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Evaluation and Intervention of Quality of life in individuals with Diabetic Peripheral Neuropathy: A Quantitative Cross-sectional Content Analysis

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Abstract

Background: Foot and ankle dysfunction secondary to peripheral nerve damage is the most common microvascular complication in individuals with diabetes mellitus.

Purpose: This study aimed to perform a systematic review and quantitative content analysis of articles emphasizing Quality of life (QoL) in people with Diabetic peripheral neuropathic pain (DPNP) and Painful diabetic peripheral neuropathy (PDPN).

Materials and Methods: The extracted data about every study included: journal, year of publication, number of authors, country of manuscript origin, goal of article (evaluation or intervention or both), subtypes of evaluation (tool development or measurement of QoL or multiple tools or mixed) and intervention (medical, surgical, or allied health), population characteristics (homogeneous or heterogeneous), type of article (original or review) which was further subclassified under study designs and respective Center for Evidence-Based Medicine (CEBM) levels of evidence.

Results: Descriptive analysis showed more number of QoL articles: from Diabetes Care; with more than three authors; published in the year 2008; originated from USA; on evaluation; on heterogeneous population; more original articles; and more articles with levels 4 or 5 evidence.

Conclusion: The study findings provided a content analysis and synthesized findings from articles published on QoL in population with PDPN or DPNP, and the predominance of evaluation studies was evident, with inter-measure analyses, and more number of articles on medical management among the intervention studies. Levels of evidence for most of the articles were low, and there is need for future high quality studies and reporting standards in articles for effective evidence-informed foot and ankle rehabilitation in people with PDPN.

Keywords: Evidence-based diabetes care; Diabetic peripheral neuropathic pain; Foot and ankle dysfunction; Painful diabetic peripheral neuropathy.

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Introduction

Foot and ankle dysfunction secondary to peripheral nerve damage is the most common microvascular complication in individuals with diabetes mellitus[1] and is associated with altered somatosensory functions such as severe chronic disabling pain, bilateral 'glove and stocking' distribution of pins and needles, sensory and motor deficits in the legs and feet, and impaired gait, balance and psychosocial functions.[2]

The painful state is recognized as Diabetic peripheral neuropathic pain (DPNP)[3] and the clinical condition is termed as Painful diabetic peripheral neuropathy (PDPN)[4] which presents commonly as distal symmetric polyneuropathy affecting both legs and feet.

Impaired functional activities from foot and ankle dysfunctions in PDNP individuals include nocturnal pain associated with sleep disturbances, difficulty in foot positions and movements, difficulty in walking and general mobility.[5]

Due its multifactorial aetiopathologic association and multidimensional clinical presentation, the individuals with PDPN have serious psychosocial consequences of the disorder that influence their limitations in activity and causes restrictions in participation.[6] This invariably affects their overall well-being which is measured as 'Quality of life' (QoL).[7] According to an evidence-informed paradigm of care for patients with diabetes and its complications, a comprehensive multi disciplinary biopsychosocial model of evaluation and intervention emphasizing on QoL was recommended by practice guidelines, consensus documents and position statements.[8] Thus there is a need to evaluate the existing evidence for research articles on QoL in PDPN so that future policies regarding scientific conduct, research reporting, journal publication and database indexation processes could be derived.

This study aimed to perform a systematic review and quantitative content analysis of articles emphasizing QoL in people with DPNP and PDPN.

Materials and Methods:

Study design

Systematic review

Search methods

The search methodology was a replication of a previously used method by Kumar.[9]

Search strategy

The search terms, 'quality of life', 'diabetes / diabetic' and 'neuropathy / neuropathic' were used through advanced search feature of PubMed[10] as follows: "quality of life" [Title] AND (diabetic [Title / Abstract] OR diabetes [Title / Abstract]) AND (neuropathy [Title / Abstract] OR neuropathic [Title / Abstract]). The initial list of retrived citations were scrutinized for their relevance to DPNP or PDPN to obtain final list of articles for inclusion in data extraction and synthesis.

Data extraction

The extracted data about study included: journal, year of publication, number of authors, country of manuscript origin, goal of article (evaluation or intervention or both), subtypes of evaluation (tool development or measurement of QoL or multiple tools or mixed) and intervention (medical, surgical, or allied health), population characteristics (homogeneous or heterogeneous), type of article (original or review) which was further

subclassified under study designs and respective Center for Evidence-Based Medicine CEBM levels of evidence.[11].

Data synthesis

The categories and sub-categories were compared between QoL evaluation and intervention studies to derive the relative prevalence of reporting for various article characteristics in QoL studies.

Data analysis

Overall analysis was done descriptively and reported in frequencies calculated through Microsoft excel worksheet.

Results-main findings

Our initial search yielded 50 articles and after further scrutiny, we obtained a final list of 43 articles for inclusion into data extraction and synthesis. The seven excluded articles were not on diabetic neuropathy or neuropathic pain in diabetes.

A total number of 34 journals published the 43 articles[11-53] on QoL in DPN, and the journals were AMI[22], AMS[37], BJA[14], BRN [42], CE[15], CJP[47], CT[53], DAM[27], DC [11,45,46,52], DIA[17,40], DMRR[36], DRCP [18,32,49], FAI[43], FAS[29], HQLO[21,31], IJLEW[20], IJPM[23], JAANP[26], JACC[35], JACM[12], JDST[25], JFAS[33], JPSM[24],

