Assessing the Effect of Disease Progression on Spirituality

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Disease and sufferings lead religious persons nearer to almighty in search of mercy. Not much is known about how to design and disseminate programs of spiritual exercises and spiritual indicators for persons suffering with some disease (sufferers). Research is required to advance the understanding of prioritized internal and external indicators responsible for spiritual awakening among these sufferers. In this paper, an attempt is made to compute OFDP (overall futuristic decision priority) weights to generate spiritual scenarios for spiritual awakening by using MCFDM (multi-criteria futuristic decision-making) methodology. The generated prioritized spiritual scenarios responsible for spiritual awakening among sufferers were then used to assess the effect of some kind of disease (physical problem, suffering, disorder, etc.) on strengthening their religious faith and defining their optimal spiritual trajectories towards ultimate reality. In this research work, a two-phased DRFI (disease-religious faith-interaction) experiment is also designed and developed. The results derived from Phase-I pilot research study based on prioritized spiritual scenarios on 20 male and female sufferers are also presented.

Keywords: spiritual awakening, religiosity, linguistic variables, MCFDM (multi-criteria futuristic decision-making)

Introduction

The word “spirituality” derives from the Latin word “spiritus”, which refers to breath, air, or wind. The spirit, thus, is “that which gives life to, or animates a person”. Elements of spirituality include spiritual well-being, the spiritual dimension, spiritual needs, the spiritual perspective, and spiritual awareness.

An enduring question that has intrigued researchers and people in general alike is the extent to which spirituality is related to health outcomes. Several excellent reviews have recently been published. Most of these reviews have been limited to church/service attendance as that has been the predictor typically measured in large-scale epidemiological studies. Yet, crisis is a time when people may turn to God. Despite this hypothesis, no one has tested the extent to which an increase in spirituality occurs around a crisis point such as receiving a diagnosis of a disease, or the extent to which changes in spirituality have been predictive of disease course. In addition, most studies on spirituality and health have been conducted in healthy people (most often the elderly) with less attention to people with illness.

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Literature Survey

A number of qualitative studies have included questions relating to spiritual development, spiritual emergency and recovery. Hood (1987) conducted qualitative research with 10 subjects who had each experienced an identified spiritual emergency, using in-depth interviews and written documents. Regner (1999) introduced the notion of spiritual emergency, using a case study to outline the difficulties in differential diagnosis when symptoms of mental illness and signs of spiritual awakening occur together. Fallot (2001) analyzed the key religious and spiritual themes in recovery narratives drawn from spiritual discussion groups, trauma recovery groups, and other clinical contexts at community connections, a mental health facility for people diagnosed with severe mental illness. Jacobson (2001) applied the technique of dimensional analysis to 30 recovery narratives in order to discover the uniqueness of the recovery process.

Not much is known about how to design and disseminate programs of spiritual exercises and spiritual indicators for persons suffering with some disease. Research is required to advance the understanding of prioritized internal and external indicators responsible for spiritual awakening among these sufferers.

Galanter, Dermatis, Bunt, Williams, Trujillo, and Steinke (2007) designed a 6-item spirituality self-rating scale to reflect a global measure of spiritual orientation to life, and demonstrated its internal consistency reliability in substance abusers on treatment and in non-substance abusers. Murray, Kendall, Grant, Boyd, Barclay, and Sheikh (2007) identified and compared changes in the psychological, social, and spiritual needs of people with end-stage disease during their last year of life by synthesizing data from two longitudinal, qualitative, and in-depth interview studies investigating the experiences and needs of people with advanced illnesses. The real-life practice of healing cancer in the community as perceived by clients and healers was investigated by Vaghelaa, Robinsonb, Gorec, Peacea, and Lorencb (2007) in a multi-method pilot study. Pre- and post- changes in perception towards well-being and client experience were assessed by EQ (EuroQol)-5D, MYCaW (measure yourself concerns and well-being), and a client satisfaction tool. Green, Fullilove, and Fullilove (1998) described the process of spiritual awakenings experienced by persons in recovery during their quest for sobriety and concluded that persons in recovery often undergo life altering transformations as a result of embracing a power higher than one's self, that is, a higher power.

