was verified by the KS test, since it is necessary to have large samples ($n > 30$) to use the central limit theorem in order for student t-tests and t-tests for paired samples to be valid. Once asymmetry was found, the conclusions obtained were 'confirmed' using Mann Whitney U (two groups) and Wilcoxon (paired samples).

The indexes and indicators of responsiveness most used to evaluate the response to change are: the percentage of change, ceiling effect and floor effect, effect size (ES), and the standardized response mean (SRM)²³. ES and SRM are the most common parametric response measure. A positive ES/SRM reflects improvement (normalized) in

health or function in the standard deviation of the base score (for ES), or the difference in score between pre and post intervention values (for SRM). A $ES > 0.80$ is considered to have a large size effect; 0.50-0.79 a moderate effect, and $ES < 0.50$ represents a small effect²⁴. The ES and SRM calculation were performed using the MedCalc Version 15.8 software. The remaining statistical analyses were performed with the Statistical Package for Social Sciences (SPSS), version 20.3.

Results

When comparing the groups, some differences were found between the intervention sample and the control group. In the intervention group, 29.4% of the participants were of another nationality (from an African country), whereas in the control group these were only 6.1%. The educational level was also higher in the intervention group while 42.4% of the participants only had the 4th grade in the control group. Concerning marital status, in the intervention group 52.9% of the participants were married, whereas in the control group a higher percentage of participants was found (81.8%). With respect to gender, professional activity, presence of hypertension and diabetes mellitus, no differences were found between the intervention and the control group.

Next, the results on the impact of the visualization of humor movies during the hemodialysis sessions, namely on subjective well-being, psychological health and sense of humor will be presented. In the beginning of the intervention there were no statistically significant differences in the means of the variables under study between both groups.

The intervention group showed the highest percentages of change in stress and anxiety (-20.6%), depression (-43.2%) and attitude towards humor (9.8%).

In the intervention group, the highest percentages of change occurred in the components: stress and anxiety (23.9%), humor production and social use of humor (-16.1%) and adaptive humor and appreciation humor (-13.1%) (**Table 1**).

In the first evaluation, the intervention group presented a ceiling effect for subjective happiness in 21% of the cases, but it decreased to 15%, after the humor intervention.

For stress and anxiety, the floor effect was 15% before the intervention and 21% after it.

Table 1. Percentage of change that occurred between pre and post-intervention periods in the two groups of hemodialysis patients.

Measures	Intervention group			Control group		
	Time 1	Time 2	Change %	Time 1	Time 2	Change %
SHS	21.7 (5.6)	22.6 (4.1)	4.1	21 (5.1)	20.5 (4.6)	-2.4
SWLG	48.5 (11.9)	48.3 (12.6)	0.4	45.6 (10.4)	43.2 (12.1)	-5.3
SA-DASS	6.8 (7)	5.4 (5)	-20.6	7.1 (6.9)	8.8 (9.4)	23.9
D-DASS	3.7 (4.3)	2.1 (3.1)	-43.2	4.5 (4.7)	4.5 (5.1)	0
HPSUH	38.6 (9.5)	38 (10)	-1.6	35.5 (13.1)	29.8 (13.1)	-16.1
AHAH	27.5 (6.2)	27.3 (6.1)	-0.7	25.9 (7.2)	22.5 (7.8)	-13.1
ATH	25.4 (4.7)	27.9 (2.7)	9.8	24 (6)	25.1 (5.6)	4.6

Legend: SHS – Subjective Happiness Scale; SWLG – Satisfaction with Life in General; SA - DASS – Stress / Anxiety; D - DASS – Depression; HPSUH – Humor Production and Social Use of Humor; AHAAH – Adaptive Humor and Appreciation Humor; ATH – Attitude Towards Humor.

Source: Own elaboration.

Table 2. Ceiling and floor effect in the pre and post-intervention period in both groups of hemodialysis patients.

