

The Effects of Spirituality on the Quality of Life Among Cancer Patients Enrolled in the Out Patient Chemotherapy Clinic of a Tertiary Hospital: An Analytical Cross-sectional Study

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Abstract

Introduction. Spirituality was defined as a way individual seek and express meaning and purpose and the way they experience their connectedness to the moment. Studies showed that spiritual beliefs provided comfort to cancer patients and that different dimensions were related with the different aspects of health.

Objectives. The aim of the study is to determine the correlation on effects of spirituality and the quality of life among patients enrolled in the outpatient chemotherapy clinic.

Methodology. An analytical cross-sectional study using a non-probability convenience sampling was done of which validated questionnaires on the Spirituality and Quality of Life were the research instruments of the study. The Pearson's correlation coefficient/Spearman rho computed on the relationship between the dimensions of spirituality and subscales of the quality of life among cancer patients. Chi Square/Fisher's test was used to determine the correlation among the types and stages of cancer with the quality of life and spirituality of the respondents.

Results. A total of 105 cancer patients participated in this study, with ages ranging from 21 to 76 years and a mean age of 51 +/- 11 years, 2/5 were married females and 4/5 were Roman Catholic. Fifty-six percent of the cancer patients have Invasive Ductal Carcinoma (Breast Cancer). Most of the respondents are at stages 2 and 3 with equal percentages of 41%. This study revealed that most of the cancer patients enrolled in the outpatient chemotherapy clinic had a mean score of 3.56 ± 0.35 indicating moderate to high level of spirituality. It also showed a mean score of $5.41 \pm .53$ indicating high QOLs. Dimensions of spirituality which were found to have significant association with QOL domains ($p < 0.05$) were Mindfulness and Feeling of Security which were both found to have positive correlation with Emotional Wellbeing and Social Status.

Conclusion. Spiritual care should be included as one of the non-pharmacological modalities in the comprehensive management and palliative care for the Filipino cancer patients in order to improve the over-all well-being, healthcare outcomes and quality of life of patients and their families.

Keywords: Cancer Patients, Spirituality, Quality of Life

Introduction

Spirituality is defined as a way individual seek and express meaning and purpose and the way they experienced their connectedness to the moment, to self, to others, to nature and to the significant or "sacredhood."¹ It emphasized a feeling of having relationship with the others, having meaning and

purpose in life and having belief and relation with exalted power.²

It was observed that health care workers do not only utilize the medical aspect of management but also investigated spirituality as part of care and coping. It was indicated that among patients, 94% believe that spiritual health is as important as physical health, 40% use faith to cope with illness and 25% use prayer for healing. Palliative care patients with higher levels of spirituality have better quality of life and that supporting spiritual

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well-being is useful, especially as patients approach the end of life.³

Health was operationally defined by the World Health Organization as a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity. It should have been noted that a health care worker, particularly a physician, recognized the totality of an individual by focusing on the different domains of health. Quality of Life (QoL) noted the present over all well-being of a person that includes not only his emotional, social and physical status but also his/her ability to do activities of daily living. It also emphasized to the insight of life, morals, interest and indicates one's general well-being.

Cancer was one of the important issues considered by physicians. It follows that as persons in charge of the long term care of patients with cancer, oncologists should not only focus on the survival impact of a patient's treatment regimen but equally important in assessing how the cancer treatment is affecting the different aspects of a patient's life.⁴ Studies showed that spiritual beliefs provided comfort to cancer patients and that different dimensions were related with the different aspects of health. Chemotherapy treatment had adverse effects which can cause changes not only in the body but also to the emotional and mental state of the cancer patient undergoing chemotherapy. One of the priorities in cancer management was to achieve a favorable quality of life since it indicates one's effectiveness of cancer treatment modality.⁵

Several studies recognized the importance of spirituality in managing patients in a chemotherapy setting. However, there are limited journals that discuss spirituality in the quality of life of cancer patients in the local setting.

Spiritual beliefs and practices were important in assessing healthcare decision-making and healthcare decision-making and health care outcomes especially quality of life. It showed that spiritual beliefs provided comfort to cancer patients and that its different dimensions were associated with the different aspects of health. Spirituality was one of the factors that distinguished the quality of life and quality of care among cancer patients. Spiritual practices and relationship with quality of life showed mixed results in terms on improvements in psychological and spiritual quality of life. Furthermore, spiritual practice may or may not be helpful at times, but what determines health outcome was how people make use of them to cope with their situation.