Figure 1: Comparison for number of QoL in PDPN articles among the journals

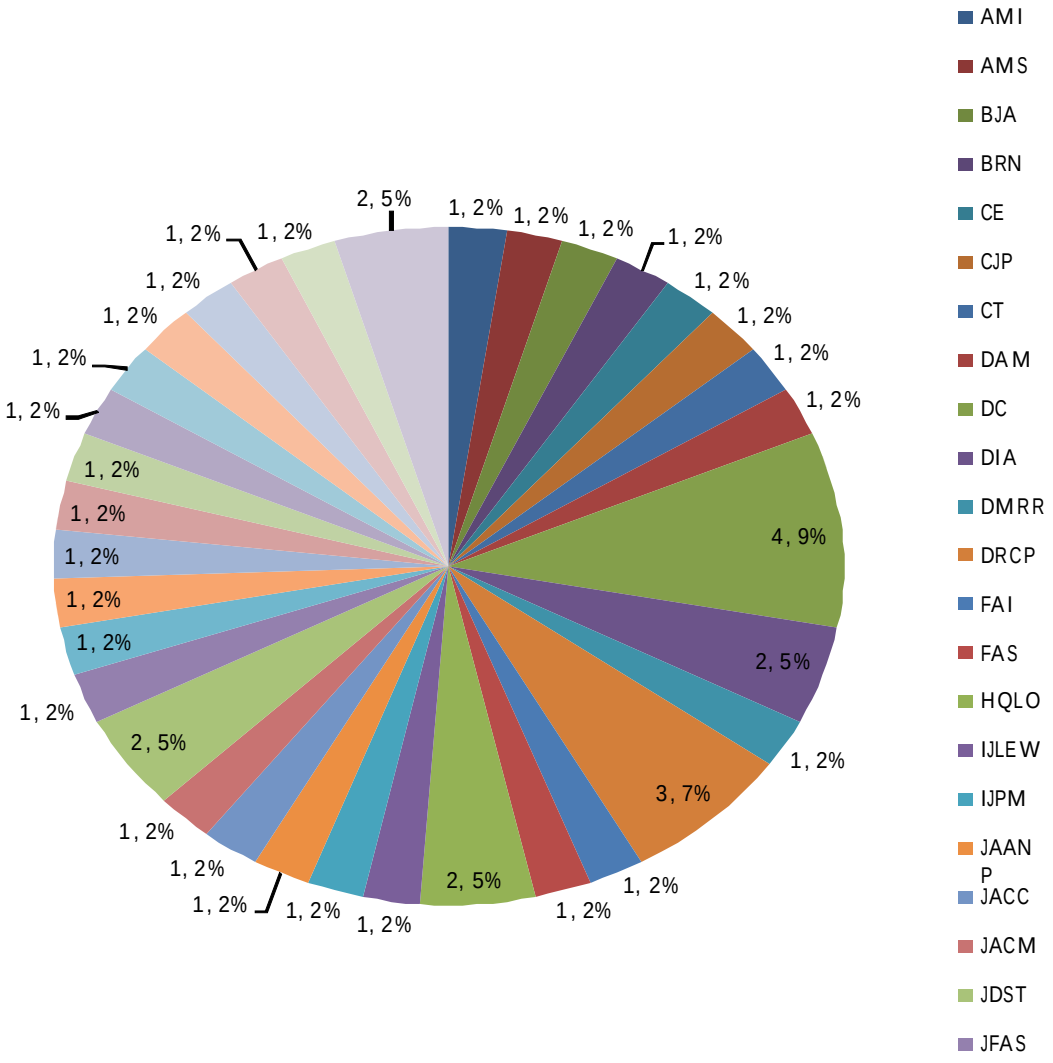
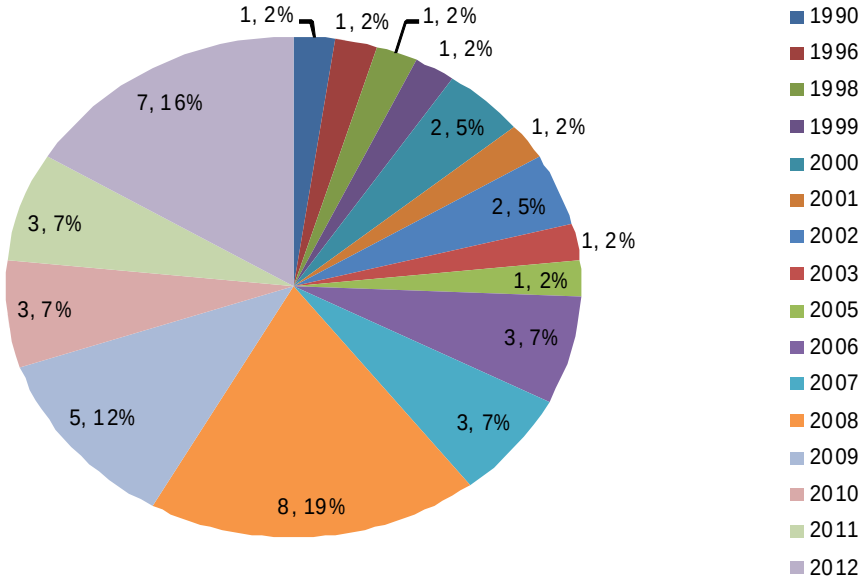


Figure 2: Comparison for number of QoL in PDPN articles among the years of publication



MCP[41], N[39], NHS[13], NNR[44], P[28], PCN[30], PDI[50], PM[38], QJM[51], RLAE [16], and VH[34,48] (Figure 1).

The articles were published over the past 22 years-1990[53], 1996[52], 1998[51], 1999[50], 2000[44,49], 2001[48], 2002[46], 2003[45], 2005[43], 2006[40,41,42], 2007[37,38,39], 2008[25,29,31-37], 2009[22,26-28,30], 2010 [21,23,24], 2011[16,19,20], and 2012[11-18] (Figure 2).

The number of authors per article were zero[52], one[28,36,47], two[12,50,53], three [18,49,21,39,44,38,51,48], four[22,19,25,33,41], five[17,32,43,23,35,13,30], six[31,20,16,34], seven[11,29], eight[42,27,40], nine[45,46], ten[24,26,37], eleven[15], and twelve[14] (Figure 3).

The articles were published from 15 countries including Belgium[27], Brazil[16], Canada[29], China[13], Germany[32], Iran[22], Japan[30], Netherlands[14,36],

Figure 3: Comparison for number of QoL in PDPN articles among the number of authors per article

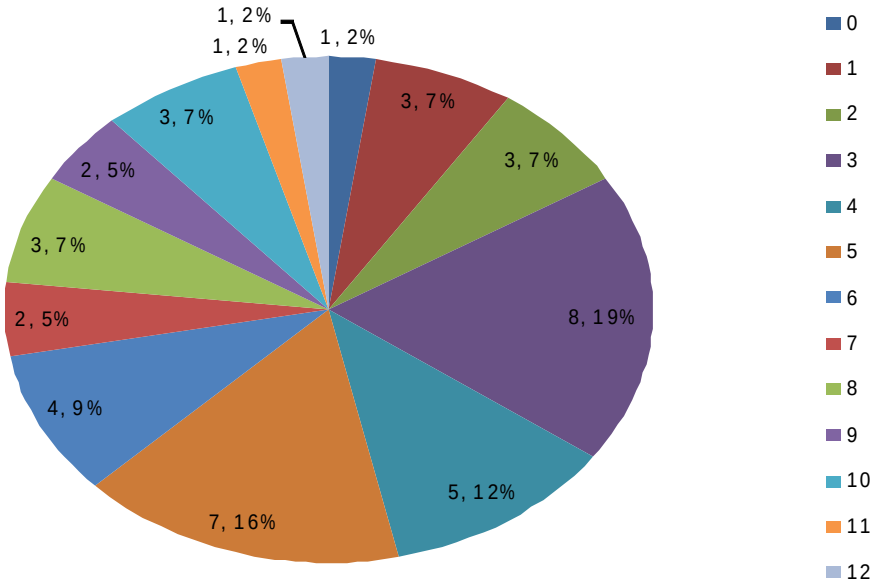
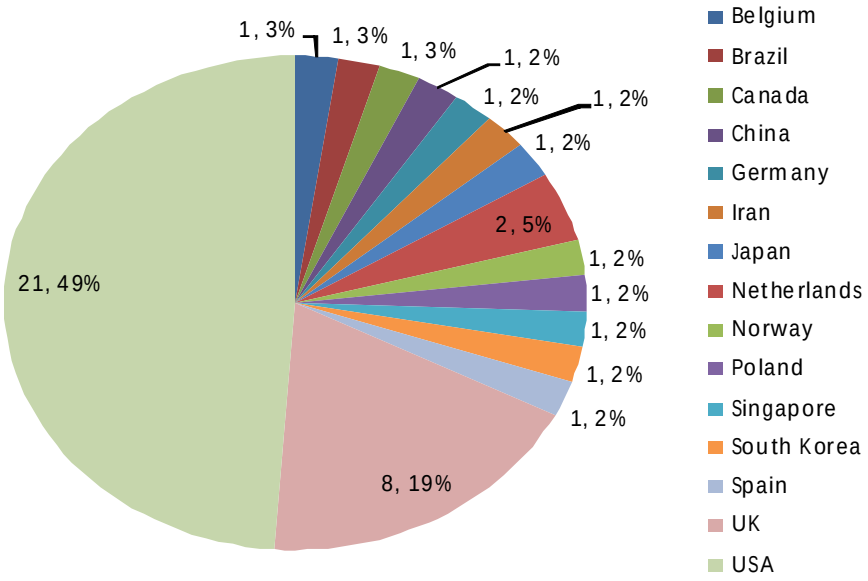


Figure 4: Comparison for number of QoL in PDPN articles among the countries



Norway[21], Poland [37], Singapore[15], South Korea[12], Spain[20], UK[11,17,18, 40,45,48,50,51] and USA [19,23-26,28,31,33-35,38,39,41-47,49,52,53] (Figure 4).

