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Exploring the Factors Affecting the Quality of Life (QoL) of Nurses Operating in District Headquarter Hospitals (DHQs)

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Abstract: Nurses are considered as key players in providing healthcare facilities. The purpose of this study was to find out the quality of life of nurses in DHQ hospital of Gujranwala city. The questionnaire was used to collect data from 100 nurses. A convenient sampling technique was used. The study of Literature review has suggested eight dimensions affecting the quality of life including factors relating to socio-demographic, work-related, availability of physical facilities, work-life, work design, work context, work world, and economic wellbeing. Different items were used to measure these eight dimensions. For analysis, descriptive statistics were performed. After descriptive analysis, the Partial Least Square structure equation modeling technique (PLS) was applied. Common factor analysis and confirmatory factor analysis were performed. The items having poor outer loadings were dropped. Results showed that physical facilities, work-life, work world, and economic wellbeing has a positive and significant impact on Quality of life among Nurses. The study recommends that Quality of life of nurses can be improved with better working conditions, sufficient staffing at night duty and supporting nursing in maintain work/house balance. Organizations and administrators should focus on these factors to improve the QOL of nurses in the hospital.

Keywords: Nurses, QOL, Socio-demographic, work related, physical facilities, work life, work design, work context, work world, economic wellbeing

1. Introduction

Healthcare sector has a great impact on the economy of any country. Health care providers comprises of hospitals, nursing homes and clinics not only provide health facilities to its masses but also can provide jobs and increase employment opportunities to health workers in the country. It contributes positively by increasing the standard of living of the people within a country. Health care sector is very imperative for the economy as more healthy labor force will contribute in a more productive manner. From the point of view of economic growth, businesses and organizations also check the whether the local labor force is productive or not before investing into a certain location (Patry et al., 2010). Pakistan is spending 2.75 percent of

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its GDP on health care sector while India spends 3.65 percent of its GDP and America is spending 16.58 percent of its GDP on health sector during 2016 (World Bank, 2019).

Health care providers play important role in providing quality health care to the people. The health workforce comprises of doctors, midwives, nurses and paramedics. Health worker's own job satisfaction and quality of life are considered important for better provision of health. The world health report (2019) reported 4.3 million shortage of doctors, nurses and supporting staff. Due to this crucial shortage world health assembly passed a resolution to use the strategies to increase the contribution of health professionals (World Bank, 2019).

Nurses work as the frontline of the healthcare sector as they provide 24 hours services to the patients. Nursing is seen as the women's profession because it demands care for disable and sick. As the care taker of family and house and children, the traditional role of women, nursing seems only as women career. Although men are also adopting nursing as profession but they are very few in numbers. As 90 percent of workforce related to nursing are female (Cogin and Fish, 2009). For the assurance of quality healthcare, it is crucial to work for better quality of life of nurses as they have to work round the clock and deal with patients directly, they may be exposed to many problems.

1.1: History of Nursing:

Nursing arose as an occupation in in late 19th century. Before that no training and education was needed for nursing. Nurses were badly paid and their overall image in society was not as acceptable. Nightingale set up the first nurse's training school in 19th century at St. Thomas's hospital, this became the foundation of more nursing programs in the Western world. Nightingale improved the standard of nursing by adopting certain rules and reduced the death rate in her ward during Crimean war (Hemani, 1996)

Before partition there were more non-Muslim nurses than Muslims. As then there was no trend for Muslim women to go out and work, also nursing was not considered as a noble profession.

In 1947, when Pakistan became independent, the bulk of non-Muslim nurses moved to India and British nurses also left the country, leaving Pakistan with the hand full of nurses. These nurses had to take care of large

number of refuges. Among those who were injured in riots in their areas and many of them were ill with chronic diseases. It was not easy to fill this gap in a day or even in a year. After Independence, there were three legislative acts formed in 1949, 1952 and 1973 respectively.

Table 1.1 Summary of Nursing Legislature Acts

year	Act	Reason for change
1949	Central Nursing Council Act 1949	For the establishing a uniform standard of training and certificates throughout the country for nurses.
1952	Pakistan Nursing Council Act 1952	Changes were needed as professionals was evolving
1973	Pakistan Nursing Council Act 1973	Since great deal of achievements have been made, it was time to revise the act for examination board, curriculum, licensing and registration of nurses

Source: (Hemani, 1996)

For filling this chronical gap of nurses, administrative leaders plead Pakistani women to come out and save the lives of their brothers and sisters. There was a good answer for that call as hundreds of ladies left their colleges and homes to work for their nation. These women were trained to serve as nurses. At that time in 1952 two grades of nurses were approved; a general nurse and assistance nurse. The criteria for admission in nursing was age should not be less than 17 years and that preference was given to unmarried, widowed and childless women. And men were not allowed to take the nursing assistance course, but they could take up general nursing after they had passed matriculation.

Over the last two decades education of nursing in Pakistan has evolved so much. It has evolved from three years diploma to four-year degree program. Firstly, Agha Khan University has started post BSC degree in 1988 for diploma nurses and four-year degree for fresh candidates in 1977 (Huda and Alisbinati, 2015). Now Pakistan Nursing Council (PNC) as regulatory body for nurses in Pakistan has envied minimum qualification for nurses is BScN. The purpose of imposition of this rule to improve the standard of nursing in Pakistan as BScN is minimum qualification for practice in numerous countries of the world. The purpose of this transformation leads to more skillful and knowledgeable nurses.