In Filipino culture, spirituality and religious beliefs influenced the health and coping with diseases and end of life care. As such, having a sense of spiritual well-being gave patients hope not just limited in this life but also for hope after death. It was being emphasized that considering the given spiritual beliefs of Filipino cancer patients, this contributed to the improvement of the quality of life of cancer patients.⁶

In the study by Gall (2008), a positive image of God, in connection with the breast cancer patients, was related to greater concurrent distress while a negative image of God was indirectly related to a greater distress through the pathways of social well-being and positive attitude. It was also noted that spirituality acted in a protective manner rather the negative elements of spirituality were more prominent in relation to various aspects of women's adjustment to breast cancer.⁷

Significant differences among the fighting spirit, fatalism, and avoidance among cancer patients in Portugal were noted in the study by Travado, et al.⁸ Having an active coping style referred to patients having a more positive attitude toward outcome, and taking a more active role in their recovery, than non-spiritual patients.

The paucity of published local literature on the effects of spirituality on the quality of life among cancer patients can prevent healthcare workers from drafting interventions to improve their day-to-day quality of life. We hope to generate data on the current status of the patients as to types and stages of cancer. Moreover, it aims to promote spiritual management as one of the interventions of cancer care.

Objectives. Our study seeks to determine the demographic profile of the cancer patients in terms of: age, sex, civil status, religion, and type and stage of cancer. We also seek to determine the level of spirituality in terms of: (a) belief in God, (b) search for meaning, (c) mindfulness, and (d) feeling of security. We also assess the quality of life among cancer patients in terms of (a) physical wellness, (b) emotional well-being, (c) social status, (d) cognitive status, and (e) self-care/related functions. And lastly, we seek to determine if there is a significant relationship between the spirituality and the quality of life among cancer patients.

Methodology

Research Design. The study design was an analytical cross-sectional study using a non-probability convenience sampling. Descriptive statistics was used to present and to analyze the nominal variables.

Setting of the Study. Jose B. Lingad Memorial General Hospital is a 750 bed-capacity tertiary government hospital located at City of San Fernando, Pampanga. The implementation of the study was held at the out-patient chemotherapy clinic at the said hospital last April-May 2022 including the period of recruitment of participants of the study and data collection.

Ethical Considerations. The research protocol adheres to the relevant national and ethical guidelines for its implementation, which included the Declaration of Helsinki, WHO guidelines, International Conference on Harmonization -Good Clinical Practice, Data Privacy Act of 2012, and National Ethics Guidelines for Health Research.

The details of the study participants were kept confidential. All identifiable information and data were given code numbers. A master list that linked the code

number and subject identity were kept separately from the research data. The investigator and all key personnel completed the Good Clinical Practice (GCP) training on the responsible conduct of research with human data.

In compliance to the Data Privacy Act of 2012, the gathering, storage, and eventual disposal of the data used in this study minimized, if not eliminated, any risk for the revelation of any personal information pertaining to the participant records that were retrieved. Necessary procedures for the procurement of informed consent from the participants were practiced. Further, this study complied with any additional measure the ethics review committee had given regarding the ethical conduct of this study and its relevant data collection procedures.

The implementation of the study started upon the approval of the Research Ethics Committee (REC) of the Jose B. Lingad Memorial General Hospital (JBLMGH). The proponent checked that the study protocol and all its related procedures took before the expiry date of the ethical clearance given to the study, and filed the necessary documentation to the REC.

Conflict of Interest. The study proponent declares no conflict of interest.

Study Population and Sample Size. Participants who were enrolled from the different provinces in Region III were included in the study. A total of 105 were enrolled in the study, taking into consideration in the sample size computations derived by Hulley, Cummings et.al.⁹

Sample Size. The following formula was used to compute for sample size: $N = (Za + Zb) / C)^2 + 3$

No participants with missing or incomplete data for each variable of interest were noted prior to the conduct of the study.

