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Expressed Emotion of Staff Nurses as Perceived by Patients in a View to Prepare a Self Instructional Guide in a Selected Psychiatric Hospital, Mangalore

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ABSTRACT

Background: The importance of the psychosocial environment to patients suffering from severe mental illness is well established. Staff nurses become an important factor of the patient's environment when they are getting admitted in hospitals. Expressed emotion of health care professionals is found to be an important factor that influence medication compliance and recovery process of patients.

Objectives of the study:

1. To assess the expressed emotion of staff nurses as perceived by psychiatric patients

2. To find the association of expressed emotion of staff nurses as perceived by patients with selected demographic variables of patients

3. To prepare and validate self instructional guide for staff nurses on handling expressed emotion.

Materials and Method: The data was collected from 64 psychiatric patients recruited by purposive sampling technique from psychiatric wards and OPD and Expressed Emotion Scale was administered by structured interview method. The self instructional guide for staff nurses to reduce expressed emotion was prepared and validated.

Results: The study findings showed that the mean expressed emotion scores of staff nurses as perceived by patients was low (5.84±5.41). There was no association between expressed emotion of staff nurses as perceived by patients and selected baseline variables of patients ($p>0.05$)

Conclusion: The study findings showed that patients perceived staff nurses to be having low expressed emotion. The low level of expressed emotion among the staff nurses is one of the factors that will promote the recovery and prevent the relapse of illness among psychiatric patients.

Keywords: *Expressed emotion; Psychiatric patients; Staff nurses*

INTRODUCTION

Today, about 2564 per 100 000 people suffer from a mental or behavioural disorder. Mental disorders include a wide range of problems. This includes anxiety disorders, mood disorders (bipolar disorder, depression), personality disorders and psychotic disorders (schizophrenia, delusional disorders, schizoaffective disorder). According to a systematic analysis for the Global Burden of Disease Study 2010, the largest contributor to global Years Lived with Disabilities (YLD) were mental and behavioural disorders[1].

Health professionals play an important role in

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the health care of patients while they are admitted in psychiatric hospitals. They work with the individual and family to help develop skills and strategies to manage thoughts, emotions and behaviours that impact on one's mental illness. Their goal is to promote the independence of individuals' in areas of self care, productivity and leisure. The health care professionals who are included in the care of patients in psychiatric hospitals include general practitioner, psychiatrist, psychologist, nurse, social worker, pharmacist, counsellor and occupational therapist.[2] Nurses alone among the various mental health disciplines combine the biopsychosocial knowledge, psychopharmacological competency, physical and psychiatric assessment skills with an intrinsic perspective of patient advocacy and 24- hour accountability. Psychiatric nurses are experts at evaluating complex psychiatric, substance abuse and physical health needs and problems of patients over the life span[3]. They provide comprehensive care to the patients admitted in psychiatric wards. Hence the interpersonal relationship with nurse and patient is of great importance in terms of patient recovery. Construct of expressed emotion (EE) can be used to chart the relationship in the professional caregiver-client dyad. It refers to the amount of criticism, hostility, and emotional over involvement (EOI) of a formal or informal caregiver with respect to the patient.[4]

Studies conducted on family members' level of expressed emotion showed high expressed emotion in them and relapse of illness in patients, thereby highlighting the need for addressing expressed emotion in comprehensive psychosocial intervention plan.[5,6,7,8] Although the experiences and roles of non-familial and family caregivers differ, staff who work closely with persons with severe mental illness experience some of the same feelings as families and engage in behavior characteristics of expressed emotion when frustrated with their lack of success with clients. Furthermore, staff have to manage problematic behavior of their clients, including symptomatic behaviors, verbal abuse, as well as aggressive and acting out behaviors.[9]

A study conducted to examine the influence of an educational programme on nurses level of expressed emotion, on ward climate and on social functioning and psychopathology of hospitalized schizophrenia patients in long stay wards of six Dutch psychiatric hospitals showed that detecting changes in expressed emotion level after an educational programme was difficult but it was found that there were measurable benefits for the patients like improved social functioning, more freedom for patients to take decisions regarding personal belongings and moving in and out of the ward.[10] Hence it is important to study the concept of expressed emotion for nursing staff. A self instructional guide for staff nurses on handling expressed emotion may serve the purpose of educating the staff nurses working in psychiatric settings about expressed emotion, its consequences on patients and the measures to reduce expressed emotion.

MATERIALS AND METHOD

A cross sectional descriptive design was used for the present study since the purpose of the study was to assess the expressed emotion of staff nurses as perceived by patients. Ethical clearance was obtained from Father Muller Institutional Ethics Committee. Formal written permission was obtained from the concerned authorities to conduct the research study in the selected hospital, Mangalore. The study was conducted among 64 subjects selected using purposive sampling technique from 17/12/15 to 27/02/16 in psychiatric wards and OPD of Father Muller Mental Health Centre. The inclusion criteria were as follows: 1) Patients admitted in psychiatric wards and those who come for follow up within two weeks after discharge in OPD 2) Patients in the age group of 21 to 65 years 3) Patients who could speak English, Kannada, Malayalam 4) Patients with schizophrenia spectrum disorders (schizophrenia, schizoaffective disorders, delusional disorders) and BPAD. The exclusion criteria included 1)The patients who score 24 and below in the mini mental status examination 2)The patients with thought and perceptual disorder 3)The patients with alcohol dependence syndrome. Baseline proforma and Expressed Emotion Scale were administered to subjects after screening them with MMSE. MMSE is Mini Mental State Examination developed by Dr Marshall Folstein which can be used to systematically and thoroughly assess mental status. It is a 11-question measure that tests five areas of cognitive function: orientation, registration, attention and calculation, recall, and language. The maximum score is 30. Those who scored above 24 were selected for the study. Expressed Emotion Scale is a rating scale consisting of 18 items divided into three domains which include Attitude towards the illness, Caregiver expectations and Emotional over-involvement. Each domain has 6 items. Each item was given options "always", "sometimes" and "never". Positively worded items were given the

scores 0,1,2 for "always", "sometimes" and "never" respectively. Negatively worded items were given the scores 2,1,0 for "always", "sometimes" and "never" respectively. The maximum score is 36. The expressed emotion was graded into very high 29-36(81-100%), high 22-28(61-80%), low 15-21(41-60%) and very low <15(≤40%). Expressed emotion scale was constructed after review of literature on Expressed emotion and tools used to assess it. After construction, tool was validated by 10 experts including nursing faculty, psychiatrist, clinical psychologist and social worker. The reliability of the tool was established by split- half method (internal consistency) and reliability coefficient was found to be 0.8. The participants took an average of 15-25 minutes to complete the responses.

Statistical Analysis: Data was analyzed using SPSS version 16. The tests used were frequency, percentage, mean, median, standard deviation, mean percentage and chi square test.

RESULTS

Table 1: Frequency and percentage distribution of baseline characteristics of psychiatric patients

N=64

Sl No	Baseline variables	Frequency (f)	Percentage (%)
1	**Age(in years)**		
	a) 20-30	20	31.2
	b) 31-40	19	29.7
	c) 41-50	13	20.3
	d) 51-60	12	18.8
2	**Gender**		
	a) Male	44	68.8
	b) Female	20	31.3
3	**Religion**		
	a) Hindu	33	51.6
	b) Christian	19	29.7
	c) Muslim	11	17.2
	d) Others	1	1.6
4	**Education**		
	a) Lower primary school	4	6.3
	b) Higher primary school	12	18.8
	c) High school	21	32.8
	d) PUC/diploma	17	26.6
	e) Degree	8	12.5
	f) Post graduation and above	2	3.1
5	**Occupation**		
	a) Unemployed	25	39.1
	b) Employed	39	60.9
6	**Family monthly income (in rupees)**		
	a) 5000 and below	7	10.9
	b) 5001 – 10000	26	40.6
	c) 10001-15000	11	17.2
	d) 15001-20000	10	15.6
	e) Above 20000	10	15.6
7	**Diagnosis**		
	a) BPAD	48	75.0
	b) Schizophrenia	7	10.9
	c) Schizoaffective disorders	1	1.6
	d) Delusional disorders	1	1.6
	e) Unspecified non organic psychosis	7	10.9
8	**Total number of admissions**		
	a) 1-2	22	34.4
	b) 3-5	27	42.2
	c) 6-10	12	18.8
	d) Above 10	3	4.7
9	**Number of admissions in the present setting**		
	a) 1-2	40	62.5
	b) 3-5	20	31.3
	c) 6-10	2	3.1
	d) Above 10	2	3.1
10	**Duration of illness**		
	a) 1-2 years	12	18.8
	b) 3-5 years	16	25.0
	c) 6-10 years	14	21.9
	d) 11-15 years	12	18.8
	e) Above 15 years	10	15.6

The mean of age was 38.06 and standard deviation was 11.38. The mean family monthly income was 15898 and standard deviation was 15127.81. The mean of total number of admissions was 4.39 and standard deviation was 4.52. The mean number of admissions in the present

setting was 2.95 and standard deviation was 3.88. The mean of duration of illness was 9.39 and standard deviation was 8.11.

Table 2: Distribution of subjects according to the level of Expressed emotion of staff nurses as perceived by patients N=64

Categories	Range in percentage	Range of score	Frequency	Percentage (%)
Very high	81-100	39-48	-	-
High	60-80	29-38	-	-
Low	39-59	19-28	9	14.1
Very low	≤38	0-18	55	85.9

Maximum score=36

85.9% of patients perceived staff nurses to be having very low expressed emotion and 14.1% of them perceived staff nurses to be having low expressed emotion towards them

Table 3: Mean, median, standard deviation and mean percentage of expressed emotion scores of staff nurses as perceived by patients N=64

Mean	Median	Standard deviation	Mean percentage
5.84	4.0	5.41	16.23

Maximum score=36

Expressed emotion of staff nurses as perceived by patients was very low with a mean score of 5.84±5.417 , median of 4.0 and mean percentage of 16.23.

Table 4: Domainwise distribution of mean, median, standard deviation and mean percentage of expressed emotion of staff nurses as perceived by patients N=64

Domains	Maximum score	Mean	Median	Standard deviation	Mean percentage
Attitude towards illness	12	1.73	1.00	1.80	14.45
Caregiver expectations	12	1.81	1.00	2.35	15.10
emotional over-involvement	12	2.30	2.00	1.97	19.14

The highest mean percentage (19.14%) was in the domain of emotional involvement whereas the lowest mean percentage was in the domain of attitude towards illness (14.45%).

There was no association of the baseline variables of patients and expressed emotion of staff nurses as perceived by patients.

DISCUSSION

In the present study, majority of subjects (85.9%) perceived staff nurses to be having very low expressed emotion and 14.1% of them perceived staff nurses to be having low expressed emotion towards them. The mean score and SD of expressed emotion of staff nurses as perceived by patients was 5.84±5.417, median 4.0 and mean percentage 16.23.