There were articles on evaluation[13,15-18,20,21,23,25-35,37,39-51], intervention[11, 12,14,19,22,24,38,52,53] and both[36,39] (Figure 5). Among the article on evaluation of QoL, there were articles on tool development/ adaptation/validation[16,23,25,31,34,44,45], measurement of QoL[13,29,32,46,51], multiple variables comparison/correlation/association [15,20,21,26,27,30,33,35,40,42,43,47-50] and mixed[17,18,28,41] (Figure 6). Among the articles on intervention, there were articles on medical/pharmacological management[11,19, 38,52], surgical (invasive/non-invasive)[14,53] and allied health interventions[12,22,24] (Figure 7).

There were articles that focused mainly on diabetic neuropathy or neuropathic pain in diabetic population[11,12,14,16,19,24,27,29,32,

Figure 5: Comparison for number of QoL in PDPN articles on evaluation, intervention or both

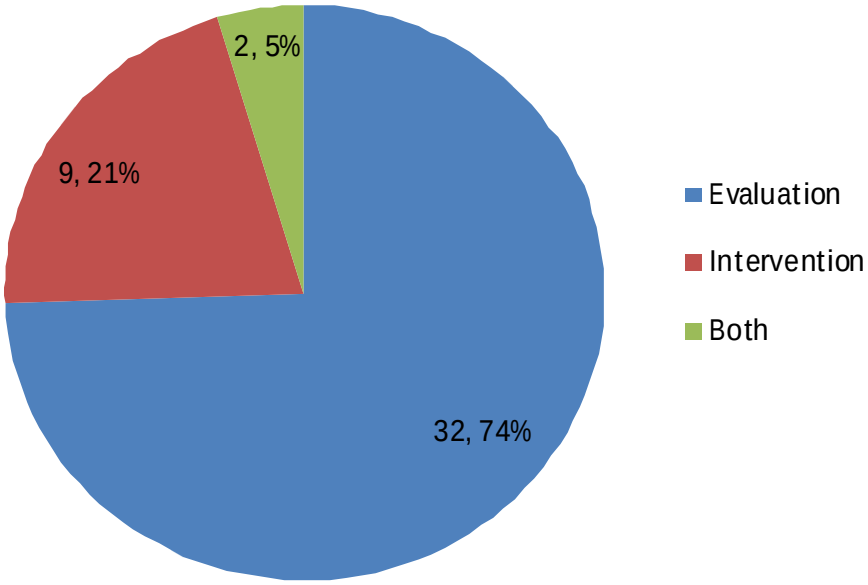
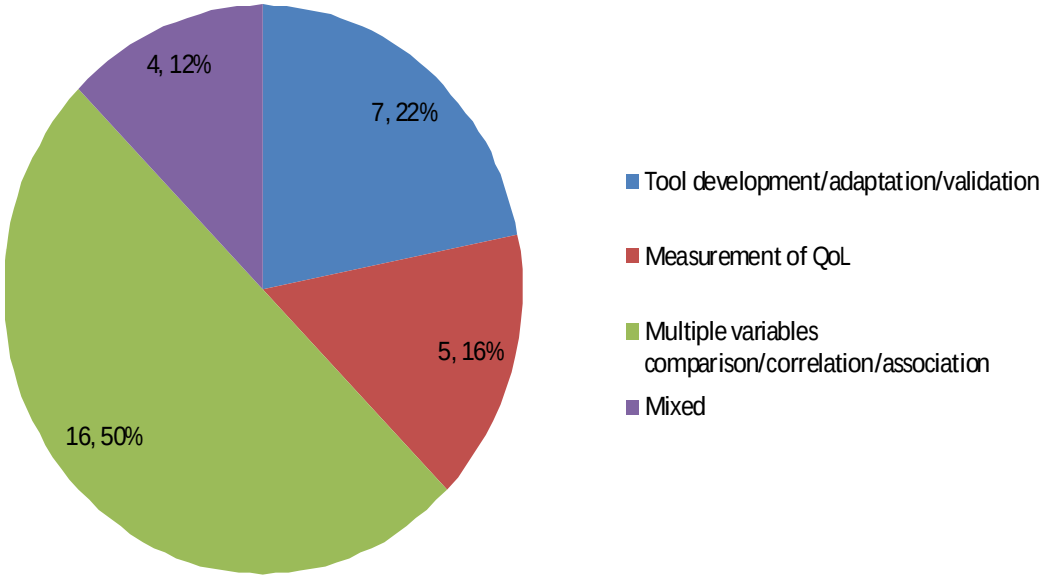


Figure 6: Comparison for number of articles on evaluation of QoL in PDPN for its subcategories



44,45,49,51] which were regarded as homogenous and articles that focused on neuropathic pain with diabetic subgroup or diabetes individuals with neuropathic symptom subgroup or diabetic neuropathy with other disorders[13,15,17,18,20-23,25,26,28,30,31,33-43,46-48,50,52,53] which were considered as heterogeneous (Figure 8).

There were original articles[11-16,19-27,29-35,37,40,42-49,51-53] that included randomized controlled trials[11,19,24,52], non-randomized controlled trials[12,22], case-control studies[15,20,21], quasi-experimental studies[14] and cross-sectional studies[13,16,23, 25-27,29-35, 37,40,42-49,51,53]; and review articles[17,18,28,36,38,39,41,50] which were narrative[28,36,38,39,41,50] and systematic [17,18] (Figure 9,10).

The articles were of level-1 evidence[11,17, 18,19,24,52], level-2 evidence [12,22], level-3 evidence[15,20,21], level-4 evidence[13,14,

Figure 7: Comparison for number of articles on intervention of QoL in PDPN for its subcategories

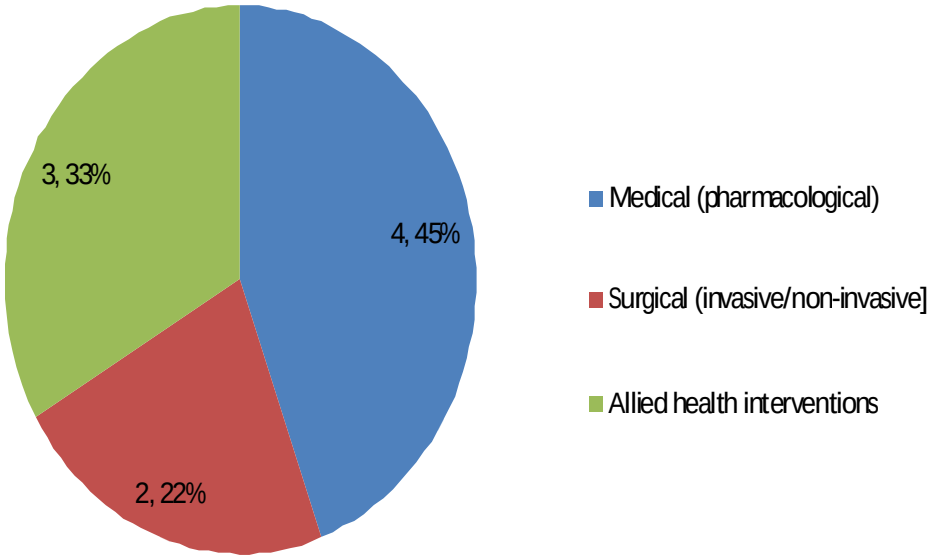


Figure 8: Comparison for number of articles on QoL in PDPN for homogeneous and heterogeneous population characteristics

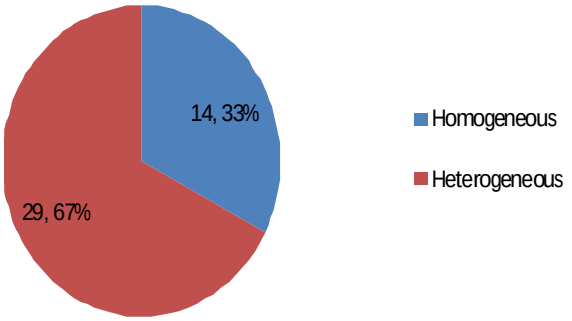
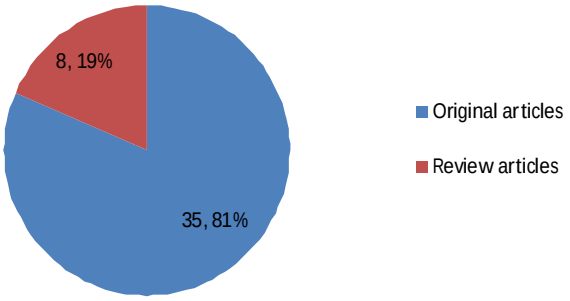


Figure 9: Comparison for number of articles on QoL in PDPN for article types



16,23,25-27,29-35,37,40,42-49,51,53] and level-5 evidence[26,36,38, 39,41,50] (Figure 11).