1.2: Need of Nurses in Pakistan:

Pakistan is a rapidly growing country in terms of population, according to recent census population of Pakistan is accorded as 212,215,030 million. Pakistan is on 5th number in most populous countries in this world. This means that Pakistan have abundant human resources. Men and women ratio in population is almost same where men form 51 percent while women form 49 percent of the total population. But only 21.9 percent women participate in labor force suggesting that mostly women in Pakistan prefer to stay at home. (World Bank, 2019).

In case of developing country like Pakistan characterized with low literacy rate, women are considered as low status profession, therefore any profession associated with women is considered as low status. As caring have been ascribed as female role, since most of the practitioners are women explaining low status of profession. This is why the matter of fact that among most of the violence and harassment facing professions, nursing is the found to one in Sweden (Arnetz and Arnetz, 2000), in Australia (Cogin and Fish, 2009) and in Canada (Rippon, 2000). In Pakistan, place in the social order is found to be determined by respective economic condition (Qureshi et al, 2012). As from the start of nursing in Pakistan, females entering this profession usually belonged to lower middle class families, contributing towards the development of this image.

There is crude deficiency of nurses in Pakistan. As there are only 5.004 nurses available per 1000 persons. Over 60 percent of WHO Member States report to have less than 40 nursing and midwifery personnel per 10 000 population (about 25 percent report to have less than 10). In many countries midwives and nurses set up more than 50 percent of the national health workforce (WHO, 2019), expressing some serious need of consideration needed to focus not only the quantity but also the quality of health workforce (nurses) in Pakistan.

There are also very limited career opportunities for women. Some professions like doctors, teachers etc. these professions are considered honorable for women, with nursing not considered among acceptable profession (French et al, 1994), as they have to be in direct contact of Patients. Lack of respect of this profession may be the contributing factors in the downfall of nurses (Meleis 1980, Boyle 1989).

Nurses are the key players in health sector and mostly ignored class especially. There primary role is the wellbeing of the patients. To perform this duty well their quality of life should be better. In Pakistan only 5.008 nurses are available for 1000 people according to WHO. Nursing is a full-time profession as they have to take care of patients round the clock. They are exposed to many hazards in caring patients and offering their duties on very difficult schedules, there quality of life is affected. Study have been conducted to analyze the impact of different factors on QOL of nurses.

1.3: Objectives of the research

- To examine the impact of socio-demographic factors on QOL of nurses.
- To analyze the influence of Work-related characteristics on QOL of nurses.
- To investigate the influence of work content factors on QOL of Nurses.
- To examine impact of work design factors on QOL of Nurses.
- To examine the influence of work life/family life aspects among QOL of nurses.
- To examine the effect of work world determinants on QOL of nurses.
- To examine impact of economic wellbeing on QOL of nurses.
- To recommend some policy measures based on identified problems.

2. Literature Review

After 1948 when WHO considered Quality of life as physical social and mental wellbeing of a person, QOL issue gained more importance in practice and research. Since 1973, QOL was used as technique in clinical research. Quality of life measures the changes in the physical, social and mental health in order to evaluate the human and financial benefits and cost of new programs (Testa and Simonson, 1996). In 1971, American institute of research meeting was held in which several social scientists were invited. The board than decided to broaden the perspective for research in new directions. Then American Institute of Research (AIR) committee decided to take major effort in improving QL of Americans (Flanagan, 1978).

2.1 QOL and its' factors:

Yoon et al (1999) investigating job satisfaction and sleep pattern in Korean nurses. Job satisfaction and quality of life were dependent variables while circadian rhythm, work schedule, extroversion, and neurotics were

independent variables. Data collected through questionnaire from 85 rotating nurses and 70 nurses on fixed schedule. Step wise multiple regression analysis was performed. Study found the major difference between sleeping patterns of both shift schedules. The sleep pattern, job satisfaction and QL was found significantly poor in rotating schedule than in the day time group. The study suggested the personality characteristics as an important factor while coping with shift work.

Moradi et al (2014) studied “Quality of working life of nurses with its related factors” in Kashans’Hospitals (Iran) during 2012. Cross-sectional study was conducted by taking the sample of 200 nurses. Questionnaire used for the research was composed of two parts including demographic characteristics and Waltons’ quality of work life index parameters. For statistical analysis one-way ANOVA and T test was used. Analysis showed that 60 percent Nurses were of moderate quality of life while 37 percent led unwanted and 2 percent had good quality life. Hospital type, educational level and experience of work showed significant relationship with QWL. The study recommended that there should be more focus on nurses’ quality of work life and its affecting aspects as the study depicted moderate level of quality of work life of nurses.

Hegney et al (2015) aimed to explain professional quality of life of nurses by determining the negative trait of relative contribution and psychological resilience. 1743 nurses from aged care sectors and public and private sectors were investigated to meet the study objective. Survey consisted of questions regarding demographic data, trials of anxiety, stress, resilience, trait negative effects, depression and professional QOL. Data analysis were performed by IBM-SPSS. Inferential and Descriptive statistics tools were used including Welch, ANOVA and Chi-square tests. Bivariate correlations were performed to measure the relationships among variables. Results showed significant and positive relation among stress, anxiety, trait negative and burnout. Significant and negative relationship was found between all of the above-mentioned variables and CS (compassion satisfaction) and resilience. This study concluded resilience and CS are imperative variables in improving the professional quality life of nurses.