An exploratory study conducted to investigate the measures of staff-patient relationships on a continuing care, low security inpatient facility for patients with severe mental illness showed similar results. The study showed that none of the interviews were rated as high EE but there was evidence of some variability in the quality of staff-patient relationships. Looking at the subjective self-report scales of staff and patients,

there was more variability in expressed and perceived negativity ratings.[11]

Consistent results were found in the study conducted to examine the influence of an educational programme on nurses' level of expressed emotion (EE), on ward climate and on social functioning and psychopathology of hospitalized schizophrenic patients. Despite an increase in nurses' knowledge about schizophrenia, measurable effects were not found on nurses' levels of EE. According to the five minute speech sample method, one third of the nurses participating in the study had a high level of expressed emotion, mainly consisting of criticism. Patients, however, were reluctant to give their nurses high EE ratings on the level of expressed emotion scale. Social functioning of patients was related to EE in nurses.[10]

Patient's perception of low level of expressed emotion among staff nurses may be due to various reasons. They may have been cautious in answering questions, in order not to disrupt relationships with staff nurses. The patients may not feel comfortable talking about the way they perceive a particular nurse. This hesitation might be due to feelings of loyalty, or due to fear because of their dependence on the nurses or due to psychopathology. There may also be problems of interpretation. Presence of nursing students round the clock in the ward also would have been a possible reason. Patients must have perceived even the nursing students as staff nurses. The nursing students spent time with patients for a longer duration compared to that of staff nurses.

Inconsistent findings were seen in a small opportunistic study of stress and expressed emotion undertaken with community mental health workers, who were all case managers or keyworkers to clients with severe mental illness showed that 39% of interviews were rated as high EE (7/10 staff were having high EE about at least one client), with low EE interviews showing significantly more warmth.[12]

A study conducted to investigate the quality of the relationship in the staff-patient dyad as measured by the concept of EE using the Camberwell Family Interview (CFI, professionals) and the Perceived Criticism Scale (PCS, residents and professionals form) in a sample of 56 professional caregivers and their residents in nine sheltered living facilities in Flanders showed that high EE was found to exist in one out of six (CFI) or one out of three (PCS) relationships.[13]

The study conducted to investigate the relationship between burnout, job satisfaction, the coping strategies employed by carers of adults with intellectual disabilities detained within a secure hospital, and expressed emotion (EE) showed that 63% of the sample were having high EE.[14]

The possible reasons for the inconsistent findings may be the difference in the setting, continuous training provided to the staff for giving care to the psychiatric patients, the individual differences in the selected patients (the staff nurses may tend to show high expressed emotion towards patients who are more aggressive) and the small sample size of the study

CONCLUSION

The expressed emotion of staff nurses as perceived by patients was very low and there was no association between the selected baseline variables of patients and expressed emotion of staff nurses as perceived by patients. The low level of expressed emotion among the staff nurses is one of the factors that will promote the recovery and prevent the relapse of illness among psychiatric patients. The study need to be conducted in various psychiatric settings before generalizing the findings.

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Conflict of Interest : Nil

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Pattern of Tobacco Use, Degree of Dependence and Level of Motivation to Quit among Tobacco Users

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ABSTRACT

Background: Tobacco use is currently ranked fourth in the world and contribute remarkably as cause of death. Global Adult Tobacco Survey (2010) reported that the prevalence of tobacco in India is 34.6% and 12% in Punjab. Dependence is higher in poor, less educated and minority population.

Aim: To assess the pattern of tobacco use, degree of dependence, level of motivation to quit among tobacco users working in selected factories of Ludhiana City, Punjab.

Study design & setting: A descriptive study was conducted on 100 tobacco users working in selected factories of Ludhiana City, Punjab.

Method & materials: Convenience sampling technique was used to select the study sample. Data was collected by using socio-demographic profile, tobacco use profile, Fagerstrom Test for Nicotine Dependence and Richmond's Readiness to Change Scale.

Statistical analysis used: descriptive (mean, frequency, standard deviation) and inferential statistics ("t" test and ANOVA).

Results: It was revealed that 72% of subjects used jarda and mean age of initiation was 19.36 years. The mean duration of regular use was found to be 8.33years. 59% subjects had moderate degree of dependence and 70% had moderate level of motivation to quit tobacco. Degree of dependence was found to be significantly associated with age and education.

Conclusion: It was concluded that jarda (72%) was the most used form of tobacco. Majority of tobacco users had moderate degree of dependence and moderate level of motivation to quit tobacco. Degree of dependence had positive correlation with number of years of tobacco use($p \leq 0.01$).

Keywords: *Pattern of tobacco use, degree of dependence, level of motivation to quit, factory workers.*

INTRODUCTION

Tobacco use is a major threat to global health [1]. Around 1.1 billion people smoke tobacco worldwide and is expected to increase to 1.6 billion by the year 2025[2]. India is the second largest producer and consumer of tobacco in the world after China[3]. According to Global Adult Tobacco Survey (2010) the prevalence of tobacco in adults is 34.6% among which 47.9% were men and 20.3% were women. Tobacco consumption is significantly higher in males, poor, less educated and minority population [4] Nearly 195 million people in India and 33 lakh people in Punjab use tobacco in any form. Overall, Khaini is the most popular form of tobacco use, followed by bidi smoking (9.0%) [5]. Individuals with lower level of education were reported to have higher nicotine dependence with no intention to quit [6]. By 2030, tobacco use is projected to cause eight million deaths annually with 80% of them occurring in the developing world [1]. There is a heavy burden of tobacco use in India which is a cause of preventable morbidity and mortality and accounts for approximately

one-sixth of the world's tobacco related deaths.

MATERIALS AND METHOD

A descriptive study was conducted on 100 tobacco users working in selected factories of Ludhiana City, Punjab. Convenience sampling technique was used to select the study sample. Data was collected by using socio-demographic profile, tobacco use profile to assess pattern of tobacco use, Fagerstrom Test for Nicotine Dependence to assess degree of dependence and Richmond's Readiness to Change Scale to assess level of motivation to quit. Fagerstrom Test for Nicotine Dependence (Karl Fagerstrom, 1984) was standardized tool consisting of 6 questions related to dependence. In scoring the three yes/no items were scored 0 (no) and 1 (yes). The three multiple-choice items were scored from 0 to 3. The items were summed to yield a total score of 1-10 which were further categorized into Low dependence (1-2), Low to moderate dependence (3-4), Moderate dependence (5-7), High dependence (8+). Richmond's Readiness to Change Scale (Richmond et al., 1993) was a standardized tool consisting of 4 questions. In scoring the yes/ no items were scored 0 (no) and 1 (yes) and other three items were scored from 0 to 3. The items were summed to yield a total score of 0-10 and categorized into Low (0-5), Moderate (6-8) and High motivation (8+).

RESULTS

Table 1. Distribution of tobacco users as per pattern of tobacco use. N= 100

Pattern of tobacco use	(%)
Age of initiation	
≤20 years	74
21-30 years	23
>30 years	03
Form of tobacco use	
Jarda	72
Gutakha	28
Pipe	17
Pan Masala	17
Cigarette	15
Khaini	14
Mishri	06
Factors to initiate tobacco use*	
Peer pressure	87
Parental influence	06
Social Media	33
To relieve stress	40
Duration of regular use	
≤5 years	49
6-10 years	24
>10 years	27
Ever tried to quit	
Never tried to quit	64
Yes	36

*subjects had multiple responses

Mean age of initiation=19.36±4.59 years, Range= 9-35 years

Mean duration of regular use = 8.33± 6.75 years, Range= 1-30 years

Table 1 depicts that 74% of subjects started smoking/ consuming tobacco at the age of ≤20 years,72% use jarda, peer pressure (87%) was the major factor responsible for initiation of tobacco use and 49% had used tobacco for ≤5 years and 65% of subjects had tried to quit in the past.

Table 2. Frequency distribution of tobacco users as per history of past abstinence n=36

Details of Past abstinence	f (%)
Time of last quit attempt	
Within the last month	09 (25.0)
Within the last year	08 (22.2)
Over 1 year ago	19 (52.8)
Reason for abstinence*	
Family dispute	26 (72.2)
Financial problem	09 (25.0)
Health problem	11 (30.6)
Duration of abstinence	
Less than 1 week	16 (44.4)
1 week to 1 month	07 (19.4)
1 month to 1 year	11 (30.6)
More than 1 year	02 (05.6)
Reason for starting again*	
Day to day stress	17 (47.2)
Peer pressure	22 (61.1)
Withdrawal symptoms	22 (61.1)
Physical complication experienced in the past	
No	25 (69.4)
Yes	11 (30.6)
Method used for abstinence	
Self control	34 (94.4)
Cold Turkey	02 (05.6)

*subjects had multiple responses

Table 2 indicates that out of 36 subjects who had tried to quit tobacco in the past, 52.8% tried to quit over one year ago, majority (72.2%) reported family problem as their reason for abstinence, 44.4% reported the duration of abstinence for less than a week, reason to start smoking/ consuming tobacco was peer pressure (61.1%) and to fight with withdrawal symptoms (61.1%). Majority (69.4%) of them did not experience any physical complication and most (94.4%) of subjects used self control as method of abstinence.

Table 3. Distribution of tobacco users as per degree of dependence and level of motivation to quit

N=100

Variable	(%)
Degree of dependence	
Low dependence	03
Low to moderate dependence	29
Moderate dependence	59
High dependence	09
Level of motivation to quit	
Low	24
Moderate	70
High	06

Table 3 depicts 9% of subjects had high degree of dependence, 59% had moderate degree of dependence, 29% had low to moderate degree of dependence and 3% had low degree of dependence. Regarding level of motivation to quit, 6% of subjects had high level of motivation to quit, 70% had moderate level of motivation, 24% had low level of motivation to quit.

Table 4. Association of degree of dependence with selected socio-demographic characteristics N=100

Variable	n	Degree of dependence Mean±S.D	F value (p value)
Age (in years)			
15-25	48	4.73±1.54	F=5.887 (0.01)*
26-35	24	5.63±1.61	
36-45	18	6.06±1.11	
46 and above	10	6.30±1.34	
Education			
Illiterate	23	4.70±1.60	F=2.83 (0.04)*
Elementary	52	5.75±1.49	
Secondary	19	5.11±1.41	
Graduation and above	06	5.00±2.00	

**Significant p≤0.05, Min Score=1, Max Score= 10*

Table 4 depicts that degree of dependence was higher among age group 46 years and above and elementary educated workers.

Table 5. Correlation of degree of dependence with number of years of tobacco use N=100

Variable	Mean±S.D	r value (p value)
Duration of use (in years)	8.33±6.75	0.45
Degree of dependence	5.34±1.58	(0.01)*

**Correlation is significant at 0.01 level*

Table 5 represents the positive correlation (r=0.45) between degree of dependence and numbers of years of tobacco use among tobacco users. These results were found to be statistically significant (p=0.01). Hence, as the duration of tobacco use increases, degree of dependence also increases.

DISCUSSION

The present study revealed that majority (72%) of subjects used jarda with mean age of initiation being 19.36±4.59 years. Nearly three-fourth (74%) started smoking/ consuming tobacco in ≤20 years out of which 1 subject started at 9 years of age. Majority (87%) of subjects responded peer pressure as the reason for starting tobacco use. The mean duration of regular use was found to be 8.33± 6.75 years and nearly half (49%) of subjects had used tobacco for ≤5 years. Similar findings were reported by Saji E A et al. (2014) on prevalence of tobacco use among adolescents revealed that the age of initiation was around 15 years and 45% initiated its use due to peer pressure and under the influence of immediate family members. Nearly one-third (40%) had used tobacco for ≤5 years [7].

Nearly one-third (36%) of subjects reported that they had tried to quit tobacco in the past. Out of those, nearly half (52.8%) had tried to quit over one year ago, majority (72.2%) reported that family dispute was their reason for abstinence and the duration of abstinence for less than half (44.4%) was less than a week. Peer pressure, withdrawal symptoms and day to day stress were the main reasons for started using tobacco again. Most (94.4%) of subjects used self-control as method of abstinence. Chockalingam K et al. (2013) conducted a survey on prevalence of tobacco use in Chennai and

reported similar findings that 60% started using tobacco between the age group of 15 to 24 years. Majority (60%) had tried to quit tobacco in the past and nearly one-fourth (27%) had made an attempt in the last one year. The main reason provided for quitting was family disputes and intention to improve health [5].

