Health and well-being of nurses in hospitals in Bangalore

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Abstract

Background: To identify health related quality of Life (HqOL) of nurses working across three major types of hospitals in Bangalore namely- trust, government and private hospitals. The role of nurses is to provide social and emotional support and care to the hospitalized patients. Investigating the health and well-being of the nursing personnel helps us in understanding the effect of their occupation and surrounding on their health and well-being.

Materials & Method: A cross-sectional field survey was conducted by administering the health related QoL (SF-12v2) questionnaire to nurses working in three types of hospitals. The survey had a random sample of healthy nurses (n=115) participating between the age group of 21-50 years. The nurses were met personally in small groups to assign the questionnaire and gather data information. The scale consists of 12 items with varied option for each statement and numbering ranging from 1-5. The final output calculates the health and well-being of the respondents among the three groups.

Result: Mental health and well-being of nurses indicated a below average score for Trust and Private hospital that was significantly lower than the Government hospital nurses. While the physical health and well-being was below average not found significant for all the three types of hospital, indicating that the impact to mental well-being ($P<0.01$) was greater for nurses.

Conclusion: Hospital administrators and healthcare consultants must plan better work environment to improve the health of nurses and thus enhance their productivity.

Keywords: Type of hospital, Nursing professionals, Health and well-being, Healthcare, SF-12v2 questionnaire

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Introduction

A successful system of healthcare is contingent on the productivity, quality and the balanced supply and the supervision of the health workforce.[1] Studies have agreed that nursing is an essential element in influencing the quality of care provided by hospitals and hence it matters on the consequences for patients.[2] Healthcare is one of the principal service sectors in India. However, this sector encounters several significant challenges, such as the necessity to lessen mortality percentages, enhance infrastructure, need for health insurance, guaranteeing accessibility of a skilled medical workforce, etc.[3]

Healthcare is provided by different levels of providers: primary, secondary, or tertiary. Both public and private actors participate in these different levels of healthcare provision with private actors gaining prominence. Village teams, Sub-centres (SCs) and Primary Health Centres (PHCs) compose the primary level whereas the secondary level is made up of Community Health Centres (CHCs) and Sub-District Hospitals. The tertiary level involves District Hospitals and Medical Colleges.[3] Some statistics provided by the Planning Commission draw attention to the increased participation of the private sector in healthcare. For instance, the private sector controls 80% of doctors, 26% of nurses, 49% of beds, and 78% of ambulatory services.[4]

Healthcare in Karnataka also comprises of a three-tier (primary, secondary, and tertiary) public health system in rural areas. Considering the urbanized growth in Karnataka[5], the primary care is largely limited to tertiary healthcare system[4]. Within the capital city of Bangalore, several agencies contributes the system of healthcare delivery. One of the chief features of healthcare delivery in the context of Bangalore is its role as a desired destination for medical tourists.[6]Healthcare institutions vary depending on their size and characteristics. The common types of healthcare institutions are Government, Private and Trust Hospitals, Charitable Institutions, and Nursing homes.

Well-being, refers to the degree to which an individual is capable of experiencing health at bodily, emotional, and psychological levels.[8] Well-being from a psychological perspective is described as the degree to which an individual feels "enthusiastic, active, and alert".[9] Well-being has been characterized from both personal and organizational viewpoints.[10] Personal well-being was computed with regard to career achievements, intellectual liveliness, and absence of job-associated fatigue. On the other hand, organizational well-being was evaluated with regard to effectiveness, individual growth, self-sufficiency,

quality of objectives, amount of work, guidance, and work environment. Optimistic self-confidence facilitates the degree of intellectual liveliness and foretells favorable career achievements and reduced job fatigue.[10] Furthermore, it has been found that nurses who are certain that they have offered care of a high quality and have established robust associations with patients experience a high satisfaction with their employment.[11]

There are several studies that highlight the poor working conditions, stress levels, burnout, and other challenges encountered by nurses.[12,13,14,15,16] This emphasise a need for hospitals to focus on the health status of nursing professionals that in turn would impact the care given to patients. By comparing the three different hospital settings namely, Government, Private and Trust based hospitals, will offer an advantage of further probing into the cause with the objective of encouraging hospitals to perform a review of the health conditions of their nurses and offer better support.