Loannou et al (2015) studied about employ job satisfaction and its relationship with quality life and health of nurses. In 2015, a cross sectional

survey was conducted from general hospitals. Sample size consisted of 508 nurses and nurses' assistants in Greece. Data collected through questionnaire consisted of job satisfaction scale and 36 items of demographic details and health survey. Results showed dissatisfaction of Greek nurses with their job. Health of the respondents resulted as average. The nurses who had higher job satisfaction level were found in good physical and mental health and their health-related quality of life was relatively higher. According to findings, suggestions were to improve work environment that would increase level of satisfaction and improved mental and physical health in nurses.

Silva and Guimarães (2016) conducted a study on Work-related stress and quality life especially related to nurses' health. Sample of 227 is chosen by convenience sampling technique. Data were collected through questionnaire designed in three parts comprising of Job strain scale, socio-demographic and item short form health survey. Simple multiple regression analysis and ANOVA was performed. High risk of demand at work is observed by 60.8 percent of respondents, high control on developed activity is 71.8 percent and low social support is 85.5 percent. Pain and vitality are observed as most damaged factors. Study concluded that most sample experienced the risk situation to stress and their quality life seemed damaged.

Zavala et al (2016) studied QL in work place for nursing staff at public health-cares. The study conducted for determining nurses' QL at work place in the city of Mexico, Hermosillo, Sonora. It was qualitative, correlational and comparative research. Sample size consisted of 345 nurses. For Analysis SPSS 15 was used. Kolmogorov-Smirnov test was used to check the normality of data. Medians were calculated by Mann-Whitney U test Kruskal-Wallis test. Results indicated Quality of life at work place at moderate level. The persons with permanent contracts are on higher QOL. Difference among the quality of life at work place is observed differently depending on the institution. Recommendations made were to deploy programs for the improvement in nursing staff and strategies and in work place satisfaction.

Hemanathan et al (2017) studied "Quality of work life among nurse in a Tertiary Care hospital" the objective of the study was to analyze the association between Quality life of work for nurses and socio-demographic factors in Narayan Medical College in India. It was a cross-sectional and

descriptive study. Sampling technique was nonprobability convenience sampling and selected sample size was of 100 nurses. In which frequency, percentage, mean and standard deviation also one-way ANOVA was used. Results indicated moderate quality life in 89 percent of nurses, high quality life in 11percent. Younger age group, education, living area and marital status have significance association with the quality of life of nurses. In association the work-related characteristics years of experience, number of overnight duties, working on off days and taking break on right time had significance relation with the working QOL of nurses.

Kelbiso et al (2017) investigated the QWL and its indicators among nurses working in Hawassa town public health facilities in South Ethiopia. A cross sectional study consisted on the sample size of about 253 nurses from nine health centers and two hospitals. A structured questionnaire was built for collecting data. SPSS 20 was used for data analysis. For identifying significant predictors of QWL, multinomial regression analysis was used. Results indicated work environment, working unit, monthly income and educational status were proved to be strong predictors explaining QWL of nurses. A significant portion of nurses were found dissatisfied by their QWL. Recommendations according to findings are that perception of nurses about their QWL can be changed if health care mangers consider the issue of work environment and other issues concerning QWL of nurses.

Perry et al (2017) examined the QOL of nurses and midwives in New South Wales, Australia and compare those values with general population. This was a cross sectional study conducted during the period of 2014-2015 by considering sample of 4592 Nurses and midwives through an ecteronic survey. Questionnaire included demographic characteristics and work/health related factors. To check the association with intent to leave multivariate and univariate logistic models were used. Results revealed lower mental scores and higher physical scores as compared to general population. Physical component score was observed decreasing with increasing age while mental wellbeing scored surge with increase in age. The chances of increase in “intention to leave” observed reduced with growing mental wellbeing. Policy makes and authorities should consider the results in composing new policies for nurse

Above stated literature suggested that Quality of life is explained mostly with reference of demographics, work-related characteristics and other aspects that lowers the performance and quality life of workers at work place. These studies measured the effect of variables separately by using descriptive statistics and regression analysis for measuring QOL.

On the basis of literature following model representing the variables affecting quality of life of nurses i.e. socio-demographic factors, Work related characteristics, physical facilities, work/family life, work design, work context, work world and economic wellbeing. Framework summarized the relationship between the endogenous variable which is Quality of life and exogenous variables comprising of socio-demographic factors, Work related characteristics, physical facilities, work/family life, work design, work context, work world and economic wellbeing.