Measures	Intervention				Control			
	Pre		Post		Pre		Post	
	Ceiling effect	Floor effect.	Ceiling effect	Floor effect.	Ceiling effect	Floor effect.	Ceiling effect	Floor effect.
SHS	21	0	15	0	15	0	9	0
SWLG	0	0	0	0	0	0	3	0
SA-DASS	0	15	0	21	0	18	0	9
D-DASS	0	24	0	44	0	21	3	30
HPSUH	0	0	6	0	6	0	3	3
AHAH	18	0	18	0	15	0	9	3
ATH	26	0	50	0	18	0	18	3

Legend: SHS – Subjective Happiness Scale; SWLG – Satisfaction with Life in General; SA - DASS – Stress / Anxiety; D - DASS – Depression; HPSUH – Humor Production and Social Use of Humor; AHAAH – Adaptive Humor and Appreciation Humor; ATH – Attitude Towards Humor.

Source: Own elaboration.

With regards to depression, the floor effect was 24% before the intervention and 44% in the post-intervention period (**Table 2**).

In humor production and social use of humor, during the pre-intervention period there was no ceiling effect, but after the intervention there was an increase of 6%.

Regarding adaptive humor and appreciation humor, 18% of the sample presented a ceiling effect which was maintained after the intervention. On what concerns the attitude towards humor, the first evaluation revealed 26% of ceiling effect and after the intervention it rose to 50%.

In the control group it was found that, in satisfaction with life in general, there was an increase of the ceiling effect from 0% to 3%.

In stress and anxiety, the control group showed a decrease in the floor effect between evaluations from 18% to 9%, which translates into increased stress and anxiety in this group.

Concerning depression, there was a 3% increase in the ceiling effect and an increase in the floor effect from 21% to 30%. In humor production and social use of humor there was a decrease in the ceiling effect from 6% to 3% and there was a 3% increase in the floor effect. In adaptive humor and appreciation humor there was a decrease in the ceiling effect from 15% to 9% and an increase in the floor effect of 3%. In the attitude towards humor there was no change in the ceiling effect (it remained at 18%), but there was an increase of 3% in the floor effect.

Table 3. Effect size and standard response mean in the pre and post-intervention period, in the intervention group.

Measures	Difference of averages	Paired samples t test	P-value	Effect size SD	Effect size σ_w	SRM
SHS	-0.85294	-1.346	0.187	0.15	0.17	0.23
SWLG	0.20588	0.132	0.896	-0.02	-0.02	-0.02
SA-DASS	1.41176	1.444	0.158	-0.20	-0.23	-0.25
D-DASS	1.61765	2.921	0.006	-0.38	-0.43	-0.50
HPSUH	0.61765	0.433	0.668	-0.06	-0.06	-0.07
AHAH	0.26471	0.293	0.771	-0.04	-0.04	-0.05
ATH	-2.47059	-3.260	0.003	0.52	0.64	0.56

Legend: SHS – Subjective Happiness Scale; SWLG – Satisfaction with Life in General; SA - DASS – Stress / Anxiety; D - DASS – Depression; HPSUH – Humor Production and Social Use of Humor; AH AH – Adaptive Humor and Appreciation Humor; ATH – Attitude Towards Humor. σ_w - Standard deviation pooled within groups. SRM - standard response mean. SD – standard deviation.

Source: Own elaboration.

In the intervention group it was found that the effects of size and standardized response mean were moderate and significant, in depression (negative) and in attitude towards humor (positive). There were small effects on stress / anxiety and negative affect, but they were not significant (**Table 3**).

In the control group, moderate and negative ES and SRM were found to be negative and significant in the production of humor and social use of humor, and adaptive humor and appreciation humor. In the remaining variables it was also found moderate to low effects, but not significant, except for depression (**Table 4**).

When comparing the intervention groups with the control group in the post-intervention period, there were significant moderate size effects on depression (negative), on the dimensions of the sense of humor (positive). There was a small to moderate size effect on happiness (positive). Moderate non-significant to moderate effects on life

satisfaction (positive) and stress / anxiety (negative) were observed (**Table 5**).