Discussion

This study aimed at evaluating articles emphasizing QoL among studies on PDPN patients and found an alarmingly lesser number of studies, with a positive shift towards increased number of articles as original articles,

The reasons for this lesser number of studies could be partly due to the non-validated search strategy and use of only one database such as PubMed, though such method was previously reported in literature.[54] PubMed was used since it was freely available online, and is the largest and most accepted source of scientific information around the world.[55] An effort to initialize a scientific movement in the direction of emphasis on QoL was attempted through assigning the QoL term in title, whilst other search options would have yielded different results.

More articles were indexed in year 2008, the cause for which could be explored by longitudinal trend analysis of evidence for QoL in PubMed. Coincidentally, the WHO policy on QoL and Biopsychosocial model was established much earlier under the 'health for all' policy.[56] More articles on QoL had more than three authors and multiple authorship was a positive trend for research since it was shown to be involved with interprofessional collaborative works in a 'publish or perish' era.[57]

Amongst the journals which published the few studies found, Diabetes Care had the largest number of four articles, which indicates

Figure 10: Comparison for number of articles on QoL in PDPN for study designs

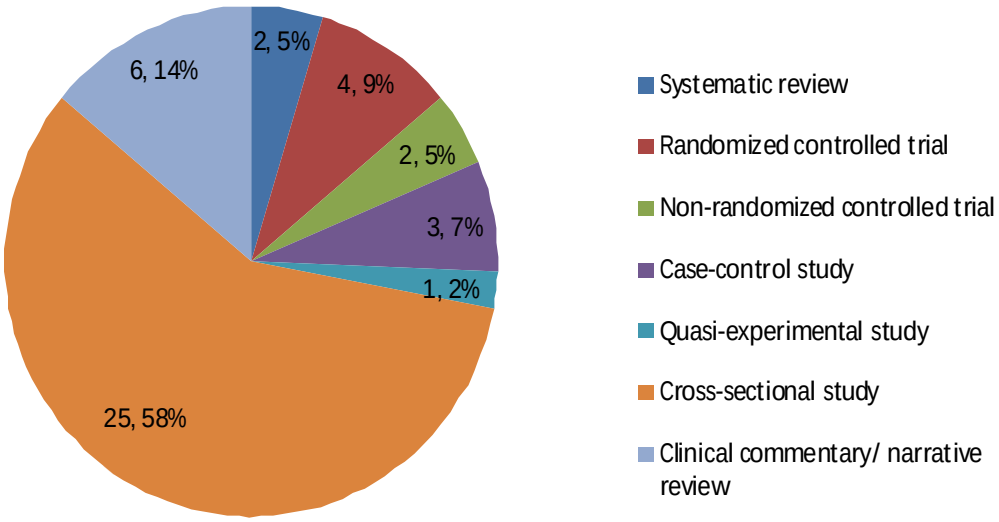
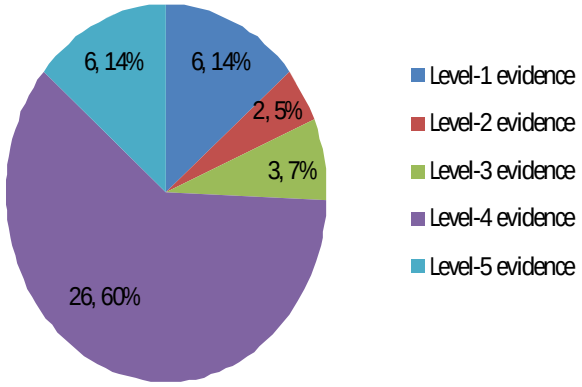


Figure 11: Comparison for number of articles on QoL in PDPN for levels of evidence



a journal-specific analysis of reporting trend for QoL. Nearly half the studies were from USA, and more than half the number of articles was on evaluation, with studies on comparison / association / correlation between QoL measure and other tools being more common. Medical management was more represented among the interventions, as supporting evidence in that area is relatively large, both for diabetes[58] and for neuropathic pain.[59]

Heterogeneous studies were more in number which explained the multidimensional impact of QoL on other aspects of clinical presentation in PDPN. Not only that neuropathic pain is one of the most common complications of diabetes, but also diabetes is the most leading cause for neuropathic pain. This fact is often well understood as many other causes for neuropathic pain other than diabetes such as post-herpetic neuralgia, chemotherapy-induced or HIV-related, as many other symptoms in diabetes patients such as retinopathy, nephropathy, angiopathy, and other foot-related complications.

This study found no articles that focused on caregivers or preventive research, which calls for an action plan on clinical research priorities in individuals with PDPN.[60,61] The QoL instruments used in the studies were relatively lesser, when compared to many generic and disease-specific measures[62] available both for diabetes[63] and for neuromuscular disorders.[65] Although a single measurement tool was not widely used or recommended, the need for a comprehensive tool still remain unmet.

More cross-sectional studies of level-4 evidence represented the emergence of reliability[65] and validity studies[66] for questionnaires and self-reported outcome measures for evaluation of QoL in PDPN. Overall, there was a greater number of articles on levels 4,5 evidence which opens the scope for future systematic reviews and meta-analyses.[67] It should also be inferred in accordance with future development of editorial policies that randomized controlled trials need to report[68] the term QoL in title in their evaluation of effects, efficacy and effectiveness of interventions.[69]

Conclusion

The study findings provided a content analysis and synthesized findings from articles published on QoL in population with PDPN or DPNP, and the predominance of evaluation studies was evident, with inter-measure analyses, and more number of articles on medical management among the intervention studies. Levels of evidence for most of the articles were low, and there is need for future high quality studies and reporting standards in articles for effective evidence-informed foot and ankle rehabilitation in people with PDPN.

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Work Related Stress of Nurses

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Abstract

Nursing has been considered one of the most stressful professions. Nurses' stress is attributed largely to the physical efforts, suffering and emotional demands of patients and families, work hours, interpersonal relationships and other pressures that are core to the nurses' work. With a view to assess the level of stress in nurses working in hospitals, a non experimental descriptive survey with a typical descriptive design was undertaken on 50 staff nurses selected by non-probability convenient sampling technique. Demographic proforma and modified Expanded Nursing Stress scale (ENSS) were used as tools. The stress scale consisted of 35 items classified into 8 areas which included death and dying, conflict with doctors, inadequate emotional preparation, problems relating to peers, problems relating to supervisor, work load, uncertainty concerning treatment and patients and their families. The interpretation of the scores ranging from 0 -35 was mild level, 36-70 moderate, 71-105 severe and 106-140 as very severe level of Stress. The study revealed that more than half of nurses (52%) had experienced severe level of stress. Whereas workload and patients and their families (70%) accounted for major stressors for stress level among nurses, other leading causes for increased level of stress were found to be problems relating to peers (64%), death & dying (60%) and problems relating to supervisors (56%). The study also discovered that there was no significant association between level of stress and baseline variables. The study concluded that the level of stress was continuing to escalate and it was believed that nurses' stress adversely affects the patient care. The investigator recommended that hospitals should take counter measures to relieve stress among nurses as nursing is regarded as a potentially stressful occupation.