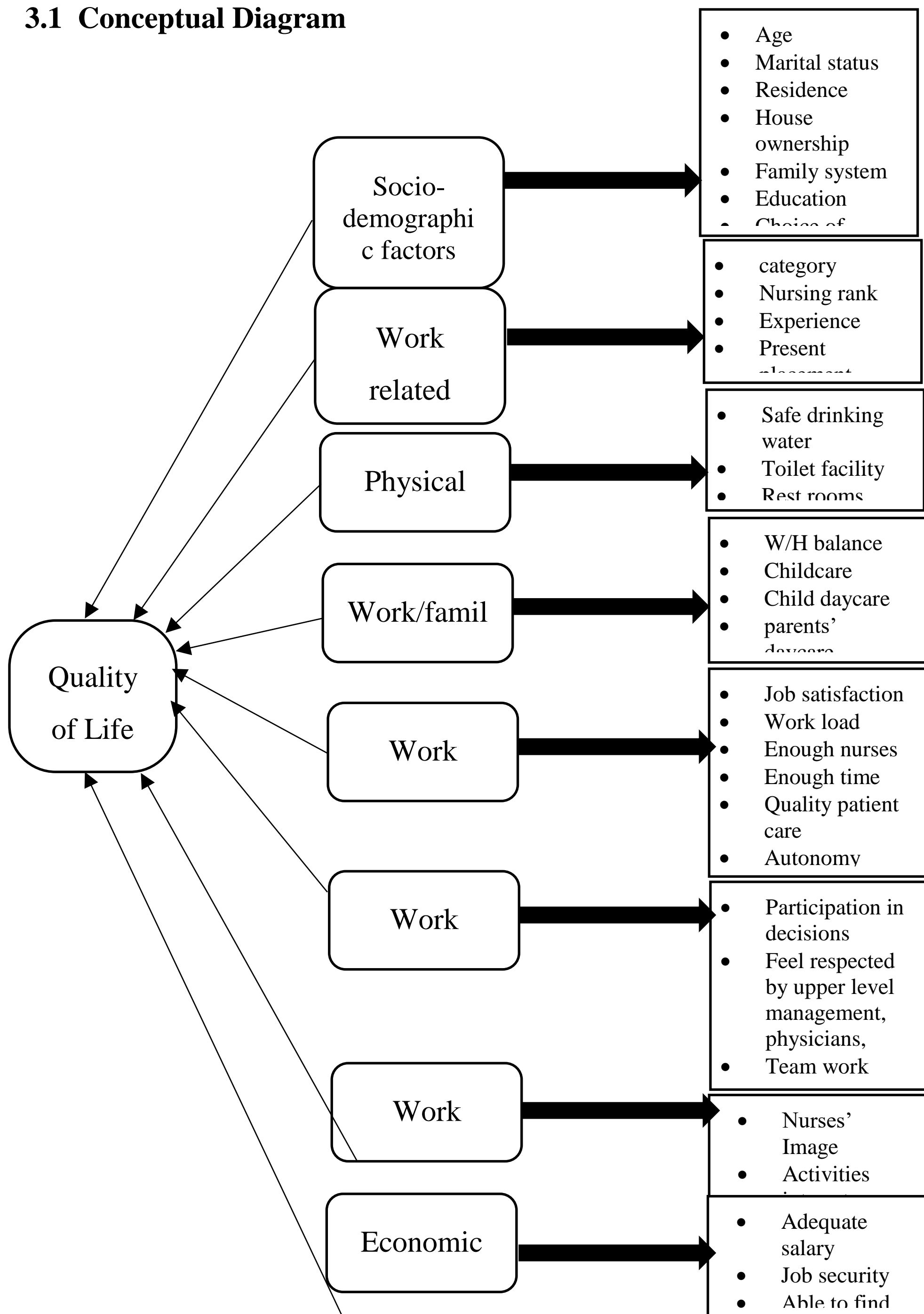
3. Theoretical Framework

3.1 Quality of life:

In General, QOL is the workers' insight about his/her life including social, economic and other work conditions. Quality life at work place is a wide multidimensional term which encompasses diverse models and approaches. QOL reflects a great amount of human and related to each other organizational dimensions (Rethinam and Ismail, 2007). Despite this complexity it can be inferred that the concept of QOL revolves around the wellbeing of employees and that its dimensions in general, including employee's satisfaction with physical and psychological factors related to work and daily life. The QWL in this sense, reflects the interaction between employees and work environment. The perception of quality of work life can be referred to as the favorableness or un-favorableness of a job environment for people (Davis, 1983).

Action for economic reforms (AER) have developed Quality of life index which was the derivative of UNDP's Capability poverty measure (CMP) popularized by human development report (Raya, 2001). There are many factors that affect the QOL of nurses with reference to Socio-demographic factors, Work related characteristics, Physical facilities, work/family life, work design, work context, work world, and economic wellbeing.

3.1 Conceptual Diagram



Source: Authors' formulation

4. Methodology

4.1 Sampling

Sampling means takes any portion from target population. In this study, sample of 100 registered nurses is investigated. Convenient sampling technique was used. Data was collected within 20 days. Sample size is determined through the following formula for the known population which is of 600 registered nurses in DHQ Gujranwala.

$$ss = \frac{z^2 \times (p) \times (1-p)}{c^2}$$

$$ss = \frac{1.96^2 \times (0.5) \times (0.5)}{0.1^2} = 96.04$$

Where

Z= z value (1.96 for 95% confidence level)

P= percentage picking a choice that is 0.5

C= confidence interval

Correction of finite population

$$new\ ss = \frac{ss}{1 + \frac{ss-1}{pop}}$$

$$new\ ss = \frac{96.04}{1 + \frac{96.04-1}{600}} = 84$$

Where

Pop= population

Minimum sample size must be equal to 84 so sample of 100 nurses was taken.

4.2 Questionnaire design and data collection:

Data was collected from our selected sample in DHQ from the city Gujranwala using questionnaire. Questionnaire was designed by keeping in mind the objectives of the study. And it was designed in local language for the convenience of the respondents. First portion consisted of information regarding socio demographics factors and work-related characteristics. Socio Demographic factors included age, education, marital status and family/ husband support in choosing the profession and their cooperation level. Work related characteristics consisted of income, average working hours, present shift and present placement. Other portion

consisted of physical facilities, work context, work world, work/ family life and economic wellbeing.