Historically, nursing practice was viewed among traditionalists in India as a position reserved for women with limited economic resources and was stigmatized as a low status position because it involved touching strangers and interaction with infectious persons, and was believed to be polluting work according to Hindu theology (Evans et al. 2013; Walton-Roberts 2012). Polluting doctrine is not included in the Christian faith; therefore, nurses in India have been predominately of the Christian religion (Johnson et al. 2014; Percot 2006). The contextualization of the Christian nurse population is particularly important in India. In a review of historical literature, Nair (2012) reported that at the end of World War II, a majority of nurses in India had trained in mission hospitals and up to 90% were Christians. This imbalance in diversity contributed to the nursing workforce shortage and the disproportionate percentage of nursing schools which are greater in number in Southern India, where Christians are more likely to reside (Percot 2006).

However, the global nursing shortage, opportunities for higher wages and better working conditions in other countries have recently increased nursing education enrolment in India, particularly among men and those from the Hindu and Muslim religions (Evans et al. 2013; Walton-Roberts 2012).

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The objectives of the study are threefold:

- To investigate the health-related quality of life of nurses in different kinds of hospital systems in Bangalore
- To recognize the different areas of health that need to be addressed
- To compare the overall physical and mental component of health across the three types of hospital systems.

The following hypothesis was postulated for the study

- There is no significant difference in the health and well-being of nurses across the three types of hospitals, namely, Government, Private and Trust.

Method

Design and Sampling Technique: A cross-sectional design was incorporated with a sample of randomly stratified Registered Nurses (Nursing administration, common-patient care and special-patient care) from three types of Hospital systems, namely, Government, Private and Trust. Judgement sampling was adopted for deciding whom to administer the questionnaire. One of the inclusion criteria was that the employee must have worked for 2 years in the present hospital to ensure that they had been working in the same system for some time. The respondents were from different hospitals across Bangalore with a total of 120 nurses who participated in the study.

The investigator approached the hospital authorities to seek permission to administer the scale on their nursing staff. At the pre-communicated date and time the researcher interacted and interviewed the nurses giving clear instruction on filling the questionnaire and demographic details. Consent was sought from the participant only after asking him/her to fill out an informed consent form. Thus, the study met standard ethical considerations. The researcher debriefed the participants after they had completed the questionnaire and handed it back to the researcher. The total number of questionnaires included for the study was 115 as some of the questionnaires were partially filled. Hence, the effective response rate was 95%.

Tool used for the Study: The questionnaire used in this study is the SF-12v2™ Health Survey SF-12.[17,18] The SF-12v2 is a 12-item scale, short-form health survey that yields a psychometrically based physical and mental health summary measure and preference-based health utility index. The reliability measure of the scale falls between 0.72-0.87. The SF-12 is the condensed form of the SF-36 questionnaire (SF-36), a dependable open-access tool for the assessment and measurement of quality of life that has been utilised in various contexts. This instrument examines two components namely physical health and mental health which have each been respectively sub-divided into four domains of health. A license for using the SF12v2 scale was procured from Quality Metric Incorporated.

Statistical Methods

Descriptive and inferential statistical analysis has been carried out in the present study. Results on continuous measurements are presented on Mean±SD (Min-Max) and results on categorical measurements are presented in Number (%). Significance is assessed at 5 % level of significance. The following assumptions have been made with regard to the data:

1. Dependent variables should be normally distributed,
2. Samples drawn from the population should be random, and
3. Cases of the samples should be independent.

Analysis of variance (ANOVA) has been used to find the significance of study parameters between three or more groups of nurses.

Significant figures

+ Suggestive significance (P value: $0.05<P<0.10$)
* Moderately significant (P value: $0.01<P \leq 0.05$)
** Strongly significant (P value: $P \leq 0.01$)

Statistical software: Quality Metric Health Outcome™ scoring software 4.5, SAS 9.2, SPSS 15.0, Stata 10.1, MedCalc 9.0.1, Systat 12.0 and R environment ver.2.11.1 were used for the analysis of the data. Microsoft Word and Excel have been used to generate graphs, tables etc.

Results

The socio-demographical characteristics of the sample are represented in detail in Table 1, Table 2 and Table 3. The age range of the sample was from 21-50 years (Table 1), the analysis further showed that the maximum number of nurses participated in the study were between the age range of 21-30 from the Trust, Government and Private hospital (82.9%, 70.7% & 90.9%) respectively.