Table I. ECOG Performance Status

Grade	ECOG Performance Status
0	Fully active, able to carry on all pre-disease performance without restriction
1	Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, e.g., light house work, office work
2	Ambulatory and capable of all selfcare but unable to carry out any work activities; up and about more than 50% of waking hours
3	Capable of only limited selfcare; confined to bed or chair more than 50% of waking hours
4	Completely disabled; cannot carry on any selfcare; totally confined to bed or chair
5	Dead

Informed Consent. Informed consent was obtained from the study participants before administering the questionnaire. In this procedure, the patients received a letter explaining the study, its objectives, and main methods of data collection. No monetary compensation for the participation of these individuals in the study was provided with this provision highlighted and adequately explained in the informed consent. Besides the inclusion and exclusion criteria mentioned in the study, the cancer patients were given the option to voluntarily participate in and may withdraw from the study procedures. They were assured that the quality of care that they received from the hospital is not affected even if they withdraw from the study.

Lastly, the contact details of the primary investigator and of the REC were included for the patients to be able to express their study-related concerns at any point during their participation.

Inclusion and Exclusion Criteria. Included in the study were cancer patients who were 19 years old and above and who were enrolled and underwent chemotherapy at the JBLMGH Oncology Clinic which includes breast, liver, Hodgkin's lymphoma, Non-Hodgkin's lymphoma, nasopharyngeal carcinoma, colon adenocarcinoma, endometrial carcinoma, and cervical cancer patients. Included also were patients who were coherent and medically stable; able to communicate verbally or through writing; able to understand and communicate in English or in Filipino, and categorized as Eastern Cooperative Oncology Group (ECOG) Performance Status Scale 0-1 (Table I). The ECOG Performance Status Scale describes a patient's level of functioning in terms of their ability

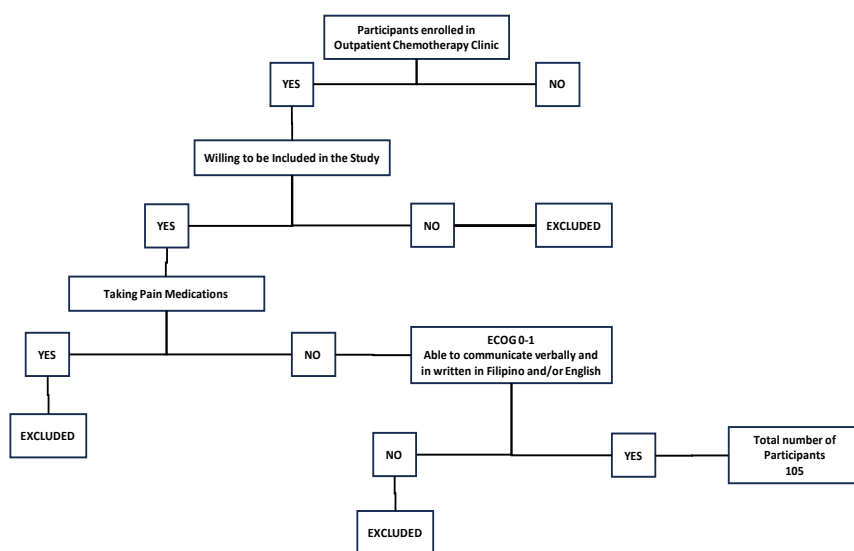


Figure 1. Selection of Study Participants through Non-Probability Convenience Sampling

Table II. Distribution of Participants by Demographic Profile

Mean Age (years) \pm SD	51 \pm 11 [21-76]
Gender	
Male	25 (23.81)
Female	80 (76.19)
Civil Status	
Single	16 (15.24)
Married	78 (74.29)
Separated	4 (3.81)
Widowed	7 (6.67)
Religion	
Roman Catholic	86 (81.90)
Born Again Christian	8 (7.62)
Iglesia ni Cristo	7 (6.67)
Baptist	1 (0.95)
Members Church of God	3 (2.86)

