Health Related Quality of Life among Medical Representatives

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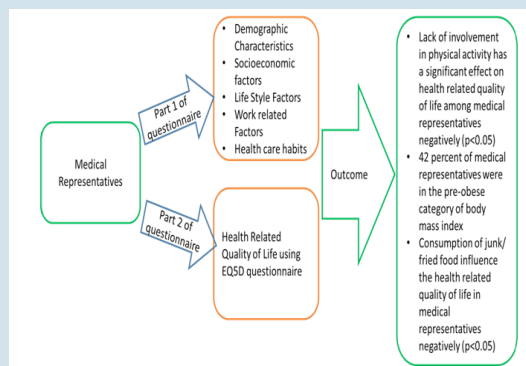Department of Pharmacy Management, MCOPS, Manipal University, Manipal-576104, India.

ABSTRACT

Objective: Medical Representatives' work involves lot of stress and burn-out as reported by many studies. Hence the study is one of the first attempt to identify the factors influencing health related quality of life among the surveyed population of medical representatives. **Methods:** In this study a structured questionnaire was used to collect the socio-demographic information from the Medical Representatives. EuroQol5 Dimension questionnaire was used to record the self-reported health related quality of life among the surveyed medical representatives. Kruskal-Wallis test was performed to compare the median VAS scores and BMI as well as other lifestyle related factors. **Results:** The mean age of the respondents was 27.55±4.79 years. More than half of the medical representatives use to travel more than 15Km daily and equal number were found not doing any physical activity other than job related work. 42 percent of the medical representatives were in the pre-obese category of BMI. Lack of involvement in physical activity other than routine work, and consumption of Junk/Fried food has a significant influence on HRQoL of respondents. **Conclusion:** Study found that lack of physical activity as a major factor which affected the health related quality of life among the medical representatives. When this is coupled with other lifestyle factors and occupation related stress it may lead to burnout, affecting the overall performance of the medical representatives.

Key-words: Medical Representative, Occupational health, HRQoL, India.

PICTORIAL ABSTRACT

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INTRODUCTION

Economic and clinical outcomes are considered while examining health of patients or specific populations. These two outcomes, however, has shortcomings in terms of evaluating entire spectrum of health. Another outcome, popularly referred to as Health Related Quality of Life (HRQoL), is self-reported outcome of population's health as perceived by people.[1] There exist differences in defining what exactly is referred to as HRQoL, but a general consensus is that HRQoL is dynamic and multidimensional. Regardless of the definitions of HRQoL the standard acceptance about HRQoL is that it encompasses four dimensions, namely physical functioning, social functioning, role functioning, and mental health.[2] The concepts of HRQoL and its value in health outcomes is relatively new, evolved just over 20 years back.[3] It is prudent to differentiate two similarly rhyming, distinct but related concepts – Quality of Life (QoL) and HRQoL. QoL, a multi-dimensional complex and abstract concept defines individual's satisfaction and happiness on parameters which are considered important by an individual. QoL is a broad concept affecting a person's physical health, psychological state, level of independence, social status, relationships, personal beliefs, relationship to environment etc.[2] The concepts of HRQoL, on the other hand, restricts the concept to identifying those health parameters which are important to an individual and responds to desired healthcare needs.[4,5] HRQoL studies are based on psychometric assessment through various tools, usually through questionnaires which are developed and validated, and are reliable. These tools are generic as well as disease specific.

Numerous studies have been carried out to assess HRQoL in various disease conditions, and to identify appropriate interventions to improve HRQoL of target population. However, there is a dearth of literature on HRQoL among Indian population and more so among Medical Representatives (MRs). MRs are employed by almost all pharmaceutical companies due to the effectiveness of their one-to-one communication to influence the prescribing behaviour of physicians.[6] Understanding HRQoL of Medical Representatives (MRs) is important due to the nature of their job. Since MRs have to meet physicians at different places and at different times, which sometimes requires meeting physician at odd hours, have to constantly travel, which is related to their work, their routine schedule many a times is affected having adverse impact on their physical functioning. MRs are under pressure to achieve monthly budget which leads to stress and may affect their psychological functioning. Due to nature of work, social life of some is adversely affected. Some people may suffer from various chronic conditions in future based on their current level of functioning on various domains. In these situations, it is important to understand HRQoL of MRs so as to identify their problems and devise appropriate strategies to alleviate the problems.

Hence, the study was carried out with an objective to understand and assess HRQoL among Medical Representatives in India.

