A Study on Time Use of Nurses and Paramedical Staff, Working in Public Hospitals of District Rahim Yar Khan, Bahawalpur, Pakistan

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The aim of the present study was to identify the drivers of inefficiencies existent in nurses' and paramedics' work and to detect the factors liable for decline in this profession, especially nursing. All the public sector hospitals of District Rahim Yar Khan were included in the study. A sample of size 118 was selected from the population of 1296 nurses and paramedics by the stratified random sampling technique. The analysis was done in R-programming. Comparisons made were made showing that female nurses/ paramedics go through a tough time routine and time poverty as compared to their male counterpart which seems to be the cause of deterioration in this profession in the perspective of Pakistani society.

Keywords: *Time Use, Nurses, Paramedics, Hospitals*

INTRODUCTION

A time use study shows how people use their time. Such studies show what activities people do, who they are with, and how they feel doing that. These studies employ a wide variety of methodologies. One such method is the time diary method, used in the present research, in which all activities during the specified period are recorded, including time of start and completion of each activity. An advantage of time diaries is that the subjects can use their own terminology which can later be coded according to classification criteria.

The health sector has acquired a significant place in human life. In Pakistan, attempts have been exercised for the betterment of health conditions of its population through recruitment and availability of trained staff, sufficient supply of medicines, and establishment and enhancement of health services. Yet, as a whole, the health care system is not quite encouraging. The probable reason for that is that the human resources in health care sector in Pakistan, are not properly planned. This leads to issues like brain drain from rural to urban areas, deficiency of nurses, lack of trained midwives and urban concentration.

According to WHO's report, the public health service delivery infrastructure in Pakistan is fairly good, with 5000 basic health units, 600 rural health centres, 7500 other first-level care facilities and over 100, 000 lady health workers providing primary health care services across the country. According to 2008 statistics, Pakistan has about 134,000 registered doctors and 65,000 registered nurses.

A government notification hints that Pakistan lacks 60,000 nurses as the statistics show that the ratio of nursing professionals to population is 1:3568 and 1:54,276 for LHVs. The nurse to physician ratio was 1:2.5

The shortage of nurses however, is not just a local problem. In fact, this downward trend is seen worldwide. The WHO estimates that the world needs to increase the number of health workers by more than four million to achieve global health goals.

The present study focuses to seek why the nursing profession is declining worldwide especially in Pakistani society. It also brings to light the daily routine of female nurses and paramedics working in public hospitals of District Rahim Yar Khan and compares it with their male counterpart. This study will also reveal the impact of education level on a nurse/paramedic's daily activities. With this intention, this research might be helpful in knowing whether is it their workload, tough routine or some other factors which tug society away from this profession.

LITERATURE REVIEW

Health provision is a teamwork and teamwork consolidation between physicians, paramedics and nurses can help to improve their professional relationship. The enthusiasm towards cooperation is a significant asset that delivers an excellent track to move forward. Lack of understanding is one of the major barriers to active association (Jagos, Drennan, McNamara, & Limoges, 2020).

In Pakistan, the majority of the nursing and paramedical staff consists of womenfolk. And with no second opinion, women all over the world have to pull the responsibility of unpaid care work.

Bauman, Bittman, and Gershuny (2019) use time use research is used to evaluate behavioural tendencies of individuals over time. Budlender (2007) says such studies show what activities people do week to week or even day to day, especially for a developing country like Pakistan, provides better evidence as well as better grounds for comparison of male and female work distribution. Long before Budlender, Stinson (1999) narrated these studies as the individual's activity's length and frequency recorder.

Managerial achievements, according to Arnold and Pulich (2004), are linked with effective time management expertise. According to Pearce (2007), for nurse managers time is the most scarce resource available. Thus, according to Litchfield and Chater (2007), successful time management leads to an ease of stress in today's tense health care atmosphere.

Alghamdi (2016) mentioned nurses' workload affects their attitude towards patients. Baethge, Muller, and Rigotti (2016) found that high workload is the foremost threat to healthcare quality performance. Yuchs and Bonham (2019) experienced that practice and motivation may improve health outcomes for the deprived, poverty affected population. Wittenauer, Ludwick, Baughman, and Fishbein (2015) established the link among poverty and health inequalities. The study demonstrates that evaluating nurses' attitudes towards poverty may help in empowering nurses to seek solutions that will improve health conditions for those living in poverty.