As per tobacco use in the environment, present study found out that 47% of subjects had reported tobacco use by them or other people at their home, On the contradictory Zahiruddin S Q et al (2011) reported that two third (67.3%) subjects smoke/ consume tobacco at home [6].

As per the degree of dependence, present study revealed that majority (59%) of subjects had moderate degree of dependence while nearly one-fourth (29%) had low to moderate degree of dependence, 9% had high degree of dependence and few (3%) had low degree of dependence. In contrast, Fagerstrom K et al. (2008) conducted a study on Nicotine addiction and its assessment in tobacco users admitted in hospitals of Virginia and reported that 46% of subjects had low degree of dependence, 29% had low to moderate degree of dependence, 15% had moderate degree of dependence and only 10% had high degree of dependence[8]. Another study by West R (2009) on smoking prevalence and nicotine dependence showed that more than half (52%) of subjects had low to moderate degree of nicotine dependence. Similarly, Kassim S et al. (2012) also reported that 9.9% subjects had low dependence, 33% had low to moderate dependence, 40.6 % had moderate dependence and 16.5% had high of dependence[1].

As per level of motivation, majority (70%) of subjects had moderate level of motivation, one-fourth (24%) had low level of motivation and few (6%) had high level of motivation to quit tobacco. The findings were supported by Vidal M P et al. (2011) who conducted cross-sectional study on 1234 smokers and found that two-third (65.6%) of subjects had moderate motivation, 21.8% had low motivation and few (12.6%) had high level of motivation to quit tobacco[3]. A contradictory was reported by Campos LJ et al (2010) that out of 900 subjects studied by them, 56% had low motivation, 25% had moderate motivation and 19% had high motivation to quit tobacco [9].

Present study found that there was significant association of degree of dependence with age and education. Higher degree of dependence was found in tobacco users of age group 46 years and above. Elementary educated subjects had higher degree of dependence. Jadhav K et al. (2013) reported similar findings in their study on the assessment of psychological dependence among tobacco users in Maharashtra which has shown that high dependence (5.24±2.31) was found on tobacco smoking after age of 40 years and also higher in less educated (6.04±1.65) [4]. Ansari AZ (2010) also supported the findings and revealed that subjects educated upto fifth standard had higher degree of dependence ($p>0.05$) [2].

The present study revealed that there was positive correlation between degree of dependence and numbers of years of tobacco use. These results were found to be statistically significant ($p=0.01$). Similar findings were reported by Jadhav K et al. (2013) who found that degree of dependence had positive correlation with number of years of tobacco use ($p<0.001$) [4].

Implications of the study

The findings of the study clearly point out that there was moderate degree of dependence and level of motivation to quit among factory workers. Effects of tobacco (both active and passive) and motivation to quit need to be addressed by nurses in community and hospital setting. This can be facilitated by motivating the nurses:

- To perform the assessment of workers to identify the health effects of tobacco.
- To provide health education to the workers on the harmful effects of tobacco use.
- To encourage the workers to quit tobacco.
- Conduct formal and informal teaching in the wards, OPDs and in communities about tobacco use and its prevention.
- Organize the various education programs in classroom, in community or at conference to create public awareness about tobacco use and its harmful effects.
- Develop and implement model to combat tobacco use in community.
- Provide continuous education to the nursing

personnel about tobacco use, prevention and its harmful effects.

• Nursing administration at hospital and community level should evaluate the effectiveness of health programmes related to tobacco use and its prevention.

• Further research can be undertaken so as to enable better understanding of problem and effective planning for its intervention.

Limitations of the study

The study has some limitations for generalizing its findings. These are:

• The study was restricted to 100 workers due to time and resources constraints. This limits the generalizability of study findings.

• Sample was drawn conveniently which limits the generalizability of findings.

CONCLUSION

It was concluded that jarda (72%) was the most used form of tobacco and age of initiation was 19.36±4.59 years. Majority of tobacco users had moderate degree of dependence and moderate level of motivation to quit tobacco. Degree of dependence was found to be significantly higher in age group of 46 years and above and in those who were elementary educated tobacco users. Degree of dependence had positive correlation with number of years of tobacco use.

Source of Funding: Self.

Conflicts of Interest: There are no conflicts of interest.

Ethical Clearance: Taken from ethical committee of DMC & Hospital, Ludhiana, Punjab.

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Effectiveness of Structured Teaching Programme on Knowledge Regarding Prevention of Obesity among High School Children in Selected School of Moradabad, U.P.

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ABSTRACT

Background of the study: Childhood obesity has been rising rapidly in India. The rate is higher among those at a lower socio economic status and racial/ ethnic minority groups.

Obesity is defined as having excess body fat. The common sign and symptoms seen in individual are clothes feeling tight and needing a large size, the scale showing that you've gained weight, having extra fat around the waist, higher than normal body mass index and waist circumferences.

Prevention of obesity involves healthy life style. The national examination survey reported that the prevalence of overweight children double and the prevalence of overweight adolescent tripled between 1980 and 2000. It becomes the Nurse's responsibility to stress the importance of prevention of obesity and urgency of receiving medical advice.

Aim: The main objective of the study was to assess the knowledge on prevention of obesity among high school children using Structured Knowledge Questionnaires before and after implementation of Structured Teaching Programme.

Materials and method: Quasi experimental with one group pre and post test design was adapted. The study was conducted at urban area of Moradabad. Sixty children in the age group of 11 – 15 years students were taken from Bonny Anne Public School, Moradabad. Simple Random sampling was used to select the samples of this study. The tool was designed to collect the demographic Performa and Structured Knowledge Questionnaires. The method used to collect the data was Structured Questionnaires.

Results: Collected data was analyzed by using descriptive and inferential statistics. The study revealed that 55 % of the children had adequate knowledge and 41.66 % of the children had moderately 3.33% of the children had inadequate knowledge in pre test, where as in post test 100 % of children had adequate knowledge .

The study revealed the knowledge Score about prevention of obesity which has been improved through the Structured Teaching programme.

Conclusion: STP on prevention of obesity was effective in enhancing the knowledge regarding prevention of childhood obesity.

Keywords: *Effectiveness, STP, Prevention, Obesity, High School Children.*

INTRODUCTION

"**Eating healthy nutritious food is the simple and right solution to get rid excess body weight effortlessly.**"

-Subodh Gupta

Children represent the wealth of the country. A Nation is built on the bricks of today's children. Our children are our future; let's help make their future healthy through efforts to prevent overweight and obesity. Between 1980 and 2002, the numbers of overweight children got tripled in worldwide, making

this a very serious public health epidemic. Data shows that 13% of our Nation's 2 to 5 year olds and 18% of 6 to 11 year olds were overweight in 2003-2004.

The World Health Organization (WHO) defines obesity as a 'global epidemic'[1]. Obesity has become an increasingly important medical problem in children and adolescents

"The cause of obesity is varied and complex, but the lack of daily physical activity is an important factor". ***-Risa Lavizzo-Mourey***

Overweight and obesity are global problems and the children are on high risk. Obesity in children appears to increase risk of subsequent morbidity. Poor diet and lack of physical activity (exercise) are the major contributors to obesity.

This epidemic of paediatric obesity has resulted in great concern regarding the management of obesity and its complications[2]

Obesity is not a single disorder but a Heterogeneous group of conditions with multiple causes.

Body mass index (BMI) is a simple index of weight for height that is commonly used to classify underweight in kilograms (kg) divided by the square of height in meters (kg/m^2)

In India the data which is available from urban school children in cities like New Delhi, Chennai, Hyderabad etc. where prevalence of obesity was found to be between 6-8% and overweight between 9-12%.

Obesity is strongly associated with the risk factors for many known diseases and is also linked to under achievement in school, to lower self esteem and has negative consequences on cognitive and social development.

The epidemic of obesity has presented an increasing burden of illness in a young adult or adult population, more young parents or chronically ill with an impact on their children. There is an increased burden on the health care system, economics, time & personnel as well as an increased economic burden on the health of the population.

"Today's children are tomorrow's leader of our nation".

Children are the future pillars of a Nation. Health of these children would determine the strength of tomorrow's Nation. Optimize obesity prevention and intervention efforts, these assumptions must be addressed within the sphere of public health.

Prevalence of obesity in children has been increased during recent decades all over the world. Obesity is related to many health problems. This study was aimed to assess and improve the knowledge regarding obesity.

Obesity is an emerging epidemic in India. Adult male and female are equally affected. High prevalence of obesity in adult women has been reported in some states. One- fourth (25%) of Indian children above the age of eight are obese and overweight as per new National Survey on physical fitness. The belief that obesity or over nutrition was the problem of developed countries alone is no longer true. Affluent Sections in India and urban middle class and higher class are affected. Overweight and obesity is a risk factor for development of various non- communicable diseases (NCD), over the years epidemiological data has proved that obesity and overweight lead to increased risk of chronic diseases.

Obesity is a worldwide problem, and is particularly prevalent in industrialized nations. Over two thirds of adults in the United States are overweight or obese, and over one third children are obese. In the United States, obesity is associated with over 112,000 deaths related to Cardio vascular diseases, 15,000 deaths due to cancer, and over 35,000 deaths from other causes related to bring overweight. Children are showing a trend for increasing obesity. There is an ongoing search to see if there is a genetic predisposition to this disorder. Prevention of obesity and encouraging healthy and nutrition dense foods are goals of healthy people 2020.

The investigator during his school visit in Moradabad. He has found that the knowledge among children (11–15 years) regarding prevention of obesity is very low. Majority of the children have not heard about obesity and the health problems associated with obesity. They felt shy in discussing about these kinds of topics. The health professional, especially nurses have the responsibility to teach the children regarding prevention of childhood obesity. Students are the sources of information and they can easily acquire knowledge regarding prevention of obesity.

So they will pass information from one generation to another generation.

So researcher has taken interest to educate about prevention of obesity and the importance in health care aspect. The researcher selected School near by Moradabad city and planned for the study. Further it was felt that this study will help children to acquire the methods by which the childhood obesity can be prevented.

STATEMENT OF PROBLEM

"A study to assess the effectiveness of structured teaching programme on knowledge regarding prevention of obesity among high school children studying in a selected school of moradabad, U.P.".