METHODOLOGY

A cross sectional study was carried out among medical representatives of Mangalore and Udupi districts of Karnataka and Hyderabad City of Andhra Pradesh, two of the States of India. The study was carried out for a

period of 5 months, from November 2013 to March 2014. A questionnaire containing closed ended multiple choice questions and open ended questions were distributed to a total of 260 Medical Representatives (MRs) in these regions. The representatives, irrespective of their designation given by the company, but essentially performing the task of promoting a pharmaceutical company's products to physicians in assigned territories, were eligible to participate. The face validity of the questionnaire was established and the questionnaire was pilot tested for its content among 15 medical representatives. Based on the feedback and suggestions from MRs, the questionnaire was modified. All the medical representatives were orally explained about the study and informed consent was obtained from all MRs who were willing to participate in the study.

The questionnaire consisted of two sections. The first section captured demographic and socioeconomic characteristics such as age, gender, marital status, education, number of dependents and annual income. The questionnaire also consisted of questions to collect work related information such as distance of work place from home, average duration of work hours and number of outstation work days per month. Further the responses relating to lifestyle factors such as physical activity other than work, number of hours of sleep daily, consumption of tea/ coffee, consumption of alcohol, junk/fried food consumption and habit of cigarette smoking were also collected using the questionnaire. Questions pertaining to family history of lifestyle diseases, presence of lifestyle diseases among the working MRs, frequency of health check-up, and Body Mass Index (BMI) were included to collect relevant information to address study objectives.

The second section of the questionnaire intends to measure Health Related Quality of Life (HRQoL) among MRs, for which EuroQolEQ-5D-5L questionnaire was used as it covers wide range of health conditions. It provides descriptive measure and single index measure of HRQoL and is used for both economic and clinical outcome measurements. The instrument is found to be a valid tool in assessing the HRQoL among Indians.[7] EQ-5D is very easy to understand and quick to complete, hence makes it suitable for addressing objectives of survey and the study we intended to conduct.[8,9] The EQ 5D-5L questionnaire contains descriptive measurements of five dimensions of health such as mobility, self-care, usual activities, pain/discomfort and anxiety/depression. Each dimension has five levels, no problems, slight problems, moderate problems, severe problems, and extreme problems. The participants were asked to complete self-rating visual analogue scale (VAS), in addition to the questionnaire.

The participants were requested to complete three page EQ-5D-5Lquestionnaire. This self-rating leads to one digit number expressing the level indicating the respondents' health. The five digit number obtained by combining all the digits of five dimensions indicates overall health of the respondent. The score of 11111 indicate no problems on all the dimensions whereas the score of 55555 indicates extreme problems. The third page of EQ-5D-5L questionnaire contains a 20 cm vertical visual analogue scale with bottom end mentioning "worst possible health" one can imagine and top end mentioning the"best possible health". The VAS is split in to 100 equal units with number zero at the bottom and number one hundred at the top. The questionnaire asks the respondents to put X on the scale and also to indicate the number in the box provided, to indicate their level of health on that particular day. The five digit score indicating the descriptive score was converted to a score of 0 to 1 by EQ-5D questionnaire health scoring system.

The ethical approval for the conduct of the study was obtained from Manipal University ethics committee (UESC/12/2011). The participants were asked to sign informed consent before responding to the questionnaire, and the information provided was used only for research purpose.

Data from the questionnaire was coded and entered into data sheet of Statistical Package for Social Sciences (SPSS) software, version 15.0 and the analysis was done after entering the data. The demographic, socioeconomic, life-style factors and health related information was presented as descriptive statistics in the form of frequencies and percentages. Preliminary assumption testing was done to check the normality and linearity of the data. Kruskal Wallis test was performed to compare the median VAS scores and BMI scores. Duration of work, duration of sleep, distance from work place, consumption of tea/coffee, alcohol, junk/fried food, involvement in physical activity and frequency of health check-up were used as grouping variable. Statistical significance level was fixed *a priori* at a p value of less than 0.05.

RESULTS

A total of 260 medical representatives agreed to participate in the study. The questionnaires collected from the respondents were checked for completeness of the data. Out of 260 questionnaires only 249 were completely filled and hence were usable responses. The demographic and socioeconomic characteristics of the respondents are presented in Table 1. The mean age of the respondents was 27.55±4.79 years and the mean annual income was 309,882±199,217 INR.