Keywords: Stress; Nurses; Hospitals.

Introduction

It has been agreed that, in the caring profession, nurses form the largest group, of which the principal mission is the nurturing of, and caring for people in the human health experience. They provide around-the-clock services to patients in hospitals, nursing homes, long-term care facilities, as well as to clients using supportive and preventative programs and related community services.[1] The nursing profession follows a holistic approach, taking into account the person in totality in his or her environment. Nurses provide presence, comfort, help and support for people confronted with loneliness, pain, incapacity, disease and even death. The fact that nursing has been extensively and unfailingly recognized worldwide as a stressful job is therefore not surprising.[2]

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Stress is typically described as a negative concept that can have an impact on one's mental and physical well-being, but it is unclear what exactly defines stress and whether or not stress is a cause, an effect, or the process connecting the two. Stress can be defined as the body's reaction to a change that requires a physical, mental or emotional adjustment or response. Stress can come from any situation or thought that makes an individual feel frustrated, angry, nervous or anxious.

Way back in 1960s, A Canadian endocrinologist and renowned stress theorist Hans Selye noted, "No one can live without experiencing some degree of stress all the time".[3] Stress is a normal, universal human experience and a routine part of our lives. An unavoidable effect of living, it is an especially complex phenomenon in modern technological society. Stress is not inherently deleterious. However, each individual's cognitive appraisal, their perceptions and interpretations, give meaning to events and determine whether events are viewed as threatening.

Nevertheless, stress has been regarded as an occupational hazard since the mid-1950s.[1] The nurse's role has long been regarded as stress-filled based upon the physical labor, human suffering, work hours, staffing, and interpersonal relationships that are central to the work nurses do. Regardless of whether stress is perceived positively or negatively, the neuroendocrine response yields physiologic reactions that may ultimately contribute to illness. Since occupational stress is more prominent in this caring profession, it is not surprising that many researchers emphasize the high risk for burnout noted in the nursing population.[4]

Stress has been a growing concern among health care professionals, especially nurses. Nurses in their day to day life, face wide variety of stressful situations such as unembellished suffering, misery and death. Nursing are a stressful profession. Caring for clients, individuals, families, groups, populations or entire communities, with multiple, complex and distressing problems can be overwhelming for even the most experienced person. Nurses regularly face emotionally charged situations and encounter intense interpersonal and inter professional situations and conflict in the workplace while trying to make appropriate and safe decisions.

In the health care organization, work stress may contribute to absenteeism and turnover, both of which detract from the quality of care. Many studies conducted among nurses have revealed that stress affects the level of job satisfaction and in turn it influences the quality of care.

Globally governing and regulatory bodies, organizations, sectors, hospital groups, managerial panels, supervisors, professional- and staff nurses, as well as nursing auxiliaries, are affected by the current state of affairs in the nursing profession and the subsequent effect of the stress nurses experience at work. All have their pressing questions, blatant opinions, undoubted criticism and perhaps promising solutions. However, feasible solutions should be proclaimed and implemented as the primary client, the health care consumer, is neglected while the distresses of nurses continue with this knowledge in mind, a study to assess the level of stress among nurses working in selected hospitals of Pune city was conducted.The objective of the study were to determine the level of stress of nurses working in selected hospitals and find an association between the level of stress and selected demographic variables.

Methodology

For the said study, a non experimental descriptive survey approach with a typical descriptive design was employed. The population comprised of staff nurses working in multi-specialty hospitals of Pune city,who met the inclusion criteria. Non probability convenient sampling technique was used for the selection of 50 staff nurses. Tool used for the data collection had following part:

Part 1: Demographic proforma.

Part 2: Modified Expanded Nursing Stress Scale (ENSS) (French, Lenton, Walters and Eyles, 1995).

The investigator modified the Expanded Nursing Stress Scale (ENSS) tool with prior permission from original authors. The stress scale consisted of 35 items classified into 8 areas which included death and dying, conflict with doctors, inadequate emotional preparation, problems relating to peers, problems relating to supervisor, work load, uncertainty concerning treatment and patients and their families. The tool was 5 point rating scale consisting of 5 options such as 'never', 'rarely', 'sometimes', 'often' and 'always'.

Interpretation of scores was done as per the following range of scores:

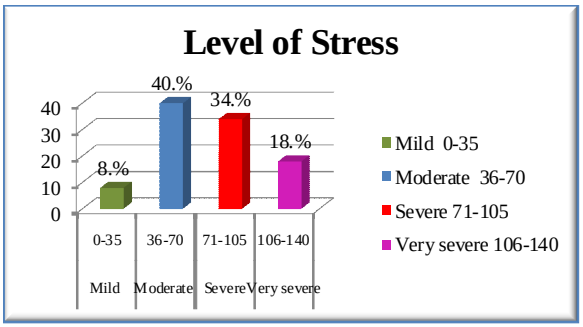
Mild Level of Stress	0 -35
Moderate Level of Stress	36-70
Severe Level of Stress	71-105.
Very Severe Level of Stress	106-140

The constructed tool was validated by experts from the field of Psychiatry, Psychiatric Nursing and Psychology. The reliability of the tool was primarily separated into two equivalent halves and correlation for the half test was found using Spearman's Rank Correlation Co-efficient formula (r1/2 = 0.67). The reliability co-efficient of the whole test was subsequently estimated by the Spearman Brown Prophecy formula and the tool was found reliable (r=0.84).

Findings

The findings of the present study indicated

Figure 1: Stress level among nurses



that 52% of nurses had severe level of stress. Among them, 18% of nurses experienced very severe stress. (Figure 1)

The major stressors accounting for severe level of stress among nurses had been identified as workload and patients and their families (70%), problems relating to peers (64%), death dying (60%) and problems relating to supervisors (56%). (Figure 2 and Table 2)

The bar chart (Figure 3) illustrates that nurses aged 30 years and above have more (42%) stress than age group of 30 years and/or below, whereas, diploma holders experienced more (32%) stress than degree holders (14%). While, nurses with 10 years of experience were more (20%) familiar with stress than those with more than 10 years of experience (16%),the nurses who had dependants were found to be having more stress (40%) than those with no dependants (10%). (Table 3)

To find an association between level of stress and selected baseline variables (age, years of experience and education status) was made null hypothesis H_0

Chi-square test applied to test the hypothesis

Table 2: Area wise distribution of level of stress

Sl. No	Domains	Mild stress	%	Moderate stress	%	Severe stress	%	Very Severe stress	%
1	Death and dying	5	10	15	30	17	34	13	26
2	Conflict with doctors.	14	28	15	30	14	28	7	14
3	Inadequate emotional preparation	12	24	16	32	14	28	8	16
4	Problems relating to peers	6	12	12	24	14	28	18	36
5	Problems relating to supervisors	5	10	17	34	9	18	19	38
6	Work load	3	6	12	24	15	30	20	40
7	Uncertainty concerning Treatment	12	24	17	34	11	22	10	20
8	Patients and their Families	5	10	10	20	17	34	18	36

Figure 2: Level of stress disclosed in eight stressors (stress indicators)