Table III. Distribution of Participants by Type and Stage of Cancer

Type of Cancer	Stage			Total	
	2	3	4	n	%
Breast (Invasive Ductal Carcinoma)	25	28	6	59	56.19
Colorectal	5	6	6	17	16.19
Rectal Ca (adenocarcinoma)	5	6	4		
Sigmoid Adenocarcinoma			2		
Gynecologic	6	5	1	12	11.43
Cervical Cancer	2		1		
Ovarian Carcinoma	3	4			
Endometrial Carcinoma	1	1			
Nasopharyngeal Carcinoma	2	2	4	8	7.62
Others	5	3	1	9	8.57
Hodgkin's Lymphoma	2				
Non-Hodgkin's Lymphoma		1			
Lung Carcinoma	1	1	1		
Germ Cell Tumor	1				
Leiomyosarcoma	1				
Skin Cancer		1			
Tota (n, %)	43 (40.95)	44 (41.90)	18 (17.14)	105	100.00

Table IV. Summary Measures of Spirituality Scores by Dimension

Parameter	Belief in God	Search for meaning	Mindfulness	Feeling of security	Overall
N (Mean \pm SD)	105 (3.96 \pm 0.14)	105 (3.16 \pm 0.87)	105 (3.65 \pm 0.44)	105 (3.49 \pm 0.59)	105 (3.56 \pm 0.35)
Range	3.2 - 4.0	0.0 - 4.0	1.6 - 4.0	1.6 - 4.0	2.15 - 4.00
1 st Quartile	4.0	3.0	3.4	3.2	3.35
2 nd Quartile (Median)	4.0	3.4	3.8	3.8	3.60
3 rd Quartile	4.0	3.8	4.0	4.0	3.85
Interquartile Range	0.0	0.8	0.6	0.8	0.50
High (n, %)	4.0 = 93 (88.57)	>3.4 = 46 (43.81)	>3.8 = 49 (46.67)	>3.8 = 46 (43.81)	> 3.60 = 47 (44.76)
Moderate (n, %)	3.8 to 3.9 = 5 (4.76)	3.0 to 3.4 = 33 (31.43)	3.4 to 3.8 = 31 (29.52)	3.2 to 3.8 = 33 (31.43)	3.35 to 3.60 = 32 (30.48)
Low (n, %)	< 3.8 = 7 (6.67)	< 3.0 = 26 (24.76)	< 3.4 = 25 (23.81)	< 3.2 = 26 (24.76)	< 3.35 = 26 (24.76)

to care for themselves, daily activity, and physical ability (walking, working, etc.).

Excluded in the study were patients who were in currently taking pain medications prior to chemotherapy. In the study by Nayak, et. al, they showed that the majority of

these patients were performing much less in terms of physical well-being domain of quality of life (QoL).¹⁰ In addition, this study confirmed that the said domain was affected by physical pain in 72.9% of the respondents. In another study by Oliviera, et al, neuropathic pain was identified in 23 patients and was associated with the

Table V. Summary Measures of Quality-of-Life Scores by Domain

Parameter	Physical Wellness	Emotional Well-being	Social Status	Cognitive Status	Self-care/ related functions	Overall
N (Mean±SD)	105 (5.40±0.58)	105 (5.52±0.67)	105 (6.31±0.58)	105 (4.66±0.84)	105 (5.45±0.80)	105 (5.41±0.53)
Range	4.00 7.00	3.63 7.00	4.00 7.00	2.60 7.00	3.00 7.00	4.24 7.00
1 st Quartile	5.08	5.13	6.00	4.20	5.00	5.15
2 nd Quartile (Median)	5.38	5.50	6.33	4.80	5.50	5.45
3 rd Quartile	5.85	6.00	6.67	5.20	6.00	5.79
Interquartile Range	0.77	0.88	0.67	1.00	1.00	0.64
High (n, %)	82 (78.10)	81 (77.14)	100 (95.24)	34 (32.38)	72 (68.57)	84 (80.00)
Moderate (n, %)	23 (21.90)	24 (22.86)	5 (4.76)	67 (63.81)	32 (30.48)	21 (20.00)
Low (n, %)	0 (0.00)	0 (0.00)	0 (0.00)	4 (3.81)	1 (0.95)	0 (0.00)

Table VI. Relationship between Dimensions of Spirituality and Subscales of Quality of Life Among Cancer Patients as Measured by Spearman rho coefficient