4.3 Research instruments and measurements:

Questionnaire was built to collect data from nurses about social demographic and work life of nurses working in DHQ Gujranwala. The QOL index was measured for further analysis. Index of each portion e.g., physical facilities, work life, work design, work context, work world and economic factors was calculated separately by using QOL index given below (Source: Yonk et al, 2017)

$$\frac{Observerd\ Value - Minimum\ Value}{Maximum\ Value - Minimum\ Value}$$

After calculating each category by this formula QOL is calculated by simple averages. After calculating the QOL index, Partial structural equation modeling technique was applied and examined by two models: measurement model and structural model.

5. Findings and Results

5.1 Data Analysis

After calculating index, Descriptive analysis of data was performed with respect to different characteristics. PLS (partial structural equation model) was evaluated for regression analysis and hypothesis testing. This section presents the data analysis, discussion and interpretation of findings of this research. The basic purpose of this study is to find out the factors affecting the quality of life of nurse.

5.1.1 Composition of Work-related characteristics of nurses:

Table 5.1 shows the composition of experience according to day and night shifts. The table shows that maximum of the nurses on duty were having experience of till 10 years out of which in Day shift 51percent nurses were having less than five years of experience and 26 percent were having five to ten years' experience. While on the other hand 33percent of nurses in night shift were with the experience of less than 5 years and 39percent were having five to ten years' experience.

Table 5.1: Descriptive analysis regarding Work-related Characteristics of Nurses

Work-Related Characteristics	
Nursing Rank	**Rank**

Head Nurse	17
Staff	83
Experience	**Percent**
less than 5 years	42
5 to 10 Years	33
11 to 20 years	13
more than 20 years	12
Present placement	
Ward	58
ICU	15
HDU	5
Emergency	12
OT	10
Employment Status	
Permanent	96
Temporary	4
Monthly Income (PKR Rs)	
Less than 40,000Rs	5
40,000Rs to 50,000Rs	40
51,000Rs to 60,000Rs	40
more than 60,000Rs	15
Working hours	
less than 40 hours	11
41- 50 hours	89

The Table also indicates that the nurses with experience between 5 to 10 years were placed in night shift which is of 39 percent while nurses with less than 5 years of experience are usually placed in day shift 51 percent. The above table shows that out of the sample of 100 nurses, there were 17

head nurses and 83 percent were staff nurses. As far as teaching experience was concerned, 42 percent of nurses had less than five years of experience, while 33 percent had five to ten years of experience, 13 percent had eleven to twenty years of experience and 12 percent had more than twenty years of nursing experience. In terms of placement of duty, 58 percent nurses were placed in wards, 15 percent in Intensive care Units (ICU), 5 percent in High Dependency Unit (HDU) and 12 percent were placed in Emergency. Out of total 100 nurses, 96 percent were permanent and only 4 percent were temporary. 5 percent of the sample were receiving income less than 40,000Rs, 40 percent were receiving pay between 40,000 to 50,000Rs and 40 percent were those having income between 51,000 to 60,000Rs. Only 15 percent indicated that they were receiving more than 60,000Rs pay. 89 percent nurses indicated that they were working 41 to 50 hours a week while only 11 percent were working less than 40 hours a week.

5.1.2. Composition of Demographic characteristics of nurses:

Data shows that most of the nurses were of 20 to 39 years of age. 54 percent of nurses were from 20 to 29 age group and 22 percent were between 30 to 39 years of age. Only 9 percent were under 19 while 12 percent were between 40 to 49 years of age. Only 3 percent were above 50 years of age.

Table 5.2: Descriptive analysis regarding Demographic Characteristics of Nurses

Demographic characteristics	
Age	**Percent**
19 and under	9
20-29	54
30-39	22
40-49	12
50-59	3
Marital Status	
single	50
married	45
divorced	2

widowed	3
Residence	
urban	68
rural	32
House ownership	
rental	22
personal	78
Family System	
Nuclear system	54
Joint system	46
Education	
1 year Diploma	22
2 Year Diploma	32
BSC	41
MSC	5
Average	
Choice of Profession	4.15
Support of Family	4.28
Support of husband in job	4.29
Support of husband in house	4.13
Support of Husband in Expenditures	4.20

45 percent nurses were married, 50 percent were single while 2 percent divorced and 3 percent were widowed. 68 percent of the sample belonged to urban areas while 32 percent were from rural areas. 78 percent of nurses

having their own personal houses while 22 percent were living on rental houses. 54 percent of total sample was found in living in nuclear family system while 46percent was living in joint system. Data shows that there were 22 nurses with one-year diploma, 32 percent with two-year diploma, 41 percent with BSC placed while Nurses with MSC were only 5. A question asked about choice of profession by interest which respondent have to respond on Likert scale that whether they chose this profession with their own interest ranging from strongly disagree (1) to strongly agree (5) with the average of 4.15. While in terms of Family support, support of husband in job, and support of husband in household matters, the average 4.28, 4.29 and 4.13 respectively. Response in terms of Husband support in household expenditures was estimated about 4,20 on average.

5.1.3. Composition of Availability of Physical Facilities to nurses:

In this section respondents were asked about physical facilities provided them by the hospital. Moradi (2014) reported that nurses may be affected by the physical facilities as their study revealed direct relationship between type of hospital and QOL.