It was partially proved that watching humor movies during hemodialysis sessions improves subjective well-being in hemodialysis patients, that is, subjective happiness, satisfaction with life in general. The levels of subjective happiness increased in the intervention group, but there were no significant increases in satisfaction with life in general. It was also partially confirmed that watching humor movies during hemodialysis sessions decreased levels of stress / anxiety and depression in hemodialysis patients. Only depression levels decreased significantly in the intervention group.

It is confirmed that watching humor movies during the hemodialysis sessions improves the sense of humor in hemodialysis patients. At the end of the intervention all sense of humor dimensions were improved in the group that viewed humor movies.

Table 4. Effect size and standard response mean in the pre and post-intervention in the control group.

Measures	Difference of averages	Paired samples t test	P-value	Effect size SD	Effect size σ_w	SRM
SHS	0.54545	0.886	0.382	-0.11	-0.11	-0.15
SWLG	2.36364	1.498	0.144	-0.23	-0.21	-0.26
SA-DASS	-1.72727	-1.490	0.146	0.25	0.21	0.26
D-DASS	0.00000	0.000	1.000	0.00	0.00	0.00
HPSUH	5.60606	2.718	0.011	-0.43	-0.43	-0.47
AHAH	3.42424	2.734	0.010	-0.47	-0.46	-0.48
ATH	-1.12121	-1.118	0.272	0.19	0.19	0.19

Legend: SHS – Subjective Happiness Scale; SWLG – Satisfaction with Life in General; SA - DASS – Stress / Anxiety; D - DASS – Depression; HPSUH – Humor Production and Social Use of Humor; AH AH – Adaptive Humor and Appreciation Humor; ATH – Attitude Towards Humor. σ_w - standard deviation pooled within groups. SRM - standard response mean. SD – standard deviation.

Source: Own elaboration.

Table 5. Effect size on mean post-intervention humor in both groups of hemodialysis patients.

Measures	Intervention group mean	Control group mean	t Test	p-value	σ_w	Effect Size
SHS	22.6(4.1)	20.5(4.6)	1.996	0.050	5.2	0.40
SWLG	48.3 (12.6)	43.2 (12.1)	1.960	0.096	15.2	0.33
SA-DASS	5.4 (5)	8.8(9.4)	-1.871	0.066	8.3	-0.41
D-DASS	2.1 (3.1)	4.5 (5.1)	-2.323	0.022	4.8	-0.50
HPSUH	38 (10)	29.8 (13.1)	2.879	0.005	13.6	0.60
AHAH	27.3 (6.1)	22.5 (7.8)	2.787	0.007	8.2	0.58
ATH	27.9 (2.7)	25.1 (5.6)	2.549	0.013	4.8	0.58

Legend: SHS – Subjective Happiness Scale; SWLG – Satisfaction with Life in General; SA - DASS – Stress / Anxiety; D - DASS – Depression; HPSUH – Humor Production and Social Use of Humor; AHAH – Adaptive Humor and Appreciation Humor; ATH – Attitude Towards Humor. σ_w - standard deviation pooled within groups. **Source:** Own elaboration.

Discussion

In this research, in the intragroup analysis results (comparison before and after intervention), the intervention group had a decrease in depressive symptoms. A recent exploratory and descriptive study with a qualitative approach emphasizes that nurses play a preponderant role in patients with depression, being the most qualified in terms of caring, since all discourses present in the study point to positive ideas regarding the meaning of nurse. However, nurses report not having enough knowledge or time to properly approach these patients. This idea leaves no doubt about the importance of the development of scientific studies and training of professionals in this area²⁵.

The results are based on the findings of some experimental and quasi-experimental studies in the field of humor and humor therapy involving samples with elderly people²⁶⁻²⁷ and people with spinal cord injury²⁸, which also showed a decrease in depressive symptoms. In the intragroup analysis, attitude towards humor improved in the intervention group after the visualization of humor movies over four weeks and there were no significant changes in the control group. Hence, it is important to integrate some activities of humor intervention (humor movie visualization) in nursing care in order to improve attitudes towards humor in hemodialysis patients.