Dimensions of Spirituality (p value)	Physical Wellness	Emotional Well Being	Social Status	Cognitive Status	Self-care/related functions
Belief in God	-0.10 (0.32)	0.06 (0.52)	0.09 (0.36)	-0.09 (0.34)	0.03 (0.73)
Search for Meaning	-0.07 (0.46)	-0.08 (0.41)	-0.04 (0.67)	-0.11 (0.26)	-0.06 (0.56)
Mindfulness	0.18 (0.06)	0.32 (0.00*)	0.42 (0.00*)	0.07 (0.51)	0.12 (0.21)
Feeling of Security	0.15 (0.13)	0.27 (0.01*)	0.25 (0.01*)	0.07 (0.45)	0.07 (0.50)

*Significant at 5% level of significance

highest level of spirituality used as a way of coping with pain. As faith increases, pain decreases in intensity by 0.394 points.¹¹ Since it will provide relief of symptom, taking prescribed analgesics during the time of the study may provide "false-high" results for cancer patients and were thus excluded.

Data Collection. Once the patients were included in the study after filtering with the inclusion and exclusion criteria, they were contacted for informed consent administration. The data form used in the study was divided into three parts. First was demographic profiling that contains basic information of participants. Second was the spirituality questionnaire and the third was the Quality of Life.

The Spirituality Questionnaire by Hardt, et. al was used in the study consisting of 20 questions with the subscales including (a) belief in God (b) search for meaning (c) mindfulness, and (d) feeling of security with good reliabilities ($0.78 < \text{Cronbach's } \alpha < 0.97$). All scales were answered with the categories "not true at all", "hardly true", "don't know", "rather true" and "absolutely true" with each item rated as 1 to 5, respectively. For the interpretation of scores for each subscale, the following scoring system were used: a high level of spirituality had a mean score of 3.61-5.0, moderate level of spirituality had a mean score of 2.31-3.6, and low level of spirituality had a mean score of 1.00-2.3.¹²

The said questionnaire was translated and validated into a Filipino version by a licensed Filipino teacher so that the respondents can understand the questionnaire better.

The UP-DOH Quality of Life Scale for Cancer Patients (UP-DOH QOL-CA) by Ramiro, et al. with a Cronbach's alpha of 0.67-0.87 was used to assess QOL of cancer patients.¹³

Thirty-three questions written in Filipino were grouped into the following domains: Physical Wellness, Emotional Well-being, Social Status, Cognitive Status, and Self-care/related functions. The response of each item ranged from 1 to 7 which corresponds to the lowest and highest QOL for each item, respectively. For the interpretation of scores for each domain, the following scoring system was used: a high QOL had a mean score of 5.01-7.00, moderate QOL had a mean score of 3.01-5.00, and low QOL when the score is 1.00-3.00. The two research tools were allowed to be used by the authors of the respective studies.

The participants were given 20 minutes to answer the questionnaires by themselves in written format or with guidance by the investigators. Data were collected once and checked for any inconsistencies, errors, or missing entries before migrating the data to the statistical analysis program for data analysis.

Data Analysis. SPSS™ ver 25 was used. *Spearman rho* was used to examine the relationships between the dimensions of spirituality and subscales of the quality of life among cancer patients.

Results

A total of 105 cancer patients participated in this study, with ages ranging from 21 to 76 years and a mean age of 51 ± 11 years, with 40% married females and 80% were Roman Catholics.

The most common type of cancer among the participants was Invasive Ductal Carcinoma (Breast Cancer) with more than half of the patients (56%) having this type of malignancy. In terms of the stage of cancer, Stages 2 and 3 were equally common (about 41%, respectively).

The participants were found to have an overall mean spirituality score of 3.56 ± 0.35 in the scale with possible scores ranging from 0 to 4. This implied an overall spirituality level ranging from moderate to high. Among the dimensions, the highest mean score was for belief in God, followed by mindfulness, feeling of security and the lowest mean is for the search for meaning dimension. Under 'Belief in God', all participants responded to the statement "I trust in God" as absolutely true. As to the dimension, search for meaning, the lowest means were for the statements "My life is a continual searching and asking" (mean = 2.84) and "I look for insight and coherence" (mean = 2.94).

As to QoL, participants were found to have an overall mean QoL score of 5.41 ± 0.53 implying high QoL since the scores ranged from 1 to 7. Mean scores in all domains were likewise indicative of high QoL except in the Cognitive Status domain wherein the mean score was suggestive of moderate QoL.