Table 1: Demographic and socio economic characteristics of Medical Representatives

	Frequency (%)
Age	27.55±4.79 years [mean±SD]
Gender	
Male	241 (96.8)
Female	8 (3.2)
Marital Status	
Married	97 (39.1)
Unmarried	151 (60.9)
Education	
Science Graduate	130 (52.8)
Commerce Graduate	41 (16.7)
Management Graduate	65 (26.4)
Others	10 (4.1)
Number of dependents	
1	18 (9.9)
2	74 (40.9)
3 and above	89 (49.2)
Annual income	309882±199217 INR [mean±SD]
	5171±3323 USD

Table 2: Work Related characteristics

Work Related Factors	Frequency (%)
Distance of work place from Home	
Less than 5 km	41 (16.5)
Less than 10 km	76 (30.5)
Greater than 15 km	130 (53)
Average Duration of work	
6 Hours	21 (8.4)
8 Hours	132 (53.0)
8 hours or Greater	99 (38.6)
Travel Days out station (Per Month)	
Less than 5 days	130 (52.2)
7 Days	52 (20.9)
More than 7 days	67 (26.9)

The Work related characteristics such as distance of work place form home, average duration of work hours daily and number of outstation work days per month are shown in Table 2. The distance travelled by the respondents, every day to the work place, is more than 15 Km for 53

percent of the respondents and the average duration of work hours daily is 8 Hrs or more among 91.6 percent of respondents.

The lifestyle characteristics such as Physical activity other than work, number of hours of sleep daily, consumption of tea/ coffee, alcohol, junk/fried food and cigarette smoking is shown in Table 3. 47 percent of respondents were not involved in any physical activity other than their routine work and 41.2 percent of the respondents consumed junk/fried food thrice or more times per week.

Table 3: Lifestyle characteristics of Medical Representatives

Lifestyle Factors	Frequency (%)
Physical activity	
Regular	78 (31.3)
Some Times	54 (21.7)
No	117 (47)
Duration of sleep	
4 Hrs	5 (2)
6 Hrs	92 (36.9)
8 Hrs and more	152 (61.1)
Consumption of tea/ coffee	
Every Day	227 (94.6)
Sometimes but not every day	3 (1.2)
No	10 (4.2)
Consumption of Alcohol	
Regularly	58 (23.5)
Occasionally	47 (19)
No	142 (57.5)
Smoking of Cigarettes	
Daily	39 (15.7)
Occasionally	19 (7.6)
No	191 (76.7)
Consumption of junk/fried food	
Every Day	27 (11.3)
Twice per Week	136 (57.1)
Thrice and greater per week	71 (29.9)
No	4(1.7)

Table 4: Lifestyle diseases and BMI of Medical Representatives

Variable	Frequency (%)
Family history of lifestyle diseases	
Hypertension	33 (15.6)
Diabetes	36 (17.1)
Asthma	11 (5.2)
No	131 (62.1)
Presence of lifestyle diseases	
Hypertension	6 (3)
Diabetes	2 (1)
Asthma	3 (1.5)
No	190 (94.5)
Regularity of health check-up	
Monthly	15 (6.3)
Quarterly	35 (14.7)
Half Yearly	39 (16.4)
Yearly	149 (62.6)
BMI	
Under Weight	9 (3.8)
Normal	107 (45.6)
Pre-obese	99 (42.1)
Obese	20 (8.5)

Table 5: Comparison of factors influencingHRQoL among Medical Representatives

Factors	VAS Score	P value
Duration of Sleep		
4 Hrs	90 (77.5, 97.5)	
6 Hrs	85 (80, 90)	0.743
8 Hrs	85 (80, 95)	
More than 8 Hrs	82.5 (75, 94.5)	
Distance of residence form work place		
Less than 5 Km	90 (77.5, 95.5)	
5-10 Km	85 (80, 90)	0.857
15 Km or More	85 (80, 95)	
Duration of Outstation Work per month		
Less than 5 days	85 (80, 90)	
7 days	85 (75, 99.25)	0.721
More than 7 days	82.5 (75, 95)	
Average Duration of work		
6 Hrs	90 (80, 100)	
8 Hrs	85 (80, 94.5)	0.399
10 Hrs	85 (80, 90)	
More than 10 Hrs	80 (72.95)	
Consumption of Junk/ Fried Food per week	90 (80, 100)	
No	85 (80, 95)	
Twice	80 (78.75, 90)	<0.05
Thrice	80 (70, 87.5)	
More than thrice	90 (75, 90)	
Daily		
Alcohol Consumption		
Regularly	85 (75, 90)	
Occasionally	83 (79, 95)	0.693
No	85 (80, 95)	
Smoking Cigarettes		
Daily	85 (75, 90)	
Occasionally	90 (75, 95)	0.670
No	85 (80, 95)	
Tea/ Coffee Consumption		
Every Day	85 (80, 95)	
Sometimes but not every day	82.5 (80, 85)	0.083
No	75 (70, 90)	
Involvement in Physical Activity		
Regular	90 (80, 96.25)	
Some Times	85 (80, 90.75)	<0.05
No	80 (75, 90)	
Frequency of Health Check up	80 (70,90)	
Monthly	90 (80,100)	
Quarterly	90 (80,95)	0.191
Half-Yearly	80 (80,90)	
Yearly	85 (79,94)	

Family history of lifestyle diseases, presence of lifestyle diseases and regularity of health check-up along with Body Mass Index (BMI)is shown in the Table 4. 62.6 percent of the respondents were getting their health check-up done at least once in a year whereas 42.1 percent of the respondents belonged to pre-obese category.