Chuengsatiansup (2003) offered an initial understanding towards a cross-paradigm dialogue in the attempt to incorporate spiritual dimensions of life into the process of health impact assessment. Ritt-Olson et al. (2004) investigated the influence of two potentially protective factors—health-as-a-value and spirituality—on monthly alcohol, cigarette, and marijuana use in two multiethnic groups of adolescents varying in risk. Rippentropa, Altmaierb, Chena, Founda, and Keffalaa (2005) studied the relationship between religion/spirituality and physical and mental health in 122 patients with chronic musculoskeletal pain. Kathleen, Litwinczuk, and Carla (2007), Seegers (2007), and Hall (1998) studied and designed various methods to examine the relationship between spirituality, purpose in life, and well-being in samples of HIV (human immunodeficiency virus)-positive men and women. Mann (1998) made a distinction between important interpersonal dynamics, one being psychological in nature and the other spiritual in essence. Schnoll, Harlow, and Brower (2000) examined the relationship between demographic-disease variables, spirituality, and psychosocial adjustment in a heterogeneous sample of patients with cancer. Cooper, Blount, Kaslow, Rothenberg, and Eckman (2001) evaluated the role of spirituality in patients coping with the pain of sickle cell disease. Maupin (2005) believed that health is evidence of Christian behavior and a close relationship with God and felt that the body would be

free from the disease, if it kept itself in spiritual order.

Spiritual awakening is the profound experiential realizing of one's true nature, from the illusory trance of apparent separation and egoic identification which most beings are involved. It is the realization of one's natural state and one's very true nature that has always been here—the “oneness of being”. Experiencing a spiritual awakening is a life changing experience. Once you have a spiritual awakening, your life is likely to change for the better and you will never think the way that you did before. The spiritual awakening of a person is based on internal spiritual indicators which manifest externally as socio-economic, psychological, physiological, and bio-medical parameters. Disease and sufferings lead sufferers nearer to almighty in search of mercy. In this research work, OFDP (overall futuristic decision priority) weights are computed using MCFDM (multi-criteria futuristic decision-making) methodology (Singh, Srivastava, & Saxena, 1999) to generate spiritual scenarios for spiritual awakening. The generated prioritized spiritual scenarios responsible for spiritual awakening among male and female subjects (religious persons) suffering from some kind of disease were then used to assess the effect of their disease (physical problem, suffering, disorder, etc.) on strengthening their religious faith and defining their optimal spiritual trajectories towards ultimate reality. A DRFI (disease-religious faith-interaction) experiment was also designed and developed.

Materials and Methods

The study was completed in two phases: Phase I was identification of prioritized spiritual indicators, for generating spiritual scenarios for spiritual awakening using the MCFDM methodology; and Phase II was computation of DRFI index (D_r) using linguistic process methodology to assess the effect of disease on spirituality.

MCFDM Methodology

MCFDM methodology is a systematic futuristic decision priority-ranking tool based on five principles: future-scan, decomposing, clustering, prioritization, and synthesis. It is a multi-disciplinary, multi-dimensional, multi-person, multi-objective, multi-level, and multi-period methodology that consolidates information about tangible and intangible criteria and alternatives in futuristic decision-making process. The methodology is a non-linear framework for carrying and both deductive and inductive iterative futuristic thinking that allows the consideration of several factors at a time, along with a feedback mechanism and numerical trade-off without the use of the syllogism.

Phase I: Generation of Prioritized Spiritual Indicators

Four members of DM (decision-making) group formulated the problem. The goal of study was to compute overall futuristic decision priority weights ($W_i^{f_L}$) to generate and select optimal spiritual scenarios for spiritual awakening. The DM selected IF (interdisciplinary futuristic) group consisting of 120 participants and EP (expert) group consisting of 25 experts from different locations of Agra. The current decision plan, for the goal, was generated by the synthesis picture of effective planning for the goal, resulting from prognosis picture and optative picture by OIA (outside-in approach) and IOA (inside-out approach), with the aid of the possible pictures of the future, characterized as a negative picture, a neutral picture, and an optimistic picture. Different CDP (current decision plan) generated by EP group was clustered into a reasonable set of mutually exclusive and encompassing MFDF (multi-futuristic decision factor). Total 22 MFDFs were generated by EP group. These MFDFs were decomposed into a hierarchy of three levels, descending from the overall goal to various

MFDO (multi-futuristic decision objectives) at the intermediate levels.