Table 5.3: Descriptive analysis regarding Availability of Physical Facilities to Nurses

Physical Facilities	Average
Safe drinking water	3.58
Toilet Facilities	3.01
Rest rooms facility	3.26
Sitting area facility	3.46
Dinning Space facility	3.31
Lockers facility	2.64

Satisfaction with safe drinking water and Toilet facility were estimated to be 3.58 and 3.01 respectively on average. As far as composition of Rest rooms are concerned, the satisfaction level was 3.26. Facilities of sitting area, dining area, and availability of lockers were rated as 3.46, 3.31 and 2.64 respectively.

5.1.4. Composition of Work/family life balance with reference to nurses:

Table 5.4 shows the composition of work/house balance estimated as 4.24 on average.

Table 5.4: Descriptive analysis regarding Work/family life balance with reference to nurses

Work/family life	Average
Work/house balance	4.24
Childcare facility	3.6
Daycare facility	3.76
Energy after work	3.52
Negative effects of rotating schedules	2.5
Daycare for elderly parents	4.09

Arrangement of childcare, child day care and daycare for elderly parents were rated as 3.6, 3.76 and 4.06 respectively. Regarding level of energy left after work and negative effects of rotating schedules results were, 3.52 and 2.5 respectively.

5.1.5. Composition of Work design Characteristics with reference to nurses:

Table 5.5 shows that 96 percent of our sample responded that they are satisfied with their job with the average of 4.43. Satisfaction with reference to work load was estimated to be 3.31. Regarding sufficient number of nurses and time availability, response of 3.7 and 4.16 respectively suggest that there is enough human resource and leisure time available.

Table 5.5: Descriptive analysis regarding Work Design with reference to nurses

Work design	Average
Job satisfaction	4.43
Work load satisfaction	3.31
Adequate number of nurses	3.7
leisure time	4.16
Quality patient care	4.47
Autonomy in patient care	3.85
Sufficient assistance	3.76
Interference in duty	2.89
Communication with nurse manager	4.14

Availability of adequate supervision	4.05

Results shows that almost all nurses were of the view that they can provide quality patient care within their work setting along with autonomy in patient care and sufficient assistance with an average response of 4.47, 3.85 and 3.76 respectively. *Score of interference in work and level* of communication with nurse manager are estimated as 2.89 and 4.14 respectively. Data shows composition of adequate supervision by head nurse as an average of 4.05.

5.1.6. Composition of Work context Characteristics with reference to nurses:

Table 5.6 shows that level of participation in decisions and respect revealed by higher management and Physicians with respect to nurses as depicted by 3.57, 3.9 and 4.08 respectively. As far as Communication with Physicians is concerned, it was estimated about 4.21 on average depicting that quality of patient care is highly related to good communication between physicians and staff nurses. They can make good decisions for quality patient care by collaboration.

Table 5.6: Descriptive analysis regarding Work Context Characteristics of nurses

Work context	Average
Participation in decision making	3.57
Feel respected by management	3.9
Feel respected by physicians	4.08
Level of communication with physicians	4.21
Team work	4.04
Sense of belonging	4.11
Personal safety	3.97
Secured environment	3.94
Adequate patient care supplies	3.76

Patient care requires team work and an average of 4.04 reported good teamwork in their setting. The need of belonging is considered as a basic human psychological need and lack of belongingness relate to stress and workplace dissatisfaction with an average result of 4.11. Level of personal safety was rated as 3.97 by 100 respondents. Provision of secure environment was estimated as 3.94. Results of 3.76 shows that hospital has provided adequate supplies for patient care.

5.1.7. Composition of Work world Characteristics with reference to nurses:

Table 5.7 shows composition of nurses' image within the society, which is being depicted by an average of 3.95.

Table 5.7: Descriptive analysis regarding Work Context Characteristics of nurses

Work world	Average
Nursing image	3.95
Interest in daily activities	3.68
Co-operative social relations	3.65
Impact on patient's lives	4.09

Nurses point of view regarding their interest in daily activity and nature of social relations is estimated as 3.68 and 3.65 respectively. Sense of responsibility and belonging towards the patients is being evident by an average of 4.09.

5.1.8. Composition of Economic well-being with reference to nurses:

Table 4.8 shows the satisfaction with adequate amount of salary with respect to nurses which is rated as 3.83 by respondents.

Table 5.8: Descriptive analysis regarding Economic Well-being of nurses

Economic well-being	Average
Adequate salary	3.83
Job security	4.02
Ability to find new job	3.25
Personal wealth	4.27
Living standard	4.33

Job security is evaluated as 4.02 and with reference to the search of new job, response was mostly neutral. Response of 4.27 suggests that their personal wealth has increased with current job, leading to an improvement in their standard of living.

5.2. Partial least square structural equation Modeling:

In PLS (partial structural equation modeling) technique two models are examined that are measurement model and structural model. In measurement model, two analyses are performed common factor analysis and confirmatory factor analysis. The detail of these analysis is given below.