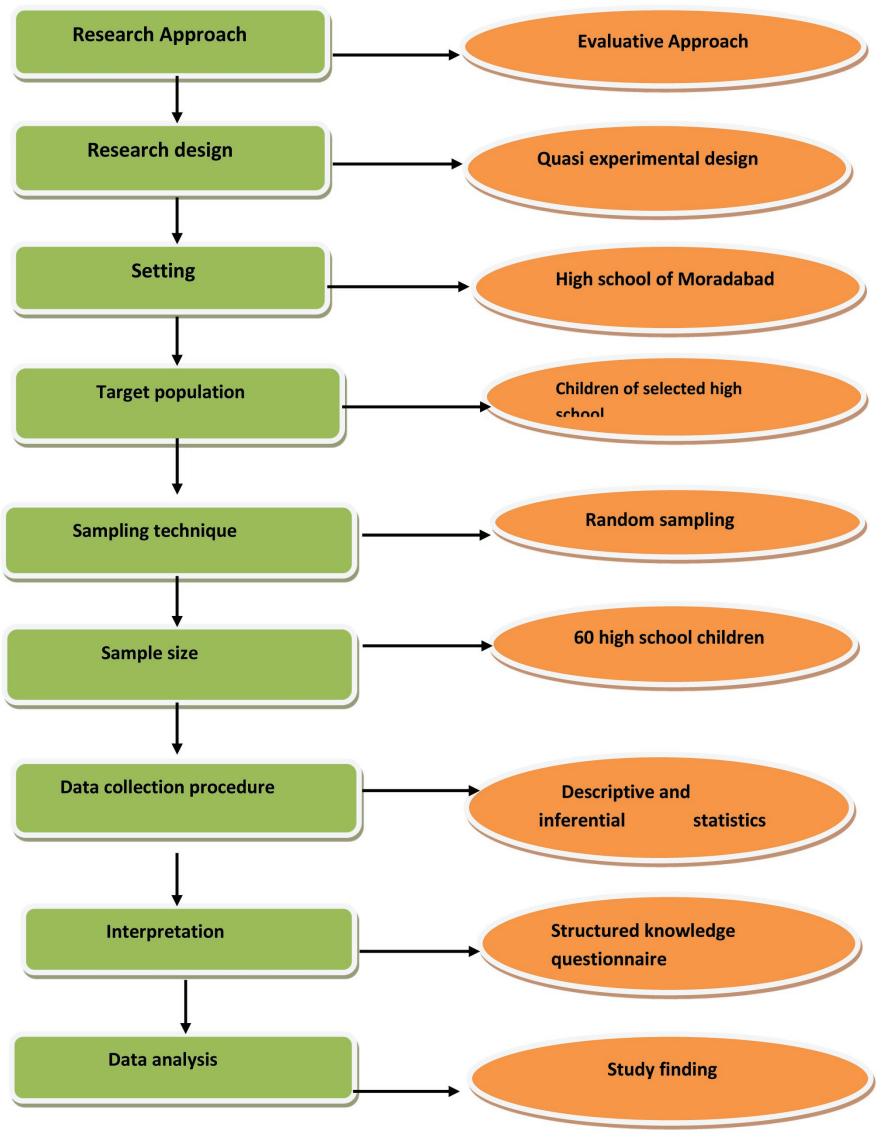
OBJECTIVES

(1) To assess the pre-test & post-test knowledge score regarding prevention of obesity among high school children studying in selected school at Moradabad.

(2) To evaluate the effectiveness of Structured Teaching Programme (STP) regarding prevention of obesity among high school children of selected school at Moradabad.

(3) To find out an association between knowledge regarding prevention of obesity with the selected demographic variables.

Research methodology:



RESULTS AND DISCUSSION

PRESENTATION OF DATA

The analyzed data has been organized and presented in the following sections:-

SECTION-1: Data on distribution of demographic variables.

SECTION-2: Data on the level of knowledge score regarding prevention of obesity.

SECTION-3: Data on effectiveness of Structured Teaching Programme on knowledge regarding prevention of obesity.

SECTION-4: Data on association between post-test knowledge score regarding prevention of obesity among high school children of a selected school of Moradabad with their demographic variables.

SECTION-1:-Description of sample characteristics:

Majority of respondents 81.66% were in the age group of 13.4 years, 58.33% of the respondent were male and 45 % of them were Hindus; 53.33% of the respondent were having the family monthly income of Rs.>20001 ; 35% of students were having family history regarding obesity.

Table :- 1 Data on distribution of Demographic variables:

S.NO.	DEMOGRAPHIC VARIABLES	FREQ-UENCY	PERCEN-TAGE
1.	Gender:		
a)	Male	35	58.33%
b)	Female	25	41%
2.	**Religion:**		
a)	Hindu	27	45%
b)	Muslim	28	46.66%
c)	Christian	2	3.33%
d)	Others	3	5%
3.	**Age:**		
a)	11-12 Years	7	11.66%
b)	13-14 Years	49	81.66%
c)	15-16 Years	4	6.66%
4.	**Class:**		
a)	7TH std	20	33.33%
b)	8th std	20	33.33%
c)	9th std	20	33.33%
5.	**Educational status:**		
a)	Primary	14	23.33%
b)	Secondary	17	28.33%
c)	Degree and Diploma	24	40%
d)	Illiterate	5	8.33%
6.	**Monthly income:**		
a)	<10,000	8	13 .33%
b)	10,001-15,000	10	16.66%
c)	15,001-20,000	10	16.66%
d)	>20,000	32	53.33%
7.	**Food Habit Adopted:**		
a)	Vegetarian	31	51.66%
b)	Non- Vegetarian	29	48.33%
8.	**Residence:**		
a)	Rural area	16	26.66%
b)	Urban area	44	73.33%
9.	**Previous Knowledge Regarding Obesity:**		
a)	Yes	34	56.66%
b)	No	26	43.33%
10.	**Family History of Obesity:**		
a)	Yes	21	35%
b)	No	39	65%

SECTION-2

Data on the level of knowledge regarding prevention of childhood obesity among children studying in selected schools of Moradabad.

1. Pre-test result revealed that 55% of the students

had adequate knowledge, 41.66% had moderate level of knowledge and 3.33% had inadequate knowledge regarding prevention of childhood obesity.

2. Post-test results revealed that 100% of the students had adequate knowledge regarding prevention of childhood obesity.

3. It was thus inferred that the Structured Teaching Programme on knowledge regarding prevention of childhood obesity was effective.

Table No. 2 : Pre test and post test knowledge score and their grading.

S. No.	Level of knowledge regarding prevention of childhood obesity	Pre-test		Post-test	
		N	Percentage	N	Percentage
1.	Adequate (>65%)	33	55%	60	100%
2.	Moderate (36-65%)	25	41.66%	–	Nil
3.	Inadequate (<35%)	2	3.33%	–	Nil

SECTION – 3

Data on effectiveness of Structured Teaching Programme on knowledge regarding prevention of childhood obesity among high school children studying in a selected school of Moradabad.

Table No. 3: Mean, standard deviation, mean difference and paired "t" value of pre-test and post-test knowledge scores. **N=60**

S. NO.	GROUP	MEAN	STANDARD DEVIATION	MEAN DIFFERENCE	't' VALUE
	EXPERIMENT				
1.	a) Pre-test	13.21	3.13		
				5.88	8.52
2.	b) Post-test	19.08	4.43		

This table reveals that mean post-test knowledge score 19.08 is greater than mean pre-test knowledge score of 13.31. The obtained mean difference is 5.88 meanwhile the "t" value was 8.52 that is significant. This indicated that the difference obtained in the mean pre-test and post-test knowledge score is true difference and not by chance, hence **H_1 is accepted.**

Therefore, it is concluded that the Structured Teaching Programme on knowledge regarding prevention of childhood obesity among high school children studying in a selected schools at Moradabad was effective.

SECTION – 4

Data on association between the knowledge score regarding prevention of obesity with the demographic variables.

Table 4: CHI square, 'P' value, Degree of freedom, level of significance& inference according to demographic variables.

S.no.	Demographic Variables	Chi-square	'P' Value	Level of Significant	DF	Inference
1.	Gender	7.64	5.99	0.05	2	S
2.	Age	9.58	9.49	0.05	4	S
3.	Religion	5.68	12.59	0.05	6	NS
4.	Classes	9.49	9.49	0.05	4	S
5.	Educational status	9.12	12.59	0.05	6	NS
6.	Income	8.11	12.59	0.05	6	NS
7.	Food habit	2	5.99	0.05	2	NS
8.	Residence	3.74	5.99	0.05	2	NS
9.	Knowledge	6.12	5.99	0.05	2	S
10.	Family history	4.22	5.99	0.05	2	NS

S- Significant

NS- Not-Significant

In the above table chi-square was calculated to find out an association between knowledge and selected demographic variables. There is a significant association of gender and class with knowledge level but there is no significant association of age, religion, education status, income, food habit, residence, knowledge, and family history with knowledge level.

SUMMARY, CONCLUSION AND IMPLICATIONS OF THE STUDY

The findings of the study can be used in the following areas of nursing profession.

Nursing practice:

Nursing professional working in the community as well as in the hospital can understand the importance of health education regarding prevention of childhood obesity among school children by which the awareness can be impaired to improve the health status of the children in order to enhance their health status.

Nursing profession may play a key role in prevention of childhood obesity among children.

Nursing education:

As a nurse educator, there is an abundant opportunities for nursing professional to educate the parents for the prevention of childhood obesity.

Nursing administration:

The nursing administrator can take part in developing protocols, standing orders related to designing the health education programme and strategies for the prevention of childhood obesity.

The nursing administrator can mobilize the available resources personnel towards the health education regarding prevention of childhood obesity.

Nursing Research:

This study helps the nurse researchers to develop appropriate knowledge regarding prevention of childhood obesity and this research can be used as a review of literature for others.

RECOMMENDATION

On the basis of the findings of the study, following recommendation have been made:

1. A similar study can be replicated on a large sample to generate the findings.

2. An experimental study can be undertaken with control group for effective comparison.

3. Study can be conducted by including additional demographic variables.

LIMITATION OF THE STUDY

1. The study is limited to school children studying in 7th std, 8thstd and 9th std in selected school of Moradabad.

2. The study did not used any control group

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Ethical Clearance: Approval for the study was gained from college dissertation committee on september 2014.

Sources of Funding: Self

Conflict of Interest: None

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Eating Habits and Selected Psycho-physical Parameters among Adolescent Girls in a Selected Educational Institute of Uttarakhand

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ABSTRACT

Introduction: Eating can be a way to temporarily silence or "stuff down "uncomfortable emotions, including anger, fear, sadness, anxiety, loneliness, resentment, and shame. While we are numbing our self with food, we can avoid the emotions we had rather not feel. Getting together with other people for a meal is a great way to relieve stress, but it can also lead to overeating. **Aim and Objectives:** to assess the eating habits and selected psycho-physical parameters and to find correlation between eating habits and psycho-physical parameters among adolescent girls. **Method and materials:** An exploratory research approach was adopted. Stratified random sampling technique was used in selecting setting and selection of samples. The data was collected from 252 adolescent girls from the selected educational institute of Uttarakhand. Tool used are EAT 40, and DASS for collection of data. Content validation and reliability of tool was established for all the tools. The data analysis was by using both inferential and descriptive statistical method with the help of Microsoft Excel 2013, Epi Info software and manual calculation

Result: The result shown that there was a relationship between eating habits (dieting behavior, oral control, and food preoccupation and body image perception) and selected psycho-physical parameter (stress, anxiety, depression and BMI) at 0.05 level of significance. **Conclusion:** The findings suggests that the most of the adolescent girls having poor eating habits and were associated with their selected psycho-physical parameters. There should be awareness program provided to all the adolescents to maintain healthy life style.

Keywords: *Eating Habits, Psycho-Physical Parameters, and Adolescent Girls.*

INTRODUCTION

Healthy diet is vital in order to reduce the risk of heart disease, diabetes, obesity and other common physical problems. Recent evidence also suggests that good nutrition may be just as important for our mental health and that a number of conditions, including depression, may be influenced by dietary factors[1]. Sound nutrition can play a role in the prevention of several chronic diseases, including obesity, coronary heart disease, and certain types of cancer, stroke, and type 2 diabetes. To help prevent diet-related chronic diseases, researchers have proposed that healthy eating behaviors should be established in childhood and maintained during adolescence[2].