Table 1: Age distribution

Age in years	Hospital Type						Total	
	Trust		Government		Private			
	No.	%	No.	%	No.	%	No.	%
21-30	34	82.9%	29	70.7%	30	90.9%	93	80.9%
31-40	7	17.1%	2	4.9%	3	9.1%	12	10.4%
41-50	0	0%	10	24.4%	0	0%	10	8.7%
Total	41	100%	41	100%	33	100%	115	100%
Mean ± SD	27.76±3.58		30.95±9.10		26.55±3.32		28.55±6.33	

P=0.006**, significant, fisher Exact test

In this study the nurses largely came with the educational background (Table-2) of having a Diploma or Graduate degree, maximum nurses had a graduate degree from all the three hospitals (78%, 65.9% & 93.9% respectively).

Table 2: Educational Status

Educational Status	Hospital Type						Total	
	Trust		Government		Private			
	No.	%	No.	%	No.	%	No.	%
Diploma	9	22%	14	34.1%	2	6.1%	25	21.7%
Graduate	32	78%	27	65.9%	31	93.9%	90	78.3%
Total	41	100%	41	100%	33	100%	115	100%

P=0.014*, significant, fisher Exact test

Table 3 reveals that a large number of nurses participated with an experience of less than 5 years (55.7%) in this study. While taking the hospital groups individually they show that more number of nurses in the Trust hospital participated with an experience between 5-15 years as compared to the other two groups.

Table 3: Experience in years

Experience in years	Hospital Type						Total	
	Trust		Government		Private			
	No.	%	No.	%	No.	%	No.	%
<5	18	43.9%	23	56.1%	23	69.7%	64	55.7%
5-15	23	56.1%	10	24.4%	10	30.3%	43	37.4%
>15	0	0%	8	19.5%	0	0%	8	7%
Total	41	100%	41	100%	33	100%	115	100%
Mean ± SD	5.17±2.95		7.61±7.54		4.27±3.02		5.78±5.25	

P=0.015*, significant, ANOVA test

Table 4 presents the estimated mean and standard deviation on each of the eight dimensions of the health-related quality of life of nurses from the three hospitals. Using the norm-based scoring, each scale was scored to have a mean (50) and standard deviation (10) with reference to the sample population. Any value below 50 is referred to as below health status, the scale scores range from 20-70. Here, the mean scale values of the nurses in the three hospitals were measured with a view to inspect the significance of the difference between the groups.

Table 4: Health related Quality of Life (HqOL) of Nurses in relation to hospital type

HqOL Dimensions	Hospital Type			Total	P value
	Trust	Government	Private		
	Mean (SD)[1]	Mean (SD)[1]	Mean (SD)[1]	Mean(SD)[1]	
Physical Functioning	46.3 (24.7)	48.7 (31.1)	61.3 (28.0)	51.5 (28.5)	0.058+
Role-Physical	55.1 (14.5)	71.3 (22.0)	57.2 (20.9)	61.5 (20.5)	<0.001**
Bodily Pain	60.9 (23.7)	64.0 (24.4)	53.0 (27.7)	59.7 (25.3)	0.168
General Health	69.8 (13.5)	65.0 (18.9)	62.1 (19.6)	65.9 (17.5)	0.155
Vitality	63.4 (22.4)	67.0 (24.6)	59.0 (20.5)	63.4 (22.7)	0.328
Social Functioning	64.6 (25.6)	62.8 (23.1)	52.2 (27.5)	60.4 (25.6)	0.090+
Role-Emotional	63.1 (22.0)	73.7 (23.0)	60.6 (24.2)	66.2 (23.5)	0.031*
Mental Health	65.2 (15.6)	71.3 (19.6)	59.0 (19.0)	65.6 (18.6)	0.018*
Physical Component Summary	43.8 (4.1)	44.5 (6.2)	45.1 (7.5)	44.4 (5.9)	0.618
Mental Component Summary	48.5 (6.8)	51.0 (9.8)	44.2 (8.7)	48.2 (8.8)	0.004**

+ Suggestive significance (P value: 0.05<P<0.10), moderately significant (P value: 0.01<P ≤ 0.05), ** strongly significant (P value: P≤0.01)*

[1]Transformed mean was estimated for the eight domains of SF-12v2 scales and norm-based mean provided the summary scores for PCS and MCS

Comparison of the mean and SD values across the three hospital groups, showed that the overall Physical Component Summary showed no significant difference among the three groups although below average mean values were observed among the Trust 43.8(4.1),Government 44.5 (6.2) and Private 45.1(5.9). The mean for the mental component summary showed a significant difference in the mean values 48.5(6.8) in Trust, 51.0(9.8) in the Government hospital and 44.2(8.8) in the Private, indicating a relatively lower well-being among Trust and private hospital nurses.