Tuinman, de Greef, Krijnen, Nieweg, and Roodbol (2016) found that nursing care is primarily task-oriented instead of person-centred. Antinaho, Kivinen, Turunen, and Partanen (2015), in a comparison, found that registered nurses utilise more time in unit related work while licensed practical nurses spend more time in direct patient care. Beighton et al. (2015) found adequate consultation time, training and support make the nurses' time more effective.

Dehghani, Mosalanejad, and Dehghan-Nayeri (2015) found awareness of professional ethics provides better services for patients. Bourbonnais, Comeau, and Vézina (1999) suggested three frequent studied features of the work environment in relation to health and that are occupational demands, occupational autonomy and social support.

Dong and An (2015) presented interdependence of work and non-work activities by classifying these into primary and secondary activities. De Milt, Fitzpatrick, and McNulty (2011) proposed that job satisfaction is the outcome of balance between independence and interdependence. Fournier, Lightfoot, Larocque, Johnson, and Eger (2019) experienced that job satisfaction and dissatisfaction relates to interdisciplinary and general approaches for valued patient care, challenging work, quiet moments, overwork and overwhelm.

Related to the nursing profession, Khowaja, Merchant, and Hirani (2005) point to numerous problems faced by Pakistan, including acute shortages, hostile culture and a lack of a structural shield against work place violence. Jafree (2017) found that the main offenders of workplace

violence include co-workers, patients and family attendants. According to Irfan and Ijaz (2011) the healthcare sector requires special consideration from the government. Hafeez, Khan, Bile, Joomo, and Sheikh (2010) reported that Pakistan is facing a severe crises of human resources in the health field and among this, shortage of nurses is major issue. Xerri and Reid (2018) suggest HRM factors can nurture innovative behaviour which would be helpful for organisations and managers to overcome nurse's shortage.

La Sala et al. (2015) found that physicians were less satisfied as compared to both nurses and healthcare operators. However healthcare operators showed the lower level of satisfaction. Henwood, Tuckett, Bagadi, and Oliffe (2015) found that if nurses and midwives adopt the recommended level of sleep and physical work, health benefits are achieved.

Prowse and Prowse (2015) discuss the effects of flexible working and work-life balance (WLB) by presenting midwives' views and experiences. The main finding is a growing inequity between full and part-time midwives. Lavander, Meriläinen, and Turkki (2016) revealed the fact that in spite of having quality education and training, nurses seem to be increasingly spending their time in activities other than patient related therefore, according to the WHO (2006), enhancing clear job descriptions supports to achieve set work goals.

Prescott (2018) declares where there is shortage of registered nurses, a paramedic is a better replacement of a nurse in safe transportation of patients to hospitals along with pre-hospital care. But in Maughan's (2016) opinion, the role of a nurse cannot be denied if a society expects its strong future. Schachner et al. (2015) found that in practice, nurses are overburdened with different activities that are beyond direct patient care.

Hamermesh (2019) considers time as the mostscarce resource in a person's possession, therefore the research might be progressively useful for policy makers as well as for a common man to understand the world mechanisms itself.

MATERIAL AND METHODS

A sample of size n=118 was selected from the population of 1296 nurses and paramedics by the stratified random sampling technique, considering district hospitals, basic health units (BHU's) and rural health centres (RHC's) as three stratum. The diary as well as questionnaire method was used to get evidence about gender, education, age, marital status, religion, pay scale and geographical region etc. All the analysis was done in R-Programming and following numerical facts are obtained. The sample of size 118 consists of 62.7% males and 37.3% females.