Our eating pattern affects our feelings. It tastes great and nourishes our bodies. When eaten in too little or in excessive quantities, however, our health and appearance can be altered, which can create negative feelings toward food. By learning how to make better choices, we might be able to control compulsive eating, binging, and gaining weight. In addition to better appetite control, we might also experience feelings of calmness, high energy levels, or alertness from the foods you eat. Experts believe there are many factors that can influence our feelings about food and our eating behaviors, include: Cultural factors, Evolutionary factors, Social factors, Familial factor, and Individual factors. There also are positive and negative consequences associated with eating. For example, food

might help us to cope with negative feelings in the short-term. In the long term, however, coping with stress by eating can actually increase negative feelings because we aren't actually coping with the problem causing the stress. Further, our self-image might become more negative as we gain weight[3].

Need for the study:

In the Indian scenario, even with the growing awareness about health and fitness, more than 3 percent (3crores) of the Indian population is obese. The awareness about the mechanisms of identification, prevention and treatment of severe obesity than ever before[4].

National and population-based surveys have found that adolescents often fail to meet dietary recommendations for overall nutritional status and for specific nutrient intakes. Many adolescents receive a higher proportion of energy from fat and added sugar and have a lower intake of a vitamin A, folic acid, fiber, iron, calcium, and zinc than is recommended. The low intake of iron and calcium among adolescent girls is of particular concern. Iron deficiency can impair cognitive function and physical performance, and inadequate calcium intake may increase fracture risk during adolescence and the risk of developing osteoporosis in later life[5].

Objectives-

1. To assess eating habits and selected psycho-physical parameters among adolescent girls.

2. To find the relationship between eating habits and psycho-physical parameters among adolescent girls.

Hypothesis -

H1- There will be relationship between eating habits and psycho-physical parameters among adolescent girls.

METHOD AND MATERIALS

A cross sectional study was conducted at selected educational institutes of Uttarakhand in 2014-15. Stratified random sampling technique was used in selecting setting and selection of samples, includes 252 adolescent girls between the age group 14 to 19 years, studying in different educational institutes of Uttarakhand. A Performa was prepared to collect demographic characteristics of participants which includes age, present living place, residence, family type, type of diet, family income. To assess eating habits and depression, anxiety &stress DASS[6], and EAT 40[7] standard questionnaires were used respectively. All the questionnaires were translated in Hindi language with the help of expert in Hindi language.

RESULTS

Section A: Describe about Demographic variables of adolescent girls

The sample of the study includes 252 adolescent girls of school and college of Uttarakhand. Sociodemographic characteristics include age, class, present residence, and living place, type of family, diet pattern, family income, height and weight.

Table 1: Frequency, Percentage, Mean, and Standard Deviation of Demographic variable of adolescent girls n=252

S. no	Characteristics		Frequency	Percentage
1.	Age	14-16 years	107	42.5
		17-19 years	145	57.5
		Mean ± SD	**16.85 ± 1.57**	
2.	Studying in	School	122	48.2
		College	130	51.2
3.	Present residence	Home	175	69.2
		Hostel/Rented	77	30.4

Cont... **Table 1: Frequency, Percentage, Mean, and Standard Deviation of Demographic variable of adolescent girls n=252**

4.	**Type of family (those staying at home) (n=175)**	Nuclear family	132	75.5
		Joint family	43	24.5
5.	**Living place**	Urban (main city)	97	38.3
		Semi urban	71	28.1
		Rural (village)	84	33.2
6.	**Types of diet**	Vegetarian	140	55.6
		Non-vegetarian	112	44.2
7.	**Family income**	Up to 10,000	120	47.6
		11,000 to 20000	57	22.6
		Above 21,000	75	30.1
		Mean ± SD	**18685.71 ± 18070.02**	
8.	**Body weight (in kg)**	Up to 40	50	19.8
		41-50	130	51.6
		51-60	52	20.6
		61 and above	20	7.9
		Mean ± SD	**48.6±9.07**	
9.	**Height (in cm²)**	Up to150 cm	43	17.1
		151 to 160 cm	156	61.9
		161 & above	53	21
		Mean ± SD	**156.58±5.82**	

Table no 1 shown that the frequency and percentage distribution of demographic characteristics of study participants. 107 (42.7%) were in the group of age 14-16 years and majority 145(57.5%) of the total sample were with the age group 17-19 years. The mean age of participants was 16.85 years with the standard deviation 1.57 years. 122 (48.2%) were studying in school and 51.8 (130%) are studying in college. Majority 175 (69.2%) were presently reside at home, 77 (30.4%) were reside at hostel/rented house. Presently those who were presently reside at home out of total participants majority 75.5 (132%) were staying with nuclear family at home and 24.5 (43%) were reside at home with joint family. More than one third out of all participant about 38.3 (97%) are living in urban city, 28.1 (71%) were living in semi urban area and 33.2 (84%) were living in urban area. More than half 140 (55.6 %) were vegetarian and 112 (44.2%) were non-vegetarian. Among 252 adolescent girls majority 120 (47.6%) were had up to 10,000 rupees family income, 57 (22.6%) were had 11,000 to 20,000 rupees family income, 75(30.1%) had above 21,000 rupees family income. The mean family income of the participants was 18685.71 rupees with 18070.02 rupees standard deviation. Among 252 adolescent girls majority 61.9% of adolescent girls were having height between 151to 160 cm, 17.1% were having 141 to 150 cm and 21% were having above 161cm. The mean height of participants is 156.58 cm and standard deviation is 5.82. Among 252 adolescent girls majority 51.6% were having weight between 41-50 kg, 19.8% were having below 40 kg 20.6% were having 51-60 kg weight and 7.9% were having above 61 kg weight. The mean of weight is 48.6 kg and standard deviation is 9.07kg.

Section – B

Describes about psychophysical parameters among adolescent girls

Objective 1: To assess eating habits and selected psychological parameters among adolescent girls

Table 2: Frequency, Percentage, Mean and SD of eating habits among adolescent girls n=252

S. no	Eating habit criteria	Grade	Frequency	Percentage	Mean ± SD
1.	Dieting behavior	Always (1-2)	160	63.5	46.88 ± 12.75
		Sometimes (3-4)/ Never (5-6)	92	36.5	
1.	Oral control	Always (1-2)	147	58.3	20.03 ± 6.54
		Sometimes (3-4) /Never (5-6)	105	41.7	
2.	Food preoccupation	Always (1-2)	112	44.4	33.11 ± 7.58
		Sometimes (3-4) / Never (5-6)	140	55.6	
3.	Body image	Always (1-2)	190	75.4	8.54 ± 3.58
		Sometimes (3-4)/ Never (5-6)	62	24.6	
4.	**Overall eating habit**				114.84 ± 25.39

It was found that 114 (44.8%) girls had mild to moderate anxiety, 65 (25.8%) were in severe to extreme anxiety state. The mean and standard deviation scores of anxiety was 11.85 ± 6.22. stress was severe/extreme level among 42 (16.7%) adoloscent girls. The mean and standard deviation scores of stress was 16.89±7.84. Of 252, 60 (23.8%) had mild to moderate depression level, and 32 (12.6%) were had severe to extremely depression level. The mean and standard deviation was 12.21 ± 6.54.Results showed that 104 (41.3%) girls were underweight, and very few 22 (8.7%) were overweight and obese. The mean and standard deviation BMI score was 19.82 ± 3.5. (table 3)

Psycho- physical parameters

Table 3: Frequency & Percentage, Mean and standard deviation of psychological parameter among adolescent girls n=252

S. no.	Parameters		Grade	Frequency	Percentage	Mean ±SD
1.	**Psychological parameters**	**Anxiety**	Normal (0-7)	74	29.4	11.85 ± 6.22
			Mild to Moderate (8-14)	114	44.8	
			Severe to Extremely severe (15-42)	65	25.8	
		Stress	Normal (0-14)	118	46.8	16.89 ± 7.84
			Mild to Moderate (15-25)	92	36.5	
			Severe to Extremely severe (26- 42)	42	16.7	
		Depression	Normal (0-9)	160	63.4	12.21 ± 6.54
			Mild to Moderate (10-20)	60	23.8	
			Severe to Extremely severe (21-42)	32	12.6	
2.	**Physical parameters**	**Underweight**	>18	104	41.3	19.82 ± 3.5
		Healthy	18.5-25	126	50.1	
		Overweight & obese	25 and above	22	8.7	

This table3 shows that 74 (29.4%) were normal, 114 (44.8%) were had mild to moderate anxiety, 65 (25.8%) were had severe to extreme anxiety. The mean and standard deviation of anxiety was 11.85 and 6.22 respectively. 118 (46.8%) were normal, 92 (36.5%) were had mild to moderate stress, 42 (16.7%) were had severe to extreme stress. The mean and standard deviation of stress was 16.89 and 7.84 respectively. 160 (63.5%) were normal depression, 60 (23.8%) had mild to moderate depression level, 32 (12.6%) were had severe to extremely depression level. The mean and standard deviation was 12.21 and 6.54 respectively. Among 252 of adolescent girls 104 (41.3%) were underweight, majority 126 (50.1%) were showing healthy, very less 22 (8.7%) were overweight and obese. The mean and

standard deviation was 19.82 and 3.5 respectively.

Section – C (Describes about objectives of study)

Objective 2:- To find the relationship between eating habits and psycho-physical parameters of adolescent girls.

(A) Eating habits with physical parameters:

In order to find out correlation of eating habits with selected psychophysical parameters parametric correlation test was computed. The obtained findings were presented in table 4, 5, 6, and 7. To test the statistical relationship following research hypothesis was tested:

H1: There was significant relationship of eating habits and selected psycho-physical parameters among adolescent girls at 0.05 level of significance.

Table 4: Correlation between eating habits and physical parameter (BMI) n=252

S. no.	Variables	Mean	SD	r value	p value
1.	**Dieting behavior**	38.54	10.61	0.007	0.91
	BMI	19.82	3.50		
2.	**Oral control**	20.04	6.54	-0.040	0.52
	BMI	19.82	3.50		
3.	**Food preoccupation**	33.12	7.87	-0.171	0.00
	BMI	19.82	3.50		
4.	**Body image**	8.55	3.58	-0.209	0.00
	BMI	19.82	3.50		

(p value <0.05 level)

It was found that there was no significant relationship between dieting behavior and oral control with BMI, but there was poor negative significant relationship between food preoccupation and body image with BMI at the level of <0.05. As BMI increases their food preoccupation and body image perception also decreases. (table 4)

(B) Eating habits and psychological parameters:

Table 5: Correlation between eating habit and anxiety n=252

S. No.	Eating habits with anxiety	Mean	SD	r value	p value
1.	**Dieting behavior**	38.54	10.61	0.328	0.00
	Anxiety	11.85	6.22		
2.	**Oral control**	20.04	6.54	0.225	0.00
	Anxiety	11.85	6.22		
3.	**Food preoccupation**	33.12	7.87	0.238	0.00
	Anxiety	11.85	6.22		
4.	**Body image**	8.55	3.58	0.227	0.00
	Anxiety	11.85	6.22		

(p value <0.05 level)

Table 5 shown that there was a significant relationship of anxiety with dieting behaviour, oral control, food preoccupation and body image at the level of <0.05 level of significance i.e. as anxiety increases their eating habit also increases.