The mean for the eight dimensions showed a range of values from suggestive to strong significance (0.018-0.001) among the three groups. On the Physical functioning, a low mean value is observed among the nurses working in the Trust 46.3 and Government hospital 48.7 compared to Private hospital nurses 61.3 (+ 0.058). There was a strong significance in the Role-Physical dimension showing a higher mean among the three groups indicating a better condition in all. There was no substantial significance in the other two areas of Physical health and well-being, Bodily pain and General Health.

The result on the component of mental health and well-being showed a suggestive to moderate significance among the three groups. On the dimensions of Vitality, Social Functioning and Role-emotional all the three groups of nurses showed mean values above 50. The mean estimate according to the norm indicates a better health functioning in nurses from the three hospitals. But when considering the component summary score of mental health and well-being the mean values suggest a below average score among the nurses.

Discussion

This investigation studies in detail the physical and mental health of nursing staff using a psychometrically

sound instrument used in medical outcome, SF-12v2 on the eight health dimensions. The significant value of the descriptive statistics suggests that the sample was randomly selected and that the dependent variables were normally distributed. The physical components of health and well-being showed significant values across the three groups for Physical Functioning (72%) and Role-Physical (88%). In this study, however large majority of nurses felt accomplished with their physical task at work. This could be due to the age group that participated in this study.

Nurses working in Trust and Government hospitals seem to be experiencing low Physical functioning which may be due to the experience and workload of the nurses who participated in the study. However, the overall physical health showed below average for all the three groups but was not significant, a result that differed from the study conducted on quality of life of nurses.[19]

In the present study, 93.9% (Table 2) majority of nurses who participated in the research had a graduate educational degree. This may suggest that more number of nurses are gaining higher degree expecting better pay and employment and also with a possibility of migration.[20,21] More number of nurses with less than 5 years of experience participating in this study was from private hospitals (69.7%), (Table 3). This suggest that with Bangalore being a destination for medical tourism, higher opportunities are available for nurses in Private sector.[6]More emphasis needs to be given to ensure the well-being of nurses for better patient care.[10]

The moderately significant mean estimates that the dimensions of Social Functioning, Role-Emotional and Mental Health were above average. This could also be due to the fact that the socio-demographics of the nurses suggest a younger population and so they were more active when compared with other studies. However, while taking the overall mental health and well-being of nurses in three hospitals a significant below average scores were observed for nurses working in Trust (69%) and Private (63%).The results may be related to the findings[22] which insist that structural empowerment (making work conditions effective to ensure employees have complete access to organizational opportunities)[28] enhanced the well-being of nurses and thus increased their job satisfaction.

The hypothesis derived for the current study, namely that there is no significant difference with regard to the health and well-being of nurses across the three types of hospitals, was rejected.

Different reports[23,24] have suggested that hospitals in Bangalore are at par with global standards. However, there is also a need to focus into the health and well-being of nurses as we are aware that there are varied management styles[25] which may impact the well-being of nurse, which is equally important for patient outcome.[26] The following implications can thus be derived from the current study:

- Government policy makers should take a look into the exploitation and poor working condition as stated in the reports[27] and plan programmes that encourage people to take up nursing as a profession in their own country.
- Hospital management should manage the work-load of nurses and balance the number of patients allotted for care by recruiting more nursing staff.
- Training programs that build the emotional and social functioning of nurses should be focused upon along with regular mentoring and counselling activities for nurses.

The present study experienced a few limitations with regard to obtaining access to nurses especially from the Private hospitals. The study is restricted to the status of nurses in Government, Trust and Private Hospitals of Bangalore. Despite these limitations, it is believed that the results of the current study will help healthcare policy makers to obtain information with regard to the needs of the nurses that require to be addressed.

The results from this study can be further explored in various other cities where healthcare is a growing need. The research design can incorporate newer trends to gather more personal data from a qualitative perspective and to obtain a deeper understanding of them.

Conclusion

Nurses form the lifeline of hospitals as they are the providers of service to patients to ensure full recovery and a good health status. Inspecting their health-related quality of life is of utmost importance so as to facilitate their better service as caretakers of patients' health.

The results of the study provided key insights into the health and quality of life of nurses from the three types of hospitals. By mapping each individual area, it can be seen that there is a need to look into the physical and mental well-being of the nurses. Furthermore, the findings of the study suggest that nurses in Private hospitals had comparable below average levels of physical well-being but lower average levels of mental well-being in comparison to nurses in the other types of hospitals that is, Government and Trust hospitals. With the growing number of private hospitals, there is a need to ensure that the health and quality of life of the workforce, especially nurses, is given due consideration.

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