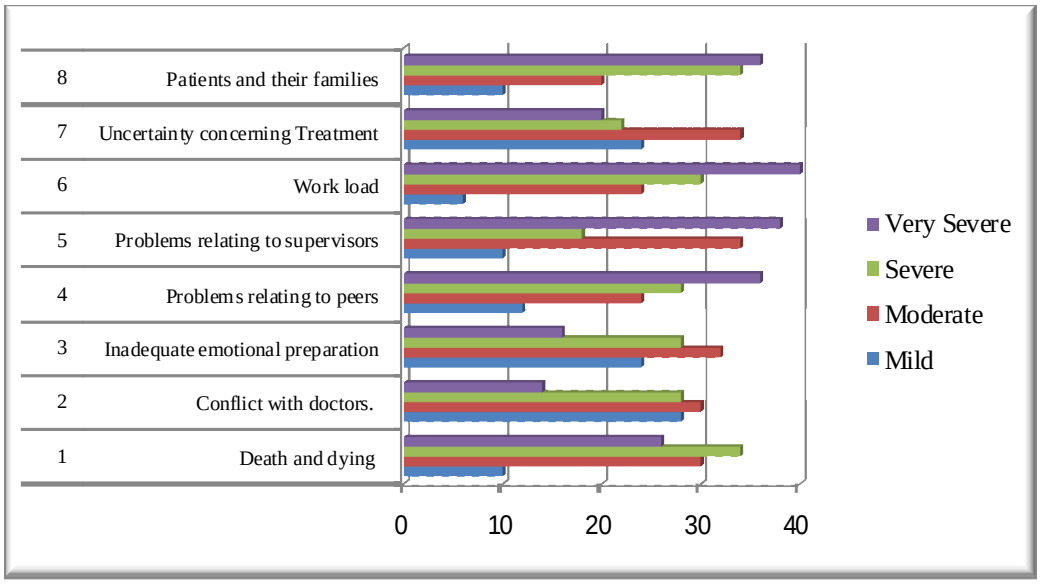


Table 3: Level of stress among the different baseline variables

Variables	Moderate		Severe	
	Frequency	Percentage	Frequency	Percentage
Age				
=30 years	7	14	8	16
>30 years	14	28	21	42
Education				
Diploma	19	38	16	32
Degree	8	16	7	14
Years of Experience				
=10 years	18	36	10	20
>10 years	14	28	8	16
Number of dependents				
Yes	16	32	20	40
No	9	18	5	10

Figure 3: Stress level shown in four baseline variables

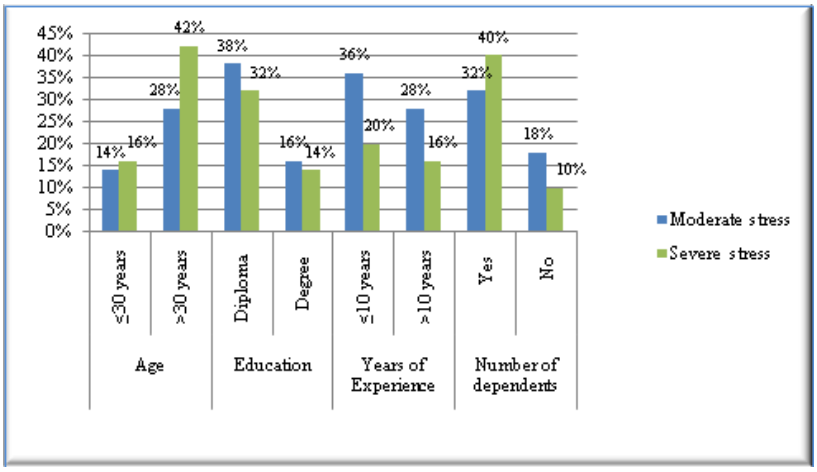


Table 4: Association between level of stress and selected baseline variables

Demographic Variables	= Median 74	> Median 74	Chi square (χ^2)calculated value	Inferences
Age				
=30 years	7	8	0.095	P <0.05
>30 years	18	17		NS
Education				
Diploma	18	17	0.45	P <0.05
Degree	10	5		NS
Years of Experience				
=10 years	10	18	0.033	P <0.05
>10 years	17	5		NS

revealed that there was no significance association between level of stress and baseline variables (Table 4).

Discussion

A majority of the respondents (70%) were 30 yrs old and above .70% of them were diploma holders in nursing,56% of the respondents had 1-10 years of experience, Majority of the respondents (72%) had dependants where as 28% did not have any dependants. 52% of nurses had severe level of stress. 18% had very severe stress. The results are concurrent with a study conducted in the University hospital of Belgique on 'Predictors of nurses' professional burnout' which revealed 53% of nurses suffered from burnout.

The stressors accounting for severe level of stress among nurses were identified as workload and patients and their families (70%), problems relating to peers (64%), death dying (60%) and problems relating to supervisors (56%). A research study conducted in the University hospital of Belgique on 'Predictors of nurses' professional burnout' revealed that the predictors for burnout were identified as job strain, and conflicts with other nurses/ physicians, presence of stressors related to private life. The significant association between work stresses with less experience concurs with previous findings.[14]

Comparatively,nurses with dependants were having more (40%) stress than those with no dependants (10%). Less than 10 years of experience have more stress (20%) than those with more than 10 years of experience (16%), diploma holders experienced more (32%) stress than degree holders (14%) and nurses aged less than 30 years have more (26%) stress than age group of 30 years and above.

Chi square test, applied to test the hypothesis, revealed that calculated values of chi square test were less than table value (3.84 with Df 1) at 0.05 level of significance. Hence, there was no significant association between level of stress and baseline variables (age, education and years of experience). These findings may be due to less sample size and non probability sampling technique.

Conclusion

Work-related stress is seen as the natural response manifested by individuals being subjected to intense pressure at work over a period of time, short- or long-term for that matter. Nurses are confronted on a daily basis with an increased amount of difficulties, foreseen- or unforeseen problems. Increased workload, problems relating to peers and supervisors and confronting patient's terrible life threatening condition are only but a few problems encountered by them. Nursing professionals also strive to render care, which generates a sense of humanity with personified characteristics, and conveys a service of quality, passion, care and commitment. These multiple and corresponding difficulties place further emphasis on the sources of stress which contribute to severity of stress amongst nursing personnel. Furthermore, the negative

psychological state, with cognitive and emotional components, of work-related stress also affects the health of both individual employees and their organizations. It is suggested that further research is conducted to include nurses working in heavy loaded working units and investigate the level of stress among them.

Therefore, it is of substantial meaning that a lucid understanding of the entire stress process and its multiple facets is grasped in order to manage work-related stress. There is a need to understand the nature of this problem and to better manage it. Therefore, it is important for organizations to take counter measures to relieve stress among nurses. A recommendation like offering in-service education to nurses and improving the relationship between employees can help reduce stress levels among nurses as nursing is regarded as a potentially stressful occupation.

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Effectiveness of Progressive Muscle Relaxation Technique on Generalized Anxiety of Elderly Orthopaedic Patients in Selected Hospitals, of Pune City

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Abstract

Introduction: This study was conducted to assess the effectiveness of progressive muscle relaxation technique on generalized anxiety of elderly orthopedic patient in selected hospital of Pune City.

Methods: Experimental and control group design was selected for the study. 40 elderly orthopaedics patients from selected hospitals of Pune City, were selected by random assignment technique.A Modified state trait Anxiety Inventory Scale was used to collect data from the subjects.

Result: In the pre intervention stage, the anxiety level in elderly orthopaedic patients in experimental and control groups revealed that anxiety tended to differ from the mean by ± 5.16 in control group and ±8.15 in experimental group, whereas in post intervention stage, there was a significant mean anxiety reduction that tended to differ from the mean by ± 4.938 in control group and ± 4.426 in experimental group.

Conclusion: In pre intervention, maximum anxiety in control group was 74 and in experimental group it was 85, whereas in post intervention, in control group the mean average of anxiety was 65.2 and 46.7 in experimental group. Findings indicated that the Jacobson Progressive muscle relaxation technique was effective for anxiety reduction among elderly orthopaedic patients.