Table 6: Correlation between eating habits and stress n=252

S. No.	Eating habits with stress	Mean	SD	r value	p value
1.	**Dieting behavior**	38.54	10.61	0.276	0.00
	Stress	16.89	7.84		
2.	**Oral control**	20.04	6.54	0.253	0.00
	Stress	16.89	7.84		
3.	Food preoccupation	33.12	7.87	0.213	0.00
	Stress	16.89	7.84		
4.	**Body image**	8.55	3.58	0.271	0.00
	Stress	16.89	7.84		

(p value <0.05 level)

Table 6 shown that there was a significant relationship of stress with dieting behaviour, oral control, food preoccupation and body image at the <0.05 level of significance i.e. as score of stress increases their eating habits also increases.

Table 7: Correlation between eating habits and depression n=252

S. No.	Eating habits with depression	Mean	SD	r value	p value
1.	**Dieting behavior**	38.54	10.61	0.250	0.000
	Depression	10.56	6.21		
2.	**Oral control**	20.04	6.54	0.172	0.006
	Depression	10.56	6.21		
3.	**Food preoccupation**	33.12	7.87	0.085	0.177
	Depression	10.56	6.21		
4.	**Body image**	8.55	3.58	0.169	0.007
	Depression	10.56	6.21		

(p value <0.05 level)

Table 7 shown that there was a significant relationship of depression with dieting behaviour, oral control and body image except food preoccupation at <0.05 level of significance i.e. as score of depression increases their eating habits also increases.

Hence the Hypothesis H1 (research hypothesis) is accepted at the <0.05 level of significance.

DISCUSSION

• The A study on gender and disordered eating of adolescents in Israel conducted by Bracha Kartz, PhD Findings of the study were supported by a Almost 2/3rd (64%) of adolescent girls were always having dieting behaviour and rest was sometimes or never. almost 2/3rd (55%) of adolescent girls having oral control and less than half (42%) were having sometimes and never. (56%) were always having food preoccupation and less than half (44%) were having never or sometimes. 3/4th (76%) was always having body image perception and remaining (24%) were never or sometimes having body image perception[6].

• (44.8%) adolescent girls were having mild to moderate level of anxiety, 1/4th (29.4%) of the adolescents girls were normal and 1/4th (25.8%) were having severe to extremely severe anxiety. Less than half (46.7%) were normal, more than 1/4th (36.5%) were having mild to moderate level of stress and about 16% were having severe to extremely severe level of stress.

2/3rd of adolescents girls were normal, 1/4th were having mild to moderate level of depression, less than 1/4th were having severe to extremely severe level of depression. Physical parameter (BMI) categorized into 3 such as underweight, healthy weight, overweight and obese. Less than half (41.3%) were underweight, half (50%) were healthy, less than 1/4th (8.7%) were overweight and obese. The findings are supported by a qualitative school based cross sectional study on disturbed eating attitudes and behaviors in South Korean Boys and Girls conducted by Su-Jin Yang, Jae-Min Kim and Jin-Sang Yoon[7].

Findings related to relation between eating habits and psychophysical parameters:

- Relationship between eating habits and physical parameter such as dieting behaviour, oral control, food preoccupation, body image with their BMIs findings are suggestive of that there is no significant relationship between dieting behavior and oral control with BMI, but there is significant relationship between food preoccupation and body image with BMI at the level of 0.05 level. As BMI increases their food preoccupation and body image perception concurrently are also increases.

- Relationship between eating habits and their selected psychological parameters such as dieting behaviour, oral control, food preoccupation, body image and anxiety, stress, depression, the finding were suggestive of that there was a significant relationship between anxiety, stress and depression and eating habits at the level of 0.05 level of significance i.e. as score of anxiety, stress and depression increases their eating habits also increases for dieting behaviour, oral control, food preoccupation and body image.

- The following findings are supported by a quantitive study for the validity of eating attitude test among exercisers conducted by Helen J. Lane, Andrew M. Lane[8].

CONCLUSION

In conclusion, this study revealed that eating habits among adolescent girls has to be educated at home as well as in educational institutions. Various weight loss dietary behaviors were some of the unhealthy eating behaviors showed by adolescent girls. As adolescents are future adults, promotion of healthy eating that emphasize on the importance of regular intakes of main meals is essential for their present and future health and well-being. Also when a good eating habits developed, adolescent girls can be prevented getting psychological ailment such as depression, anxiety etc.

Conflict of Interest: Nil

Source of Funding: Self

Ethical Consideration: ethical permission taken from ethical committee of our institute (Swami Rama Himalayan University) and Directors and principals of selected educational institutes.

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Effectiveness of Animated Cartoon Video as a Distraction Strategy on Pain Perception During and after Venipuncture among Preschoolers

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ABSTRACT

Background: Venipuncture is a minor invasive procedure, but for children it is also accompanied by pain, fear and anxiety. According to the International Association for the Study of Pain, "Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage". When a child is brought to the hospital, the environment itself makes the child anxious and unsecure. Thus, the investigator intended to conduct a study to assess the effectiveness of animated cartoon video as a distracter to reduce pain during venipuncture among preschoolers.

Objectives:

1. To show the animated cartoon video to preschoolers prior to venipuncture in the experimental group.

2. To assess the pain by using modified FLACC scale in preschoolers during and after venipuncture in experimental and control group.

3. To evaluate the effectiveness of animated cartoon video in reduction of pain perception by comparing post pain assessment score between experimental and control group.

Method: The research approach adopted for the study was quantitative evaluative survey approach and the research design used was quasi experimental, non-equivalent, control group posttest only. By using non-probability purposive sampling, 32 preschoolers were selected. 16 in experimental group (Vardhan Child Hospital and Niramaya Hospital,Kolhapur) and 16 in control group (Shri Ram Hospital and Om Sai Child Hospital, Kolhapur). The content validity and reliability of the tool was done, which suggested that the tool was reliable(r =0.85). Pain scores were assessed during and after venipuncture by using modified FLACC scale. Data was tabulated and analyzed using mean, median, mode, range, standard deviation and unpaired t test. **Results:** The results of the study revealed that the calculated unpaired't' value (t_{cal} = 3.81) is greater than tabulated value (t_{tab}= 2.04) during venipuncture and the calculated unpaired't' value (t_{cal} = 5.06) is greater than tabulated value (t_{tab}= 2.04) after venipuncture. Hence H_1 is accepted. This indicates that there is statistically significant difference between the mean post assessment pain score value of experimental and the control groups. ($p < 0.05$). **Conclusion:** The present study revealed that majority of preschoolers had severe pain during venipuncture which was found to decrease after the intervention of animated cartoon video as a distraction strategy. Thus, the study concluded that animated cartoon video is effective in reducing pain perception among preschoolers.

Keywords: *Effectiveness; Distraction strategy; Pain perception; Venipuncture; Animated cartoon video.*

INTRODUCTION

Children are the most innocent and pure of the heart. They do whatever comes in their mind. Health of the children has been considered vital to all societies, as they are the future of humankind.

We see in our day today life, children are getting

admitted in clinics and hospitals. Often illness and hospitalization are the first crisis that children encounter. Children's way of reacting to this crisis depends on the age and previous experience of hospitalization. [1]

Venipuncture is one of the most commonly experienced procedures by children and 36 – 64 % of children from 3 to 6 years old, experience significant level of distress during venipuncture.[2]

According to the International Association for the Study of Pain, "Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage". Perception of pain in pediatrics, is complex and entails physiological, psychological, behavioral, and developmental factors.[3]

Melzack and Wall proposed the Gate Control Theory, which suggests that factors such as the level of attention paid to the pain, the emotion associated with the pain and past experience of the pain, play a role in how the pain will be interpreted.[4]

Pains are often treated in children by using appropriate pain management technique. Children cannot express pain in words, but they do express with their facial expression, activities and behaviors. The most convenient pain scale for children is FLACC scale (Face Legs Activity Cry Consolability). [5]

The investigator's personal experience was that, children bear significant pain and depict discomfort during venipuncture in hospitals. This, motivated the researcher to conduct a study to evaluate the effectiveness of animated cartoon video as distraction strategy to reduce pain in children.

MATERIAL & METHOD

A Quasi-Experimental, Non-Equivalent control group post test design was adopted for the present study. Prior to the data collection, permission was obtained from the authorities of the selected hospitals Kolhapur. Written assent was obtained from the parents of the preschoolers after explaining the purposes and objectives. Preschoolers were selected by using non probability purposive sampling technique and those who fulfilled the criteria of selective hospitals taken as (16) experimental and (16) control. Animated cartoon video was showed to the preschoolers in the experimental group, five minutes prior to the procedure and it was shown throughout the venipuncture procedure. No animated cartoon video was shown to the control group .Pain score of preschoolers during and two minutes after venipuncture was assessed using modified FLACC scale for both experimental group and for control group.

FINDINGS & DISCUSSION

The major findings of the study were discussed under the following sections:

I. Finding related to socio-demographic variables of preschoolers undergoing venipuncture procedure.

II. Finding related to pain scores in experimental and control group.

III. Finding related to effectiveness of animated cartoon video in reduction of pain perception by comparing post pain assessment score between experimental and control group.

Section I. Finding related to socio-demographic variables of preschoolers undergoing venipuncture procedure.

Table 1: Frequency and percentage (%) distribution of preschoolers in experimental and control group according to socio-demographic variables. (n = 32)

Sr. No	Socio-demographic variables	Exp. Group		Control Group		Total	
		(f)	(%)	(f)	(%)	(f)	(%)
1.	Age in years						
	a) 3 – 4	10	62.5	7	43.8	17	53.1
	b) 5 – 6	6	37.5	9	56.2	15	46.9
2.	Gender						
	a) Male	10	62.5	9	56.2	19	53.9
	b) Female	6	37.5	7	43.8	13	40.7

Cont... **Table 1: Frequency and percentage (%) distribution of preschoolers in experimental and control group according to socio-demographic variables. (n = 32)**

3.	Type of family						
	a) Nuclear family	11	68.8	6	37.5	17	53.1
	b) Joint family	5	31.2	10	62.5	15	46.9
4.	Habitat						
	a) Rural	12	75	9	56.2	21	65.7
	b) Urban	4	25	7	43.8	11	34.3
5.	Number of siblings						
	a) None	6	37.6	4	25	10	31.2
	b) One	9	56.2	12	75	21	65.7
	c) Two	1	6.2	0	0	1	3.1
6.	Family member present during the venipuncture procedure						
	a) If yes,						
	i. Mother	0	0	2	12.5	2	6.2
	b) No	16	100	14	87.5	30	93.8
7.	Occupation of mother						
	a) House wife	14	87.6	13	81.2	27	84.4
	b) Skilled labor	1	6.2	2	12.6	3	9.4
	c) Professional	1	6.2	1	6.2	2	6.2
8.	Past history of hospitalization						
	a) Yes, how many Times						
	i. Once	7	43.8	8	50	15	46.9
	b) No	9	56.2	8	50	17	53.1
9.	Previous experience of venipuncture						
	a) None	10	62.5	4	25	14	43.8
	b) Once	6	37.5	11	68.8	17	53.9
	c) Twice	0	0	1	6.2	1	3.1
10.	Site of venipuncture a) Upper extremity	16	100	16	100	32	100
11.	Size of needle a) 22G	5	31.2	10	62.5	15	46.9
	b) 24G	11	68.8	6	37.5	17	53.1
12.	Number of attempts						
	a) Once	14	87.5	13	81.2	27	84.3
	b) Twice	2	12.5	2	12.6	4	12.6
	c) More than three	0	0	1	6.2	1	3.1

Table 1: Revealed that,

- Majority of preschoolers 10 (62.5%) in experimental group belonged to age group of 3 - 4 years whereas maximum 9 (56.25%) of preschoolers in control group belonged to age group of 5 – 6 years.