Dimensions of spirituality which were found to have significant association with QoL domains ($p < 0.05$) were Mindfulness and Feeling of Security which were both found to have positive correlation with Emotional Wellbeing and Social Status. This implied that patients with higher levels of spirituality as to mindfulness and feeling of security had better QoL in terms of Emotional Well Being and Social Status.

Discussion

This study revealed that most of the cancer patients enrolled in the outpatient chemotherapy clinic had a moderate to high level of spirituality. It also showed high QoLs among patients. However, in terms of the cognitive status of the patients the result showed moderate QoLs. Cancer patients with higher levels of spirituality as to mindfulness and feeling of security had better QoL in terms of emotional wellbeing and social status.

In the study by Tan and Yang spirituality was noted to become a refuge of majority of the cancer patients.¹⁴ It was emphasized that faith seemed to play an important role that weaves the "fabric of connectedness", giving the patients some sense of hope. It was also a profound aspect that molded them to have the will to thrive. Most of these participants were surrendering their fate to a spiritual being. As compared to this study, 105 respondents were found to have an overall mean spirituality score of 3.56 ± 0.35 ; indicating that they have a moderate to high level of spirituality.

Moreover, the participants of our study took emotional healing as a part of modality in the healing process. Participants however wanted to resolve this emotional issue to help them feel less burdened and to achieve peace. A greater social status was derived from the support from friends, family, health care provider and even from unknown persons. It was emphasized as priceless in giving them the feeling of being loved which helped them to continue "winning the race."¹⁴

We also noted in our study that the dimensions of spirituality which were found to have significant

association with QoL domains were Mindfulness and Feeling of Security which were both found to have positive correlation with Emotional Wellbeing and Social Status.

In contrast with the study by Balboni, et. al, over all spiritual support was positively associated with the quality of life among 230 cancer patients.⁶ Spiritual needs were minimally supported by religious communities for approximately half of the participants especially among African Americans. Unlike in our study, the other dimensions of spirituality (Belief in God and Search for Meaning) were not significantly related with the other subscales of Quality of Life including Physical Wellness, Cognitive Status and Self-care/related functions.

Nayak, et. al reports that among 768 cancer patients included in their study, 96.1 % have a very low physical well-being.¹⁰ It was also emphasized in their study that majority of the patients were not satisfied. As explained in the study, physical wellness was found to be significantly associated with cancer stage ($p < 0.05$). Specifically, an inverse or negative correlation was noted indicating that patients with higher stages of cancer had lower QoL as to physical wellness.

Another study by Gandhi, et. al. who studied 100 patients of advanced incurable head and neck cancer and offered palliative radiation.¹⁵ These patients suffered from many symptoms such as pain, insomnia and loss of appetite and fatigue. Caringal, et. al. on the other hand noted that breast cancer patients have perceptions of having strong spiritual beliefs and good spiritual well-being.³ It is attributed to cultural and societal influences and social support of spiritual practices on people.¹⁵

Limitations. The small sample size and being conducted in a single center limits the generalizability of our findings. Another limitation of the study is the absence of non-Christian participants. Lastly, having an ECOG score of 0-1 may affect the QoL and spirituality of the cancer patients enrolled in the outpatient chemotherapy setting as compared to cancer patients having ECOG scores of 2-4.

Conclusion and Recommendations

This study revealed that most cancer patients have a moderate to high level of spirituality and high QoL. This implies that the cancer patients who are enrolled in the outpatient chemotherapy clinic were able to cope spiritually. They are able to maintain a better quality of life especially on social and emotional aspects despite undergoing chemotherapy.

Based on our results, we feel that it is important for a clinician to have a greater awareness on the spirituality and quality of life among cancer patients since treatment and evaluation can consider the totality of the patient rather than the disease only.

Thus, spiritual care should be included as one of the non-pharmacological modalities in the comprehensive management and palliative care for the Filipino cancer patients in order to improve the over-all well-being,

healthcare outcomes, and quality of life of patients and their families. Specifically, every part of the health care team should formulate protocols on how to support and assist cancer patients as they face their battles in every stage of their journey.

It is recommended to future researchers to tackle spirituality and quality of life among cancer patients in qualitative format such as phenomenological and grounded theory researches.

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