The mean descriptive score of EQ-5D questionnaire was 0.86±0.16 (mean±SD) with a median score of 1 (inter quartile range of 0.75-1) and the mean VAS score was 84.27±12.22 (mean±SD) and median score of 85 (inter quartile range of 80-95). As the VAS score was not normally distributed when checked with Klomogrorov-Smirnov statistic (P<0.001) Kruskal Wallis test is done to compare the VAS scores among various groups and the results are shown in Table 5. Lack of involvement in physical activity other than routine work, and consumption of Junk/Fried food has a significant influence on HRQoL of respondents.

DISCUSSION

This study reports self-reported HRQoL among Medical Representatives in the states of Karnataka and Andhra Pradesh in India Medical Representatives from both semi-urban and urban places were included in the study. It was found that the HRQoL was adversely affected by junk/fried food consumption and lack of involvement in physical activity other than routine work.

The mean age of the respondents who participated in the study was 27.55±4.79 years and majority of them being males (96.8%), indicate that population of respondents consisted of young males. The demographic characteristics further revealed that the almost half of the respondents had 3 or more dependents, and about 60.9 percent of them were unmarried. This suggests that the medical representatives have more family responsibilities even though they are unmarried. The annual income of medical representatives was report in INR.

More than half of the medical representatives surveyed travel a minimum 15 Km from their residence to reach to the work place. 53% of the respondents worked more than8 hours daily, which is almost similar compared to a study done among MRs in Turkey.[10]

61% of the medical representatives had a daily sleep of 8 hrs or more; most of them (94.6%) were consuming tea/coffee every day. Whereas alcohol consumption and cigarette smoking was on the lesser side indicating the awareness of hazards associated with them consuming alcohol and cigarette smoking. Common health hazards which were having significant impact on the sales representatives were driving, violence in work place, stress, ergonomic issues and mobile use.[11] One major finding of our study was that 47 percent of the medical representatives were not involved in any physical activity other than the routine work. There was a significant association (P<0.05) between VAS score and the lack of physical activity. Hence lack of physical activity was affecting the HRQoL among Medical Representatives.

The BMI grouping of the surveyed population showed that 42 percent were in the pre-obese category. There was a significant (P<0.05) influence of junk/fried food consumption on the HRQoL. Hence, both BMI and unhealthy food habits affect the HRQoL of MRs. Job satisfaction and sales person performance were direct result of sales person burnout which may result in sales person's commitment and intension to leave as indicated in an Australian study.[12] When these factors combined with HRQoL may have significant impact on the productivity and satisfaction of the MRs.

CONCLUSION

This is first time attempt to study the HRQoL among MRs and also to find out the factors influencing them. It has clearly shown the poor HRQoL because of minimum physical activity. This when coupled with work related stress, driving, mobile use and ergonomic issues may lead to more burnouts and impact overall productivity and health of MRs.

CONFLICT OF INTEREST

"There is no conflict of interest by any of the authors"

SUMMARY

- Lack of involvement in physical activity has a significant effect on health related quality of life among medical representatives negatively (p<0.05)
- 42 percent of medical representatives were in the pre-obese category of body mass index
- Consumption of junk/ fried food influence the health related quality of life in medical representatives negatively (p<0.05)

ABBREVIATIONS USED

EQ5D – Euro Quality of Life 5 Dimension ; VAS – Visual Analogue Scale Score ; BMI – Body Mass Index ; HRQoL – Health Related Quality of Life ; MR – Medical Representative ; EQ-5D-5L – Euro Quality of Life 5 Dimension 5 Lead ; SPSS – Statistical Package for Social Sciences

ABOUT AUTHOR

Anirudh Kotlo is M Pharm graduate in Pharmaceutical Marketing from MCOPS, Manipal University. His work in the first year of graduation was "Assessment of occupational issues affecting health related quality of life in Medical Representatives". He has done his thesis work on effectiveness of promotional strategies used for mobile medical applications.

Pradeep M Muragundi, obtained his PhD in 2015 from Manipal University for his work on Health related quality of life and pharmacoeconomic studies in patients with acute coronary syndrome. He is presently working as Assistant Professor-Senior Scale, in Department of Pharmacy Management, MCOPS, Manipal University, Manipal (India). His other area of interest is regulatory aspects of Pharmaceutical drug promotion.

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