Clustered MFDFs were taken into consideration to rate and rank the MFDF using a 10-point scale ranging from 1 ("Least important") to 10 ("Very important"). Feedback of IF group was analyzed by DM to derive FFB (futuristic feedback) weights (f_i^n) for the MFDF. From these MFDFs and their respective (f_i^n), $w_{i,j}'$ was calculated. Calculated $w_{i,j}'$ helped in generating AFRJ (average futuristic relative judgment), matrix (F) which was used in calculating the OFDP (overall futuristic decision priority) weights W_i^{fL} for all L. The calculated OFDP weights W_i^{fL} helped in selecting prioritized spiritual scenarios responsible for spiritual awakening among sufferers (see Figure 1).

Criteria Expert 1

BACK

NEXT

Home

Matrix F

Final Weights

INDICATOR	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Indicator	Weights
Meditation	1.00	1.00	2.00	2.00	2.00	2.25	2.25	3.25	3.25	3.25	3.50	4.00	4.25	4.50	Meditation	0.1458
more Grace of Lord	0	1.00	2.00	2.00	2.00	2.25	2.25	3.25	3.25	3.25	3.50	4.00	4.25	4.50	more Grace of Lord	0.1458
Selfless service	0	0	1.00	1.25	1.25	1.50	1.50	2.75	2.75	2.75	3.00	3.75	4.00	4.50	Selfless service	0.1032
Lila and Bilas	0	0	0	1.00	1.00	1.25	1.25	2.75	2.75	2.75	3.00	3.75	4.00	4.50	Lila and Bilas	0.0956
Compliance with the Will	0	0	0	0	1.00	1.25	1.25	2.75	2.75	2.75	3.00	3.75	4.00	4.50	Compliance with the Will	0.0956
Esoteric experiences	0	0	0	0	0	1.00	1.00	2.50	2.50	2.50	3.00	3.50	4.00	4.50	Esoteric experiences	0.0851
Near death experience	0	0	0	0	0	0	1.00	2.50	2.50	2.50	3.00	3.50	4.00	4.50	Near death experience	0.0851
Detachment from world	0	0	0	0	0	0	0	1.00	1.00	1.00	1.75	2.75	3.25	4.00	Detachment from world	0.0468
Feel ashamed	0	0	0	0	0	0	0	0	1.00	1.00	1.75	2.75	3.25	4.00	Feel ashamed	0.0468
Paths	0	0	0	0	0	0	0	0	0	1.00	1.75	2.75	3.25	4.00	Paths	0.0468
Attendance and Religious Services	0	0	0	0	0	0	0	0	0	0	1.00	2.25	3.00	3.75	Attendance and Religious Services	0.0374
Satisfaction with oneself	0	0	0	0	0	0	0	0	0	0	0	1.00	2.00	3.25	Satisfaction with oneself	0.027
Sleep	0	0	0	0	0	0	0	0	0	0	0	0	1.00	2.75	Sleep	0.0222
Intake of food	0	0	0	0	0	0	0	0	0	0	0	0	0	1.00	Intake of food	0.0168

INDICATOR	A	B	C	D	Indicator	Weights
Methods	1.00	2.25	2.25	3.25	Methods	0.4455
Regularity	0	1.00	1.00	2.50	Regularity	0.2249
Duration	0	0	1.00	2.50	Duration	0.2249
Frequency	0	0	0	1.00	Frequency	0.1047

INDICATOR	A	B	C	D	Indicator	Weights
Sumiran	1.00	1.00	1.00	1.00	Sumiran	0.25
Dhyan	0	1.00	1.00	1.00	Dhyan	0.25
Bhajan	0	0	1.00	1.00	Bhajan	0.25
Shabad	0	0	0	1.00	Shabad	0.25

Figure 1. OFDP (overall futuristic decision priority) weights.