Keywords: Progressive muscle relaxation; Orthopaedics; Elderly patient.

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Introduction

Anxiety is a normal emotion. All human beings develop it as a means of protection from danger and threat when we perceive danger. Human body undergoes a number of autonomic physiological changes such as perspiration, restlessness, discomfort, palpitation and tightness in the chest.

Anxiety is defined as a danger signal felt and perceived by the conscious portion of the personality with or without stimulation from external situation.This study was conducted to assess the effectiveness of progressive muscle relaxation technique on generalized anxiety of elderly orthopedic patient in selected hospital of Pune City.

*Objectives of the study were:*to assess the baseline data of anxiety level in elderly orthopaedic patients for experimental and control group;to determine and compare the anxiety level in elderly orthopaedic patients after the interventions in experimental and control group.

Research Methodology

A pre-test & post-test experimental and control group approach was used to conduct

the study. The study was done in selected orthopaedic hospitals on 40 elderly orthopaedic patients of age group above 55 years. Random assignment sampling technique was used for selecting the samples. A written consent was taken from the subjects.The tools and techniques used in the present study were :

- Baseline Proforma.
- Modified state trait anxiety inventory scale.
- Jacobson Progressive Muscle Relaxation proforma.

The two tools were administered to the patients. Assurance was given regarding confidentiality and conducive environment was maintained. The average time taken by the respondents to complete the questionnaire was approximately 10 minutes.

Major findings

In the pre-intervention stage it was seen that in control group 10%of patients were having mild and 90% were having moderate level of anxiety where as in experimental group 10 % of patients were having mild, 85 % were having moderate anxiety and 5% of patients were having severe anxiety. Whereas post intervention revealed that in control group 5% of patients were having mild and 95% of patients were having moderate level anxiety whereas in experimental group 95 % of patients were having mild, 5 % were having moderate anxiety. After using the formula of 't test' the calculated t value (-11.8477) was less than table value (-2.428568). So H_0 was rejected at 1% level of significance meaning that after intervention anxiety level in study groups was not same. As mean of difference of anxiety of control group was less than experimental group, progressive muscle relaxation technique was found to be effective at 1% level of significance.

Conclusion

The findings revealed that progressive muscle relaxation exercise is highly effective in treatment of generalized anxiety in elderly orthopaedic patients. Progressive muscle relaxation can be administered as an alternative treatment for treating anxiety.

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A Study to Assess the Pattern of Use and the Effect of Online Social Networking on Student Nurses in a Selected College of Nursing in Delhi

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Abstract

Social media and networking has been becoming increasingly popular among the Indian youth as well as adolescents. A non-experimental, descriptive survey was done to assess the pattern of use and the effect of online social networking on the student nurses, in a selected college of Nursing in Delhi. 50 student nurses studying in D.G.N.M, B.Sc. (Hons.) Nursing and M.Sc. Nursing programmes in Rufaida College of Nursing, Jamia Hamdard, New Delhi, were selected for the study through systematic random sampling technique. The tool used for the study was semi-structured questionnaire. The data analysis revealed that 50% of students had neutral effect of online social networking on them, that is, on their studies and social relationships. Almost same number, that is, 48% of student nurses had positive effects of online social networking, while only 2% showed negative effects of online social networking.

Keywords: Social media; Online social networking; Effect; Pattern of use; Student nurses.

Introduction

Social media or "social networking" has almost become part of our daily lives over the past few years. It is like any other media such as newspaper, radio and television but it is far more than about just sharing information and ideas. Social networking tools like Twitter, Facebook, Flickr and Blogs have facilitated creation and exchange of ideas so quickly and widely than the conventional media. According to Hindustan Times (7th feb,2012)[1], in September 2011 India crossed the 100 million internet users' mark. HT's survey showed that 24.1% of participants said they were online several times a day, while 35.1% said they used the net once daily.

Adults are increasingly fregmenting their social networking sites as a majority of those who use social networking sites (52%) say they have two or more different profiles. Facebook is currently the most commonly used online social network among adults profile owners; 73% have a profile on facebook, 48% have a profile on Myspace and 14% have a linkedin profile.[2] The specific sites on which young adults maintain their profiles are different from those used by the older adults.

Social media also influences people's behavior. With the prevalent use of social media, there is numerous news related to it, from the most viewed Youtube video on "Armless Pianist Wins China's Got Talent" to web-assisted suicide cases(e.g., New Jersey college student who killed himself after video

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of him in a sexual encounter with an another man was posted online). Thus, does social networking make us better or worse, is a question of debate.

Besides having opportunity to know a lot of people in a fast and easy way, social media also has been helping teenagers who have social or physical mobility restrictions to build and maintain relationships with their friends and families. Those who go overseas to study or work can still stay in meaningful contact with their parents, family and friends back home. To a greater extent, there is anecdotal evidence of positive outcomes from these technologies.

In 2008, Obama won the presidential election through the effective use of social media by reaching millions of audience or voters. The Obama campaign had generated and distributed huge amount of contents and messages across, through email, SMS, social media platforms and their websites and chose the right form of media to connect with individuals. It truly changed the delivery of political message.[3] In 2010, after the earthquake happened in Haiti, many of the official communication lines were down. The rest of the world was not able to grasp the full picture of the grim situation there. To facilitate the sharing of information and make up for the lack of information, social media came in very handy to report the news about the affected area: what happened and what help was needed. Tweets from many people provided an impressive overview of the ongoing events from the earthquake.[4]

While there are some positive effects of online social networking, some studies imply that social network could have negative impact on people's social health. These can cause people to stay away from the reality and immerse themselves in the virtual world of social community. Instead of meeting people in person, they spend more time in front of the computer screens, checking what the virtual friends are doing. The trend of the social networking through Facebook, Twitter, Orkut, Flickr, LinkedIn etc. has been increasing by the day among the children, young adults as well as old. Student nurses are no exception. They want to put anything and everything they do, on the Facebook and take pride in having as many Facebook friends as possible. They deem it important to update their Facebook status every few hours in a day. They have internet access even on their mobile phones, to which they seem to be glued forever. If on any given day or at any time they are not able to network through social networking website, they feel unhappy, frustrated, empty, lonely, uninformed and disconnected.

All this, sometimes comes to the extent of addiction. Without social networking a person just does not feel 'alright'. With adolescents and young adults, this addiction becomes all the more problem as social networking becomes a priority over academics, co-curricular activities, outdoor games and sports, face to face socialization with family and friends. With increasing pressure to perform well in academics, the first thing to get compromised due to social networking among adolescents and young adults is studies.

With this knowledge in the background, it was thought to conduct a study to assess the pattern of social networking among the college students, especially student nurses in a selected college of Nursing in Delhi, and also the effects of it on their academics and social relationships. Social networking can be a big distraction and diversion if not used judiciously and reasonably. This study threw light on how responsibly or irresponsibly student nurses indulge in social networking.

Methods

The research approach used in this study was quantitative with pre-experimental descriptive survey design to assess the pattern of use and the effect of online social networking on student nurses in a selected college of Nursing in Delhi. Sample comprised of 50 student nurses studying in D.G.N.M, B.Sc. (Hons.) Nursing and M.Sc. Nursing programmes in Rufaida College of Nursing, Jamia Hamdard, New Delhi, selected through systematic random sampling technique. Only those students who

lived in hostel and those who used social media were included in the study.