Table: 1 Respondent's Characteristics

Age	Years
Mean	35.08
Variance	54.45
Range	33.00
Minimum	20.00
Maximum	53.00

Educational level	Percentage
Matric+ Diploma	50.8
Intermediate+ Diploma	25.4
Bachelors+ Diploma	13.6
Masters+ Diploma	7.6
Higher education	2.5

Educational level of spouse	Percentage
No education	33.0
Primary	19.7
Middle	13.2
Matric	7.7
Intermediate	6.6
bachelors	12.1
Masters	7.7

Pay scale of spouse	Percentage
No pay-scale (self-employed or unemployed/housewife)	92.5
1 to 4	0.8
6	0.8
9	1.7
14	2.5
16 and above	1.7

Suffering from mental stress	Percentage
Yes	28.0
No	72.0

Reason of mental stress	Percentage
Being unmarried	0.8
Contract appointment	2.5
Conveyance problem	1.7
Family	5.3
Low income	11.9
No appreciation for good work	0.8
Officers	0.8
Over-work	3.4
Wife	0.8
No stress	71.9

Smoking habit	Percentage
Yes	19.5
No	80.5

Time spent with family	Hours
Mean	9.36
Mode	12.0
Minimum	2.0
Maximum	18.0

Job satisfaction	Percentage
Yes	50.8
No	49.2

Table 2: Analysis of Variance Table for Activities

SOV	df	Resting MS	P	Personal Care MS	P	Eating MS	P	Travelling MS	P
Education	4	3100.567	0.716	182.007	0.816	2796.711	0.004	2251.843	0.108
Gender	1	4172.428	0.402	2376.958	0.026	5634.479	0.005	3420.255	0.088

SOV	df	With Friends MS	P	With Family MS	P	Physical Exercise/Games MS	P	Use of Internet MS	P
Education	4	521.335	0.32	2491.335	0.424	814.958	0.364	258.575	0.574
Gender	1	363.821	0.364	1913.09	0.389	10093.798	0	124.411	0.555

SOV	df	Watching TV MS	P	Reading books/Newspaper MS	P	Housework MS	P	Outing MS	P
Education	4	772.521	0.721	87.521	0.758	33905.021	0	643.814	0.304
Gender	1	796.791	0.465	286.845	0.218	60430.277	0	483.079	0.34

SOV	df	Shopping		Hobby		Religious Activities		Social Work	
		MS	P	MS	P	MS	P	MS	P
Education	4	994.958	0.005	16.589	0.799	11575.651	0.004	46.081	0.623
Gender	1	1081.51	0.04	10.815	0.605	328.15	0.733	58.882	0.362

SOV	df	Care of Elders/Parents/Kids		Part time job/ side business		On Duty		Teatime	
		MS	P	MS	P	MS	P	MS	P
Education	4	4406.266	0.038	30163.55	0.013	16783.893	0.013	129.301	0.859
Gender	1	6872.59	0.045	78430.77	0.004	15487.193	0.083	27.113	0.794

SOV	df	Office work at Home	
		MS	P
Education	4	222.966	0.39
Gender	1	99.511	0.497

Recommendations

In the present study almost 50% of the respondents have the education level matriculation or below and only 2.5% are with higher education and are directly linked with research-based activities. In order to improve the quality of such a vital department, the government should organise some sort of training sessions, workshops or refresher courses frequently to update the skills of professionals to international standards.

Statistics show that 28% of workers are suffering from mental stress, of which almost 30% complain of low income and contract appointment. Hence steps should be taken to raise their salary to a reasonable standard and contract appointment should be regularised, so that they may serve with a contented mind.

Statistics show that 20% of respondents are smokers and smoking should be strictly prohibited for all the workers of health department. For this purpose, authorities should organise monthly or quarterly check-ups of the employees so that smokers may be discouraged.

The results of the present study show that female respondents undergo paid and unpaid care. They not only perform their best at their workplace but also at their homes and for their family which makes them burdened. That is why many of them choose to quit or could not show their best performance. Hence, the government should take the measures to disburden them by decreasing their duty hours by increasing facilities so that this may compel the young ladies as well as their guardians to adopt this profession.

Some female respondents complained about society's attitude towards them. This needs an overall change in our mindset, so that parents feel no hesitation in choosing this profession for their daughters.

In the present study, it was observed that persons working on lower grades i.e LHV's and LHW's, have to perform overtime in order to compensate the shortage of staff. This consequently affects their work quality as well as their behaviour towards patients. Policy makers should review this problem and adopt some measures to fill the gap by introducing some incentives.