Phase II: Computation of D_r

A pilot study was conducted on selected sufferers to assess the effect of some kind of disease (physical problem, suffering, disorder, etc.) on strengthening their religious faith and defining their optimal spiritual trajectories towards ultimate reality. This was done on the basis of prioritized spiritual scenarios, generated in

Phase I. A DRFI index was calculated to measure their spirituality level before and after disease using linguistic process methodology.

The 20 selected male and female subjects of different age groups, suffering from some kind of vital diseases, sufferings, disorders, etc. (cervical spondylosis, lumbar spondylosis, chronic digestive problems, respiratory allergies, high cholesterol, high blood pressure, diabetes, coronary heart disease, cancer, peptic ulcer, chronic infections, psychosomatic disorders, etc.) were selected by the research group. Thirteen prioritized spiritual indicators were discussed with the selected sufferers. The selected sufferers were asked to rate and rank these prioritized spiritual indicators based on their before and after disease experience to measure their spirituality using the spiritual linguistic scale (see Table 1). Then the spiritual scores $(C_{r_i}^B)$ and $(C_{r_i}^A)$ were calculated using:

$$C_{r_i}^B = M_{r_i}^B * R \text{ and } C_{r_i}^A = M_{r_i}^A * R$$

where $M_{r_i}^B$ and $M_{r_i}^A$ are the spiritual geometric means and R is the random index. From these scores, the D_r (see Table 2) is computed to assess the effect of disease on spirituality.

Table 1

Spiritual Linguistic Scale

Linguistic value	Fuzzy scale	Random index
Very high	$(9 - \delta, 9, 9 + \delta)$	1.0
High	$(7 - \delta, 7, 7 + \delta)$	0.8
Medium	$(5 - \delta, 5, 5 + \delta)$	0.6
Low	$(3 - \delta, 3, 3 + \delta)$	0.4
Very low	$(1, 1, 3)$	0.2

Table 2

DRFI Index (Disease-Religious-Faith-Interaction Index)- D_r

D_r	Effect on spirituality
$D_r < 1$	Moderate
$1 < D_r \leq 3$	Highly moderate
$3 < D_r \leq 5$	High
$D_r > 5$	Very high

Results and Analysis

The computation of Phase I was done using criteria expert, a program written in VisualStudio.Net. Figure 1 gives the sample calculation. The generated 22 spiritual indicators along with their W_i^{fL} Weights are shown in Figure 2.

Phase II calculations were done using MS excel (see Figure 3) and MatLab. The Phase II study clearly indicates that designed D_r is higher after the disease in almost all the cases. The experiences of the selected male and female sufferers revealed that merciful almighty was showering more infinite grace and mercy in their daily worldly and spiritual domains and they were more near to his Holy feet during and after the suffering of the disease. The sufferers revealed that after disease their external love and faith was strengthened and they continuously remained occupied in internal and external spiritual activities.

Figure 2. Spiritual indicators with their weights.

Conclusion

In this research study, selected male and female subjects of different age groups suffering from some kind of disease were asked to assess the effect of their disease (physical problem, suffering, disorder, etc.) on strengthening their religious faith and defining their optimal spiritual trajectories towards ultimate reality on the basis of prioritized spiritual scenarios, generated by computation of W_i^{fL} weights for spiritual awakening by using MCFDM methodology. The study revealed that designed D_r was higher after the disease in almost all the cases. The selected male and female sufferers were getting more profound grace and mercy in their daily worldly and spiritual activities. This Phase I pilot research study clearly proves that disease and sufferings are boon for the sufferer and an ultimate benefit in terms of spiritual awakening and upliftment.