• Majority of preschoolers10 (62.5%) in experimental group and 9(56.25%) in control group were males.

• Majority of the families in experimental group 11(68.75%) were nuclear families and on the other hand maximum 10 (62.5%) were belonged to joint families in control group.

• Majority of preschoolers 12(75%) in experimental group and maximum 9 (56.25%) in control group resided in rural areas.

• Maximum number of preschoolers 9(56.25%) in experimental group and 12(75%) in control group had one sibling.

• None of the family member 16(100%) in experimental group and 14(87.5%) in control group were present during the venipuncture.

• Majority of mothers 14(87.5%) in experimental group and 13(81.25%) in control group were housewife.

• Majority 9(56.25%) of the preschoolers in experimental group and 8(50%) in control group had no past history of hospitalization.

• Maximum number of preschoolers 10(62.5%) in experimental group had no previous experience of venipuncture whereas in control group majority 11(68.75%) had the experience of venipuncture once.

• All the preschoolers in both experimental and control groups 32(100%) had underwent venipuncture in upper extremities.

• Majority of preschoolers 11(68.75%) in experimental group had venipuncture with 24G needle and maximum 10(62.5%) had venipuncture with 22G needle in control group.

• Maximum number of preschoolers 14 (87.5%) in experimental group and 13(81.25%) in control group underwent venipuncture once.

Section II. Finding related to pain scores in experimental and control group.

Table 2: Frequency and percentage (%) distribution of pain scores in experimental and control group during venipuncture. (n = 32)

Pain Scores		Exp. group		Control group	
		(f)	(%)	(f)	(%)
Relaxed and comfortable	0	0	0	0	0
Mild	1 - 3	1	6.25	0	0
Moderate	4 - 6	9	56.25	2	12.5
Severe	7 - 10	6	37.5	14	87.5

Table 2: Revealed that , majority of preschoolers in experimental group 9(56.25%) had moderate pain and one preschooler 1(12.5%) showed mild pain whereas in control group majority of preschoolers 14(87.5%) had severe pain and 2(12.5%) had moderate pain.

Table 3: Frequency and percentage (%) distribution of pain scores in experimental and control group after 2 minutes of venipuncture. (n = 32)

Pain Scores		Exp.group		Control group	
		(f)	(%)	(f)	(%)
Relaxed and comfortable	0	4	25	0	0
Mild	1 - 3	8	50	14	87.5
Moderate	4 - 6	4	25	2	12.5
Severe	7 - 10	0	0	0	0

Table 3: Revealed that, majority of preschoolers in experimental group 8(50 %%) had mild pain and 4 (25%) were relaxed and comfortable while 4(25%) had moderate pain. In control group majority of preschoolers 14(87.5%) had mild pain whereas 2(12.5%) had moderate pain.

Table 4: Mean, median, mode, range and standard deviation of pain scores in experimental and control group during venipuncture. (n = 32)

Area of analysis	Mean	Median	Mode	Range	SD
Exp. Group (x)	5.75	5.5	4	6	1.85
Control group (y)	8.06	8	9	6	1.56
Difference (x - y)	2.31	2.5	5	0	0.29

Table 4: Indicated that, during venipuncture, the overall pain score of preschoolers in the experimental group was less than the control group by mean difference 2.31 units and median was 2.5units where mode was 5units. The variability around the mean of pain score distribution was higher by 0.29 units in experimental group and the range of between the highest and lowest score remained 0 unit after the intervention.

Table 5: Mean, median, mode, range and standard deviation of pain scores of experimental and control group after 2 minutes of venipuncture. (n = 32)

Area of analysis	Mean	Median	Mode	Range	SD
Exp. Group (x)	1.93	2	0	5	1.59
Control group (y)	4.31	4	4	4	0.98
Difference (x - y)	6.25	2	4	1	0.61

Table 5: Indicated that, after 2mins of venipuncture, the overall pain score of preschoolers in the experimental group was less than the control group by mean difference 6.25units and median was 2units whereas mode was 4units. The variability around the mean of pain score distribution was higher by 0.61 units in experimental group and the range between the highest and lowest score was higher by 1 after the intervention..

Similar finding were reported in the study done by Baljit Kaur1, Jyoti Sarin and Yogesh Kumar on effectiveness of cartoon distraction on pain perception and distress in children during intravenous injection. Their study revealed that the mean distress score of children without cartoon distraction at initiation (15.00, 14.87), at five minute (14.13, 13.73) and at termination (12.37, 12.17) of intravenous injection were higher than the mean distress score of children with cartoon distraction at initiation (6.80, 6.65), at five minute (5.77, 5.50) and at termination (3.87, 4.50) of intravenous injection on day 1 and day 2 respectively. It further showed that t value calculated between mean distress score of children with and without cartoon distraction at initiation (t (29)=11.57, 17.80), at five minute (t (29)=12.61, 19.48) as well as at termination (t (29)=13.57, 14.39) of administration of intravenous injection were found to be statistically significant at 0.05 level of significance.[6]

Section III. Finding related to effectiveness of animated cartoon video in reduction of pain perception by comparing post pain assessment score between experimental and control group.

Table 6: Mean difference, Standard error (SE) and Unpaired 't' values of pain scores of preschoolers in experimental and control group during and after 2 minutes venipuncture. (n = 32)

Area of analysis	Mean difference	Standard error difference (SED)	Unpaired 't' values	
			Calculated	Tabulated value
During venipuncture	1.15	0.29	3.81	2.04
After 2 minutes of venipuncture	1.18	0.26	5.06	2.04

Table 6. Revealed that, the calculated unpaired 't' value (t_{cal} = 3.81) is greater than tabulated 't' value (t_{tab}= 2.04) during venipuncture and the calculated unpaired 't'' value (t_{cal} = 5.06) is greater than tabulated 't' value (t_{tab}= 2.04) after venipuncture .This indicates that there is statistically significant difference between the mean post assessment pain score value of experimental and the control groups. ($p < 0.05$).

The finding of this study were supported by the study done by Ms. Melba Roshini Lobo in Mangalore on effectiveness of cartoon distraction reduces venipuncture pain among preschoolers. The present study showed that the mean post test score of the experimental group (5.9) is lesser than the mean post test score (8.7) of the control group. The independent't' value computed between the pain score of preschoolers in experimental and control group was statistically significant at 0.05 level of significance. The calculated't' value (t=7.3) was greater than the table 't' value (t=1.66). This indicates that the cartoon distraction was effective on pain during venipuncture in preschoolers.[7]

CONCLUSION

Hence, it is proved that animated cartoon video is effective as a distraction strategy on pain perception among preschoolers. These findings will be helpfull in areas of Nursing Education, Nursing Practice, Nursing Administration and Nursing Research.

Conflict of Interest: None

Source of Funding: Self

Ethical Clearance – Permission received from D.Y. Patil Deemed University, Kolhapur.

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Effectiveness of Quadriceps Strengthening Excercises on Knee Joint Pain among Women

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ABSTRACT

Background: Arthritis pain naturally causes most adults to slow down and restrictions in activity. A systematic review of pain in the knee in older adults reported that during a one year period, a quarter of people aged over 55 have an episode of persistent knee pain, around half of whom report associated disability. Quadriceps muscle strengthening exercises are a common intervention in the management of knee osteoarthritis. It is assumed that, in healthy knees the quadriceps muscle strength prevents new osteoarthritis, and in arthritic knees greater strength may protect joints and thereby delay osteoarthritis progression.

Objectives:

1. To identify the knee joint pain experienced by women as measured by modified WOMAC scale in control and experimental groups.
2. To demonstrate Quadriceps strengthening exercises to women with knee joint pain in experimental group.
3. To evaluate the effectiveness of Quadriceps strengthening exercises among women in experimental group.
4. To compare knee joint pain scores among women between experimental and control groups**.**

Materials and Method: A Quasi-Experimental, Non-Equivalent control group pre-test post test design was adopted for the present study. Subjects were selected by non-probability , purposive sampling. Prior to the data collection permission was obtained from the authorities of the selected old age homes. The researcher after introducing self and describing the objectives ,obtained consents from the participants. Modified WOMAC scale was used to assess the knee joint pain scores. After the pre-assessment for both the groups, intervention was carried out for 30 days in experimental group only after which post-assessment was carried out for both the groups.

Results: The results of the study revealed that the significance of difference between mean pre-assessment and post-assessment knee joint pain score which was tested using paired 't' test and was found to be significant at 0.05 level of significance. The obtained 't' value,t_c=30.40 (df=29) and the significance of difference between the mean post-assessment knee joint pain scores in experimental and control group which was tested using independent 't' test was found to be significant at 0.05 level of significance. The obtained 't'value,t_c=19.05,df=58.

Conclusion: The present study revealed that majority of women had severe knee joint pain which was found to decrease after the intervention of quadriceps strengthening exercises. Therefore it was concluded that the Quadriceps strengthening exercises was very effective in reducing the knee joint pain.

Keywords: *Effectiveness; Women; Quadriceps strengthening exercise*

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INTRODUCTION

Knee pain is known to be a major cause of disability and is especially prevalent in those people who are aged over 50[1]. Much of this knee pain is caused by osteoarthritis, the most common form of joint disease and a leading cause of lower limb disability in older

people[1]. As per WHO(2015)worldwide estimates are 9.6% of men and 18.0% of women aged over 60 years have symptomatic osteoarthritis [2].

According to Doctor Shreedhar Archick, Consultant Orthopaedic Surgeon, Lilavati Hospital, Mumbai; India is the second largest to have the knee-osteoarthritis patients globally[3]. It affects over 15 million Indians each year. About 20 years ago Osteoarthritis was known as a disease of the elderly affecting those above the age of 65 years. However orthopaedicians are increasingly diagnosing younger people in the age group of 35-55 years[3]. As a women approaches menopause, typically between the ages of 45 to 55, her body goes through drastic hormonal fluctuations that causes joint pain. Quadriceps strength is an important factor to target because weakened quadriceps muscles may increase joint stress from decreased ability to attenuate loads across the joint. Additionally quadriceps weakness may play a role in the etiology and progression of osteoarthritis[4].

As per Howel D, quadriceps muscle strength protects against new osteoarthritis. The rational for doing quadriceps strengthening exercises for knee with osteoarthritis was, if the size and stiffness of muscle surrounding a joint in increased stress can be absorbed in the muscle instead of being transmitted to the bones and joints.[5]

Thus the investigator would like to take up the present study to assess the effectiveness of these quadriceps strengthening exercises on the old age women and reduce the further complications as well improve their quality of life and performance in daily activities.

MATERIALS AND METHOD

The research approach adopted for the study was evaluative survey and the research design was Quasi experimental. By using non-probability, purposive sampling 30 women from the experimental group and 30 women from control group were selected. Modified WOMAC scale was used to assess the knee joint pain scores. Pre-assessment of women with knee joint pain scores were done in both the groups after which the Quadriceps strengthening exercises were demonstrated in experimental group only for 30 days. The post-assessment was done after the thirtieth day for both the experimental and control group. Data were analyzed by using mean, median, mode, standard deviation, range, paired 't' test and unpaired 't' test.