5.2.1. Common factor Analysis:

Common factor analysis is the first step of measurement model. At this stage, all observed variables of study constructs are verified. For this purpose, outer loadings are checked of observed variables. Outer loadings show correlation of observed variables with their latent construct. Common factor analysis of study variables i.e. sociodemographic factors, work-related characteristics, physical facilities, work life, work design, work context, work world, economic wellbeing is as below. Some Items are dropped due to poor out loading which is less than 0.50 and the remaining constructs are presented in the table below:

Table: 5.9 Summary of Common Factor Analysis

Latent variables	Total Items	Items Retained	Outer Loading
Economic wellbeing	5	4	0.67 - 0.81
Physical facilities	6	6	0.50 - 0.87
Socio demographic factors	5	5	0.55 - 0.79
Work Context	9	8	0.61 - 0.87
Work World	4	4	0.54 - 0.79
Work design	8	8	0.60 - 0.74
Work life	6	5	0.59 - 0.81
Work related Characteristics	7	1	1

5.2.2. Confirmatory factor Analysis:

Confirmatory factor analysis (CFA) was examined on second step. Confirmatory factor analysis supports to examine internal consistency, convergent validity, and discriminatory validity of all latent variables. Confirmatory factor analysis is as follows.

Composite reliability is used to test internal consistency of research variables. Composite reliability results lie between 0.75 – 1.00 which shows

Table 5.11: Results of Discriminant Validity

Constructs	Eco	PF	QOL	SDF	WC	WW	WD	WL	WRC
Economic wellbeing	**0.762**								
Physical facilities	0.630	**0.765**							
QOL	0.881	0.820	**1.000**						
Socio demographic factors	0.420	0.364	0.470	**0.712**					
Work Context	0.658	0.614	0.762	0.407	**0.742**				
Work World	0.628	0.632	0.771	0.355	0.684	**0.668**			
Work design	0.687	0.631	0.791	0.418	0.765	0.668	**0.681**		
Work life	0.511	0.517	0.641	0.482	0.673	0.501	0.670	**0.669**	
Work related Characteristics	-0.140	-0.091	-0.134	0.104	-0.144	-0.093	-0.009	-0.038	**1.000**

higher internal consistency as results are higher than 0.70. Average extracted variance (AVE) is used to test convergent validity. Value of AVE lie between 0.506-1.00 it shows higher convergent validity as results of AVE are above 0.50. Results of both are presented in the following table

Table 5.10 Results of Composite Reliability and Average Variance Extracted

Variable	Composite Reliability	Average Variance Extracted (AVE)
Economic wellbeing	0.847	0.581
Physical facilities	0.890	0.585
QOL	1.000	1.000
Socio demographic factors	0.834	0.506
Work Context	0.906	0.550
Work World	0.759	0.551
Work design	0.873	0.512
Work life	0.800	0.546
Work related Characteristics	1.000	1.000

5.2.3 Discriminant Validity:

Finally, discriminatory validity concerns with the degree of difference among measures of different constructs. To test the discriminatory validity, Fornell and Larcker (1981) method is employed. In this method AVE is

compared with correlation values of variables. Results showed that all the values in the diagonal are greater than square root (AVE).

5.3. Structural Model:

After through checkup of measurement model, structural model is tested for research Hypothesis. Structural model is presented in figure 4. Structural model is presenting mean score of all the latent variables. Out of which socio-demographic factors, work related characteristics, physical facilities, Work life, work design, work Context, Work World and Economic Wellbeing are exogenous variables while Quality of life is dependent variable.

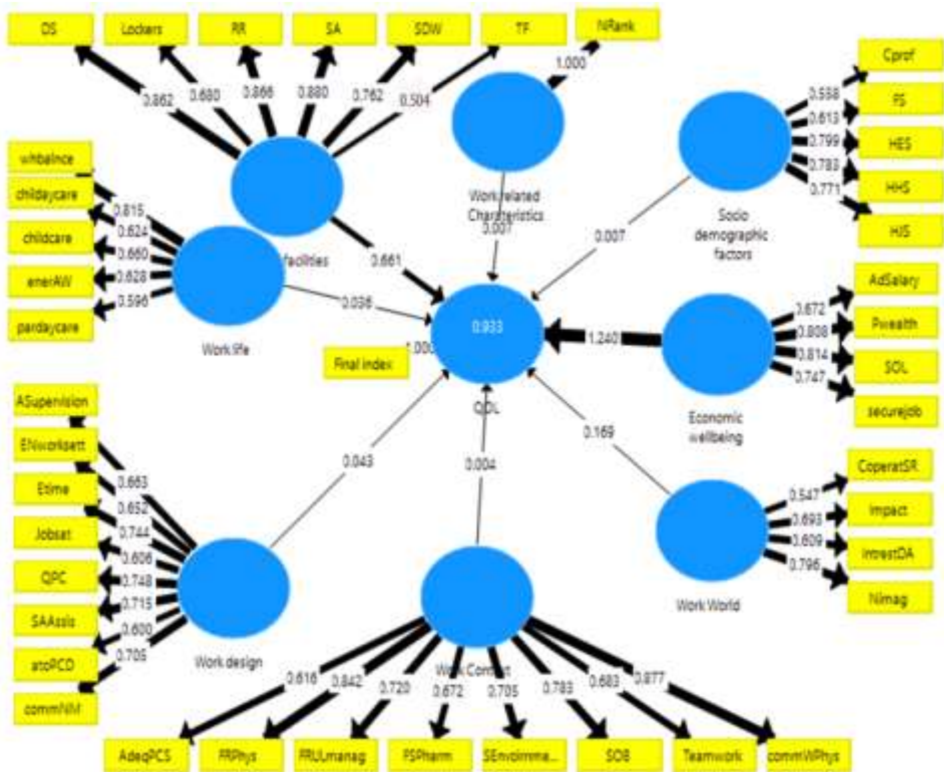
5.3.1. Hypothesis testing:

Finally, hypotheses are tested in structural model. Results of each hypothesis is presented in the Table below.