	A	B	C	L	M	N	P	Q	R	S	T	AC	AD	AE	AG	AI
1	Effect of Disease on Spirituality															
2	Patient 1			Before Disease	After Disease		Spiritual Index		Patient 2			Before Disease	After Disease		Spiritual Index	
3	A	M	H	2.96	5.56	2.60	3.25		1	H	H	5.56	5.56	0.00	3.45	
4	B	VH	VH	8.65	8.65	0.00			2	H	VH	5.56	8.65	3.09		
5	C	H	VH	5.56	8.65	3.09			3	M	VH	2.96	8.65	5.69		
6	D	M	VH	2.96	8.65	5.69	Spirituality		4	H	VH	5.56	8.65	3.09	Spirituality	
7	E	L	VH	1.15	8.65	7.50	HIGH		5	L	H	1.15	5.56	4.41	HIGH	
8	F	VL	M	0.29	2.96	2.67			6	L	M	1.15	2.96	1.81		
9	G	L	VH	1.15	8.65	7.50			7	L	VH	1.15	8.65	7.50		
10	H	M	H	2.96	5.56	2.60			8	M	VH	2.96	8.65	5.69		
11	I	VL	M	0.29	2.96	2.67			9	M	H	2.96	5.56	2.60		
12	J	VL	VL	0.29	0.29	0.00			10	VL	VL	0.29	0.29	0.00		
13	K	M	H	2.96	5.56	2.60			11	M	H	2.96	5.56	2.60		
14	L	M	VL	2.96	0.29	2.67			12	H	VL	5.56	0.29	5.27		
15	M	M	H	2.96	5.56	2.60			13	H	VH	5.56	8.65	3.09		
16																
17																
18	Patient 3			Before Disease	After Disease		Spiritual Index		Patient 4			Before Disease	After Disease		Spiritual Index	
19																
20	1	H	H	5.56	5.56	0.00	3.08		1	L	H	1.15	5.56	4.41	3.21	
21	2	VH	VH	8.65	8.65	0.00			2	M	H	2.96	5.56	2.60		
22	3	VH	VH	8.65	8.65	0.00			3	M	H	2.96	5.56	2.60		
23	4	H	VH	5.56	8.65	3.09			4	L	H	1.15	5.56	4.41		
24	5	L	VH	1.15	8.65	7.50	Spirituality		5	L	H	1.15	5.56	4.41	Spirituality	
25	6	L	H	1.15	5.56	4.41	HIGH		6	L	H	1.15	5.56	4.41	HIGH	
26	7	H	VH	5.56	8.65	3.09			7	L	M	1.15	2.96	1.81		
27	8	VH	VH	8.65	8.65	0.00			8	L	H	1.15	5.56	4.41		
28	9	H	VH	5.56	8.65	3.09			9	M	H	2.96	5.56	2.60		
29	10	VL	H	0.29	5.56	5.27			10	VL	VL	0.29	0.29	0.00		
30	11	M	VH	2.96	8.65	5.69			11	H	VH	5.56	8.65	3.09		
31	12	H	VL	5.56	0.29	5.27			12	H	M	5.56	2.96	2.60		
32	13	M	H	2.96	5.56	2.60			13	L	H	1.15	5.56	4.41		
33																
34																
35	Patient 5			Before Disease	After Disease		Spiritual Index		Patient 6			Before Disease	After Disease		Spiritual Index	
36																
37	1	M	H	2.96	5.56	2.60	3.43		1	L	VH	1.15	8.65	7.50	4.55	
38	2	L	VH	1.15	8.65	7.50			2	VL	M	0.29	2.96	2.67		
39	3	VL	M	0.29	2.96	2.67			3	VL	M	0.29	2.96	2.67		
40	4	L	M	1.15	2.96	1.81			4	L	M	1.15	2.96	1.81		
41	5	L	H	1.15	5.56	4.41	Spirituality		5	L	VH	1.15	8.65	7.50	Spirituality	
42	6	VL	M	0.29	2.96	2.67	HIGH		6	M	H	2.96	5.56	2.60	HIGH	
43	7	VL	M	0.29	2.96	2.67			7	L	H	1.15	5.56	4.41		
44	8	VL	H	0.29	5.56	5.27			8	L	VH	1.15	8.65	7.50		
45	9	VL	M	0.29	2.96	2.67			9	L	M	1.15	2.96	1.81		
46	10	VL	L	0.29	1.15	0.87			10	VL	H	0.29	5.56	5.27		
47	11	M	H	2.96	5.56	2.60			11	VL	VH	0.29	8.65	8.37		
48	12	H	L	5.56	1.15	4.41			12	H	L	5.56	1.15	4.41		
49	13	L	H	1.15	5.56	4.41			13	M	H	2.96	5.56	2.60		

Figure 3. Phase-II calculations of D_r before and after the disease.

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