Conclusions and General Discussions:

Below mentioned is the discussion on ANOVA regarding the time spent on daily routine activities of nurses and paramedics.
The statistics in Table 2 show that both the factors i.e education level and gender, have no significant effect on the sleep/rest time, travelling time, time spent with friends, with family, using the internet, watching TV, reading books/ magazines/ newspaper, on outings, time consumed on hobbies, doing social work, taking tea and performing office work at home. Nurses' and paramedic's rest or sleep timings do not differ regardless of their educational attainments or their gender. They spent an equal amount of time with their family or friends regardless of the fact of how educated they are or what gender they belong to. The use of the internet either for educational purpose or for amusement like Facebook, Whatsapp and chatting also remains unaffected by educational qualification or by the type of gender. Both male and females with high/low educational level devote an equal amount of time to reading books or newspapers or watching tv for the purpose of remaining in touch with the latest information,

news or amusement. Gender and education level also have no significant effect on satisfying the thrust of outings and hobbies; the same in the case with social work and tea breaks.

In our society, women folk have to undergo, for most of their days' time, unpaid work. And when a woman chooses to provide financial support to her family, this burden gets doubled. The working women of our society have to perform both paid and unpaid work. The statistics in Table 2 indicate that no matter which gender or education level a respondent belongs to, they devote the same amount of time for office work at home. The respondents with higher scale/educational level also devote some of their time at homes to their office files.

Male members of our society are usually responsible for outdoor chores of their family. Since this study is typically related to working women, here the results demonstrate that both male and female nurses and paramedics have to travel for an equal amount of time in a day for the purpose of reaching their work place. This travelling may be to pick and drop of their kids/ wives to their school/colleges/work place or for shopping purposes. Thus, the time consumption on travelling is not affected by education level or gender.

In our society, it is observed that males are relatively less careful in their eating habits than females, they mostly concentrate on quantity rather than quality, which is reflected in the present study. It is also apparent that educational level also tends to affect their eating habits.

The women are mostly involved in unpaid work, so their involvement in a part time job/ side business is relatively low as compared to men. Statistics in this study also support this. Similarly, education level also plays a significant role in the involvement of respondents in part time job.

As far as care for kids/ parents/ elderly people at home is concerned, in our society this too is customarily associated with females. In Table 2 it can be seen that education level and gender has a significant effect on care. Usually employees with higher qualifications are on higher posts and get a higher salary and can afford a maid/caretaker to look after the kids/elderly people at home. Similarly, mothers, no matter they are working women or housewives, have to care for their kids/parents/elderly people at home.

It is a general concept that women are more inclined to shopping as compared to men. Here the results also show that there exists a significant difference between male and female on account of time consumed on shopping. Similarly, a person's education level also reflects in his/her shopping time and habits. Perhaps more educated persons are more calculated towards their shopping practice.

Housework is traditionally the responsibility of females, irrespective of their educational level and mode of employment. That is why gender and educational levels show significantly different results.

On the other hand, personal care is significantly related to gender but the difference in educational level does not matter. It is expected as females with any educational level tend to spend more time on their personal care than their male counter parts.

In Pakistani society, there are fewer opportunities for females in respect of games and other physical activities. At most, females go for walk and that too is not very prevalent. Contrary to that, males have much more facilities for physical games and other activities and it is for any educational level.

In a Muslim society, it is thought that education is a way to awareness and this awareness leads a person to his Lord. Here the results show that a subject's religious activities are directly proportional to his/her educational level. These activities may comprise of offering Namaz, reciting the Quran, attending religious gatherings, Mahfil-e-Meelad, Dars etc. Similar results are observed when the business of a person is observed for his religious activities. But gender creates no discrimination to this activity.

A surprising result in Table 2 shows that for nurses and paramedics, the educational level does affect duty time. This may be due to the reason that LHV's and LHW's usually have to work both in the field as well as at their centres and secondly, where there is shortage of staff, the existing workers have to fill the gap. But gender wise, distribution of duty hours is equal.

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