Table 5.12: Hypothesis Results

Hypothesis	Path	Path Co efficient	Standard Deviation	T-Statistics	P Values	Decision
H1	Socio demographic factors -> QOL	0.026	0.032	0.827	0.41	Rejected
H2	Work related Characteristics -> QOL	-0.023	0.034	0.666	0.50	Rejected
H3	Physical facilities -> QOL	0.305	0.053	5.785	0.00	Accepted
H4	Work life -> QOL	0.074	0.042	1.753	0.08	Accepted
H5	Work design -> QOL	0.099	0.062	1.598	0.11	Rejected
H6	Work Context -> QOL	0.028	0.054	0.531	0.59	Rejected
H7	Work World -> QOL	0.163	0.043	3.774	0.00	Accepted
H8	Economic wellbeing -> QOL	0.448	0.048	9.351	0.00	Accepted

Figure 5.1 Structural Model QOL



Source: Based on the output of Author's estimation.

6. Conclusions and Recommendations:

6.1 Conclusions:

The determination of this study was to find out the QOL of nurses in DHQ hospital Gujranwala. Study of Literature suggested eight dimensions that affect QOL including socio-demographic factors, work related characteristics, physical facilities, work life, work design, work context, work world and economic wellbeing. Each dimension was measured with the help of different items. For analysis descriptive analysis was performed. After descriptive analysis Partial Least Square structure equation modelling technique (PLS) was applied. Two analysis were performed common factor analysis and confirmatory factor analysis. The items having poor outer loadings were dropped. After dropping variables with poor outer loadings, CFA (common factor analysis was performed to check the internal

consistency of the model the results of composite reliability raged between 0.75 to 1.00 which showed the higher internal consistency of the model. After through checkup of measurement model, structural model was evaluated to test the research hypothesis. Results according to each dimension are discussed below:

Socio-demographic Variables:

Structural model test showed that socio-economic factors have no significant impact on QOL of nurses. Choice of profession, family support Husband support in expenditures, husband support in house chores and husband support in job were found important variables but doesn't provide enough evidences to accept the hypothesis.

Work related characteristics:

Hypothesis that work-related characteristics having significant impact on QOL of nurses is rejected. The results showed that nursing rank has no association with QOL of nurses. These results are also contrary to (Hemanathem et al,2017).

Physical facilities:

Results are similar to Moradi (2014) where significant positive association found between QOL and physical facilities i.e. safe drinking water, toilet facilities, rest rooms, sitting area, dinning space and locker facilities for the staff significantly contributing in QOL.

Work/family life:

Hypothesis of work life have significant and positive association with QOL. This means that if family/work life is improved it can also improve QOL of nurses.

Work design:

This dimension comprised of 10 items related to the work setting, work load etc. Hypothesis was rejected representing insignificant impact on QOL of Nurses in present study.

Work Context:

Work context consists of relation of nurses with their work conditions like patient care supplies, relations with physicians, staff members and upper management etc. our hypothesis that Work context have significant impact on QOL is rejected in current scenario.

Work World:

Hypothesis that work world has significant and positive effect on QOL of nurses is accepted. Descriptive study shows that nurses have interest in daily activities. Most of the nurses have cooperative social relationships. Study results are similar with Mozaffari et al (2015) concluding that social relationships improve job satisfaction and social wellbeing of the nurses.

Economic Wellbeing:

Economic wellbeing has significant and positive impact on the QOL of nurses. Nurses with more economic wellbeing have higher QOL (Yonk et al ,2017). Results showed the same economic wellbeing is found highly significant at β=1.240.

6.2 Recommendations:

In the light of above study and results some recommendation are given as follows.

- If there is improvement in social factors for example choice of profession, family support, husband support in job, husband support in house work and husband support in expenditures that will improve the quality of life of nurses.
- As the domain of physical facilities shown stronger impact on the quality of life of nurses it must give due importance to increase the quality of life of nurses. Results suggested the following recommendations.
- Hospital should improve its infrastructure i.e. dinning space, rest rooms, safe drinking water, and toilet facilities and sitting area for nurses.
- Dinning space must be good and should provide with quality food and better cafeterias.
- The results recommended that improvement in the following factors i.e., adequate supervision, enough time for performing duty well, job satisfaction, quality patient care, sufficient amount of assistance, autonomy in patient care and communication with nurse manager can improve the quality of life of nurses in the hospital. For this there must be effective management of shift work can improve QOL of nurses by working for the betterment and solving problems for the nurses.
- Management should supply adequate patient care supplies on time so nurses should perform their duty well.

- If nurses feel respected by physicians and upper level management, they feel sense of belonging to that place and their quality of life will improve.
- Hospital should adopt those policies that assure to nurses that they are safe and have adequate resources. As most of the nurses working on night time do not feel safe in their work environment.
- If nurses take interest in daily activities, they feel they have impact on the patients' lives and their positive image in society can improve their quality of life for both day and night shift nurses.
- Adequate salary, personal wealth, standard of living and job security if all these factors improve it may have positive and very strong impact on the quality of life of the nurses working both shifts.

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