The tool used was semi-structured questionnaire and technique for collection of data was paper and pencil method. It included three parts: Part A, B & C. Part A consisted of 3 items related to the demographic profile of the study subjects. Part B consisted of 15 questions to assess the pattern of use of online social networking among the student nurses. Part C consisted of 20 questions to assess the effect of social networking on student nurses. There were 5 positive, 10 negative items and 5 neutral items in Part C. The maximum score was 45 and minimum score was 15. The range of scores was from 15 to 45. Those who got scores between 35 to 45 were considered to have positive effect of online social networking. Those who got scores between 25 to 35 were considered as having neutral effect of online social networking. Those who got scores between 15 to 25 were considered as having negative effect of online social networking. As mentioned earlier, part C also comprised of 5 neutral questions (question number 16-20), which were neither positive nor negative. Therefore, these were not allotted any scores. They were analyzed item-wise in terms of frequency and percentage. The tool was validated by five expert faculty members of Rufaida College of Nursing, Jamia Hamdard, New Delhi.

Pilot study was conducted on 10 student nurses studying in the selected College of Nursing, Delhi. The investigators found that the tool was effective and it was feasible to conduct the study. For the collection of the data, a formal administrative approval was sought to conduct the study from the Dean, Rufaida College of Nursing, Jamia Hamdard, New Delhi. The data was collected from 11th to 15th, March, 2012. The purpose of the study was explained to the respondents and their consent to participate in the study was taken. The data obtained was subjected to analysis using descriptive statistics.

Results

As regards the background data of sample subjects, 96% of students belonged to the 17-27 years of age group. 84% of students belonged to urban community and 16% belonged to rural community. 48% students were from B.Sc. (H) Nursing, 30% from DGNM and 22% were from M.Sc. Nursing programme.

Pattern of use

As far as the pattern of use of social networking sites by student nurses is concerned, it was seen that 94% of subjects used their own computer or mobile for online social networking. The rest used other's phone or mobile. As for the frequency of use of social media by student nurses, 32% student nurses surfed online social networking sites everyday and once a week each on an average, 16% used it more than once a week and 20% used it once in a month. 40% of student nurses used online social networking 1-2 hours per day, where as 38% used it for less than 1 hour a day. Only 4% used it for more than 6 hours a day. 72% of student nurses used online social networking in hostel room or dormitory. Only 4% used it in internet café, college computer lab and reading room in hostel each. This just shows that the students like to do online social networking within the privacy of their hostel, rooms or dormitories and not in public or common places, or it may be because of the fact that the internet access is easily available now more than ever.

For communicating and socializing with friends, 42% of students preferred phone call as a way of communication and socialization with friends and 22% of them preferred SMS. As far as face to face or in person meeting was concerned, 18% of students used this way of socializing, while 2% each emailed and poked or posted comments. 10% communicated by online chatting and 4% by video call. 42% of

students had online contacts or friends between the ranges 4-100, 28% had between 100 -200. Only 4% had online contacts and friends between 900-1000 also. The minimum nunber of online social contacts or friends was 4 and maximum number was 1000.

76% of students did not personally meet friends that they made online. 58% of students did not get any lesson to stay safe on internet and 78% did not create fake IDs. They had used their real identification data and picture in their IDs. The data also revealed that 96% of students use facebook, followed by 54% who use Gmail. Yahoo messenger and twitter are close behind with 26% students having accounts on each of these two. Many students have accounts on more than one social networking sites.

As far as the time of social networking is concerned, 54% of students connected on social networking sites between 8 pm-mid night, 30% at 4 pm- 8 pm, 10% at 12 noon- 4 pm, 4% at 6 am- noon , where as only 2% connected after mid night.

Effects of online social networking

50% of students had neutral effect of online social networking on them, that is, on their studies and social relationships (Table 1 and Figure 1). Almost same number, that is, 48% of student nurses had positive effects of online social networking, while only 2% showed negative effects of online social networking.

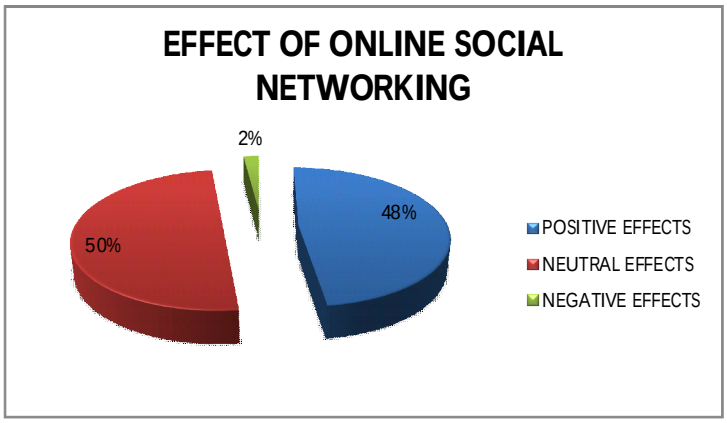
Table 1: Frequency and percentage of sample subjects by the effects of online social networking on them

Effect Of Online Social Networking	Frequency	Percentage
Positive effects	24	48%
Neutral effects	25	50%
Negative effects	1	2%

The questionnaire to assess the effects of online social networking on student nurses also contained four neutral questions which could not be categorized as either positive or negative statements. Hence, for these four questions the students were not scored or evaluated. However, these four questions were analyzed in terms of frequency and percentage. 70% of students reported that they did not perceive any change in their study habits due to online social networking. 50% of students felt guilty sometimes for spending much time on social networking. Only 6% felt guilty very often for spending much time on social networking. 74% of students did not share personal problems with unknown virtual friends. 48% of students did not feel relieved when they shared their personal problems with unknown virtual friends on social networking sites. 32% of students reported that they can stay away from online social networking for maximum one month. After one month, they feel the urgent need to do online social networking. Only 6% of students expressed that they can stay away from online social networking for maximum one day. After one day, they feel the inner urge to get connected and network virtually.

Discussion

The overall analysis of the data revealed that out of 50 sample subjects, half of the student



nurses, that is 50% had neutral effect of online social networking on them and almost half (48%) had positive effect while only 2% had negative effect of social media. Face book was the most popular and used social networking site among the student nurses and that more and more student nurses are getting hooked to the virtual world. Although, virtual world has not yet completely overtaken the real life of student nurses. According to reports (Hindustan times,7th Feb' 12)[1] in sept. 2011, India crossed the hundred million internet user mark. HT, survey showed that 24.1% of participants said they were online several times a day. While 35.1% said they used the net once daily. The present study showed that 40% of student nurses used online social networking 1-2 hours per day, where as 38% used it for less than 1 hour a day. Only 4% used it for more than 6 hours a day.

According to study done by professor Chuck Martin(2010)[5], whose marketing research class conducted the study, "college students have grown up with social networks, and the study shows they are now simply part of how students interact with each other with no apparent impact on grades''. Same results were revealed in the present study that 48% student nurses had positive changes in their study habits due to online social networking. 50% of student nurses had neutral effect of online social networking on them, whereas, only 2% showed negative effect of online social networking on their studies and social relationships.

According to Hindustan Times (7th feb,2012)[1] survey done in September 2011 last year showed that, popular social networking websites Facebook and Twitter turned out to be both tools of social interaction as well as demonstration. The number of respondents who used Facebook to make announcements to their friends jumped from 10.1% in the previous survey to 20.65% this time around.[1] Our present study shows that 96% of students used Facebook, which shows that Facebook is the most popular social networking site amongst the youth.

The study implies that as more and more students are networking and socializing via social media, it is time that they were made aware of the advantages and disadvantages of social media. Once they are aware, they can make informed choices and use social media more responsibly, so that their academic and social life is not negatively affected. Teachers encourage students to be technology savvy, especially computer and internet savvy. Computer education is a subject taught in nursing curriculum. Computers have made foray into the world of medical science. While on one hand students make meaningful use of social media in teaching-learning, education and even at work place, on the other hand they may also overuse, abuse the social media and develop dependence and addiction to it. Adolescents and youth often tend to use social media irresponsibly. It starts affecting their academic performance adversely. Therefore, teachers should become pro-active to ensure that they inculcate the right values in students so that students use social media to their advantage.

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