The intervention group showed significant differences in relation to the control group in subjective happiness, depression and the dimensions of the sense of humor. Despite not being statistically significant, it is also worth mentioning the existence of an increase in the satisfaction with life in general and in stress / anxiety. In this research, the levels of subjective happiness increased significantly.

However, in a Bennett et al.⁶ study in hemodialysis patients, the increase was not statistically significant. Within simples with elderly people, humor increased the levels of happiness²⁹⁻³⁰ as well as, in subjective health and well-being, namely, satisfaction with life, general well-being²³ and general health³¹. In this study, depression declined in the intervention group and the same occurred in studies involving older people²⁶⁻²⁷, however, in two other studies there were no changes in depression³¹⁻³². The levels of stress / anxiety decreased but were not significant, similarly to the study of laughter yoga in hemodialysis patients⁶. In studies with elderly people, anxiety levels^{26,31} and somatic symptoms³¹ decreased, but not stress³¹. Also, in this population there was a reduction of agitation^{29,32}, insomnia^{27,31} and sleep quality improvement²⁷.

Sense of humor has a multidimensional character³³⁻³⁴. In this study, the three dimensions of sense of humor in hemodialysis patients improved in the intervention group when compared to the control group. However, factors that can influence sense of humor must be considered, namely, sex, age and disease situation³³.

Practical implications for nursing

The improvement of the sense of humor dimensions can influence well-being, namely, increasing the level of subjective happiness, satisfaction with life in general, also decreasing depressive symptoms. All mood-based interventions are effective in improving depressive symptoms, with low-intensity effects immediately after the intervention³⁵. Such data suggest a systematic intervention to effectively reduce depressive symptoms. The prescription of humor movies and comedies may be a therapeutic alternative to be implemented in patients during hemodialysis. Since people often use humor and

laughter when they share their stories, nurses just need to improve their sense of humor for it to become a potential therapy, as this can be used to decrease pain, anxiety, stress, depression, and fatigue, and improve immunity, quality of life, joy, quality of sleep and resilience³⁶.

This study may contribute to the use of humor intervention in NANDA-International Nursing Diagnoses³⁷, as well as, in the application of the nursing process supported by the International Classification for Nursing Practice (ICNP)³⁸.

We suggest the visualization of humor movies, particularly in patients diagnosed with deficit of recreation activities. Keeping in mind that humor intervention has, as mentioned before, the characteristics of a complex intervention, this research brought contributions to the prescription of the visualization of movies during hemodialysis sessions. It was possible to know which factors influence the initial evaluation, nurses must identify the factors that influence the appreciation of humor movies and the preferences of each person. During the humor intervention implementation, it is necessary to attend people's choices, in order to individualize nursing care and deal with the paradoxical effect of humor³⁴.

Finally, the implications of this research on nurse education / training are related to the activities of humor intervention that may be prescribed in some nursing diagnoses referred to above. It is suggested the inclusion of humor intervention in the nursing curricula for undergraduate, post-graduate and specialization degrees.

Limitations

Although the samples were randomly selected in both groups, participants belonged to different clinics, which conditioned their allocation for a true experimental study. There may be factors that have not been controlled by belonging to different nursing teams and contexts and these variables can influence humor³⁴.

For future research it is recommended to use larger samples and the inclusion of a control group with the same characteristics, namely the context and health team, to examine the effects of humor during the sessions.

It would also be an asset to evaluate the implementation of this intervention over a longer time span.

According to the results obtained, it can be observed that the visualization of humor movies as a nursing intervention

improves the levels of subjective happiness, and sense of humor, and decreases the perception of depressive symptoms.

This study contributed to the understanding of humor effect on the psychological health, well-being and sense of humor in hemodialysis patients. The prescription of humor movies by nurses is a low intensity intervention that besides being a resource that allows to pass time during hemodialysis sessions, also has benefits in the health and quality of life of these people.

Given the limitations and implications for practice identified in this study, we emphasize the need for further studies on nursing interventions in the field of sense of humor promotion in hemodialysis patients and its contribution to the well-being of this population.

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