Exercises performed were:

1. Flexion to extension exercise
2. Quadriceps sets
3. Straight leg raise
4. Hamstring Curls

FINDINGS AND DISCUSSION

I: Description and findings related to selected socio-demographic variables

Table 1: Frequency and percentage distribution of women with knee joint pain according to socio-demographic variables. n= 60

Sr. no	Variables	Experimental Group (30)		Control group (30)		Total	
		(f)	(%)	(f)	(%)	(f)	(%)
1.	**Age(Years)**						
	a)50-65	15	50	13	43.3	28	46.7
	b)66-80	14	46.7	16	53.3	30	50
	c)81-95	01	3.3	01	3.3	02	3.33
2.	**Marital Status**						
	a)Married	09	30	18	60	27	45

Cont... **Table 1: Frequency and percentage distribution of women with knee joint pain according to socio-demographic variables. n= 60**

	b)Unmarried	00	00	03	10	03	05
	c)Widow	17	56.7	08	26.7	25	41.66
	d)Separated	03	10	01	3.33	04	6.7
	e)Divorced	01	3.3	00	00	01	3.3
3.	**Type of diet**						
	a)Vegetarian	06	20	13	43.33	19	31.7
	b)Mixed	24	80	17	56.7	41	68.3
4.	**Consumption of Milk**						
	a)Sometimes	02	6.7	07	23.3	09	15
	b)Never	28	93.3	23	76.7	51	85
5.	**Age at menarchy**						
	a)11-12years	16	53.33	05	16.7	21	35
	b)13-14years	14	46.7	25	83.3	39	65
6.	**Age at menopause**						
	a)40-42 years	12	40	08	26.7	20	33.3
	b)43-44 years	12	40	16	53.3	28	46.7
	c)45-46 years	06	20	06	20	12	20
7.	**Ill-habits**						
	a)Tobacco	05	16.7	03	10	08	13.3
	b)No	25	83.3	27	90	52	86.7
8.	**Family history of knee joint pain**						
	a)Yes	16	53.3	22	73.3	38	63.3
	b)No	14	46.7	08	26.7	22	36.7
9.	**Pain in knees**						
	a)Both the knees	28	93.4	28	93.33	56	93.3
	b)Right knee	01	3.33	02	6.7	03	05
	c)Left knee	01	3.33	00	00	01	3.3
10.	**Pain experienced**						
	a) 1-3 years	26	86.7	25	83.3	51	85
	b)4-6 years	02	6.6	04	13.3	06	10
	c)7-9 years	02	6.6	01	3.33	03	05
11.	**Daily exercise (Walking)**						
	a)Yes	03	10	04	13.33	07	11.7
	b)No	27	90	26	86.7	53	88.3

Table 1 indicates : 1.Majority of women 15 (50%)in experimental group belonged to the age group of 50-65 years and maximum 16 (53.33%) of women in control group belonged to 66-80 years of age

2. Majority of the women in the experimental study 17 (56.6%) were widow while in control group majority of the women 18 (60%) were married

3. Majority of the samples in experimental group 24 (80%) consumed mixed diet and majority of the samples in control group 17 (56.7%) consumed vegetarian diet

4. Majority of women 28 (93.3%) in the experimental group and 23 (76.7%) in control group never consumed milk.

5. Maximum number of women 16 (53.33%) in experimental group experienced their menarche at the ages of 11-12 years and in control group maximum number of women 25 (83.3%) experienced their menarche at the ages of 13-14.

6. Majority of women in the experimental group 12 (40%) mentioned their menopause to be between 40-42 years of age whereas majority of women in control group 16 (53.33%) mentioned their menopause to be between 43-44 years of age

7. Majority of women 25 (83.3%) in experimental group and 27 (90%) in control group had no ill habits.

8. Maximum number of women 16 (53.33%) in experimental group and 22 (73.3%) in control group mentioned the family history with knee joint pain.

9. Majority of women in both groups 56 (93.3%) had bilateral knee joint pain

10. The pain experience mentioned by most women in experimental group 26 (86.7%) is pain lasting since 1-3 years and women in control group 25 (83.3%) had pain lasting since 1-3 years.

11. Majority of women in experimental group 27 (90%) and 26 (86.7%) in control group did not perform any exercises.

Section II: Analysis and interpretation of knee joint pain scores of subjects in experimental and control group.

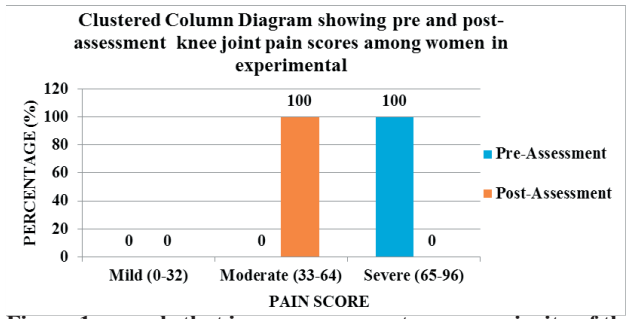

Figure 1: reveals that in pre-assessment scores majority of the women 30(100%) had severe knee joint pain whereas in post-assessment scores it can be observed that the knee joint pain in women 30(100%) of experimental group is moderate.

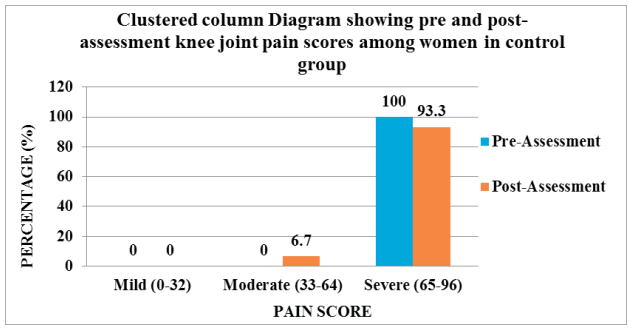

Figure 2: Reveals that in pre-assessment score majority of the women 30(100%) had severe knee joint pain whereas in post-assessment scores it can be observed that the knee joint pain in majority women 28(93.3%) is severe whereas 2(6.7%) of the pain in women is moderate.

The obtained pre assessment mean value for the knee joint pain score in experimental group was70.9 and in control was 70.96.The mean difference value is 0.06. This shows that there is not much difference in the knee joint pain scores among women in experimental and control group.

Section III: Testing of hypothesis for effectiveness of quadriceps strengthening exercises on knee joint pain scores among women with knee joint pain in experimental group.

H_1-The mean post-assessment knee joint pain score of subjects in experimental group exposed to Quadriceps strengthening exercises is lower than mean pre-assessment score as measured by modified WOMAC Scale at 0.05 level of significance.

Table 2: Mean difference, Standard error (SE) and Paired 't' values of pain score of women with knee joint pain in experimental group. n=30

Mean Difference	Standard Error (SE)	Paired 't' Values		df
		Calculated	Tabulated	
24.63	1.28	30.40	2.05	29

Table 2 :Reveals that the obtained mean difference between pre assessment and post assessment knee joint pain scores in experimental group was 24.63.Tabulated 't' value(t_{tab}=2.05) is less than calculated 't' value (t_{cal}=30.40) . Hence H_1 is accepted .i.e. H_1:$\mu \neq \mu_0$ This indicates that reduction in knee joint pain is statistically significant at P<0.05 level.

Therefore it can be inferred that the mean post assessment knee joint pain score of women in experimental group exposed to quadriceps strengthening exercises was lower than the mean pre-assessment score, thus the Quadriceps strengthening exercises was effective in reducing knee joint pain in women.

The findings of this study is supported by the randomized controlled trial conducted on effect of proprioceptive exercises and strengthening exercises in knee osteoarthritis by Maggo A et al., in Delhi. All the groups significantly improved in VAS and WOMAC scores after intervention. This study between three groups comparing conventional treatment to strengthening and proprioceptive exercises suggest that combination of the two brings better relief to the subjects of knee OA in reducing pain and functional disability. The Visual Analogue Scale scores showed significant difference between the groups at the end of 2 weeks(p=0.002),3 weeks(p=0.000) and 4 weeks(p=0.000) of proprioceptive and strengthening exercises training. Between group analysis of WOMAC scores suggested that there was significant difference between all the groups(p=0.000)[6].

Section IV: Testing of hypothesis for comparison of post assessment knee joint pain scores among women in experimental and control groups.

H_2: The mean post-assessment score of subjects who are exposed to Quadriceps strengthening exercises in experimental group is lower than the mean post assessment score of subjects in control group.

Table 3: Mean difference, Standard error Difference (SED) and unpaired 't' values of pain score of women with knee joint pain in experimental and control group. n=60

Mean Difference	Standard Error Difference (SED)	Unpaired 't' Values		df
		Calculated	Tabulated	
24.76	0.67	19.05	2.00	58

Table 3 :Reveals that the obtained mean difference between post assessment knee joint pain scores in experimental and control groups was 24.76.Tabulated 't' value (t_{tab}=2.00) is less than calculated 't' value (c_{cal}=19.05) .Hence H_2 is accepted .i.e. H_2:$\mu \neq \mu_0$. This indicates that reduction in knee joint pain is statistically significant at P<0.05 level.

Therefore it can be inferred that the mean post assessment knee joint pain score of women in experimental group exposed to Quadriceps strengthening exercises was lower than the mean post -assessment score of women in control group. So it is found that the Quadriceps strengthening exercises were more effective in reducing knee joint pain among women.

The findings of this study is supported by the Quasi experimental to study the Effectiveness of Quadriceps Strengthening Exercises on Knee Joint Pain among Women in Selected Villages was conducted by Joseph A, among 64 women in selected villages at Udupi, Karnataka. The readings of variables were analyzed using ANOVA and showed that the mean of O1 is greater than O2 and mean of O2 greater than mean of O3 in experimental group and that there was not much difference in the values of means of Observations in control group. Thus showed that there was a significant reduction in the intensity of knee joint pain (p=0.05)

during the 5 weeks of Quadriceps strengthening exercises training in the experimental group[7].

CONCLUSION

Hence it can be concluded that Quadriceps strengthening exercises were helpful in reducing knee joint pain among women. This findings will be helpful in areas of Nursing research, Nursing education, Nursing administration and Nursing practice.

Conflict of Interest: None

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Ethical Clearence: Permission received from D.Y.Patil University, Kolhapur.

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Functional Improvement of Bipolar Affective Disorders

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ABSTRACT

Bipolar disorder has traditionally been associated with a better outcome than schizophrenia because of a presumed absence of cognitive impairment and seemingly normal functioning between episodes. Thus, generally little attention has been given to psychosocial outcomes in patients with bipolar disorder. However, in contrast to early studies, recent studies point to a significant degree of psychosocial dysfunction even when patients are euthymic. Recent attention has focused on the need to develop therapeutic strategies that allow patients with bipolar affective disorder to return to a premorbid level of function. With appropriate drug treatment, only about 40 percent of recovered patients will suffer relapses. Mood stabilizers, ECT, and psychotherapy are the treatment modalities for bipolar disorder. Along with traditional treatment psychosocial interventions also improves the functional ability of the Bipolar clients.

Keywords: *Bipolar disorders, functional improvement.*

INTRODUCTION

Bipolar disorder is a common, chronic and severe mental disorder, affecting approximately1-2% of the adult population. Bipolar disorder causes substantial psychosocial morbidity that frequently affects the patient's marriage, children, occupation, and other aspects of the patient's life. Few studies have examined the functional impairment in patients with affective illness.

Bipolar disorder is a very serious condition associated with impulsive and self-destructive behavior[1]. Bipolar suicidal thoughts behaviors are frequent, as are impulsive sexual behaviors and reckless spending. Not surprisingly, families are frequently deeply affected by their bipolar member, and themselves experience a range of deeply felt emotions, not the least of which is a sense of helplessness to fix bipolar symptoms. With appropriate drug treatment, only about 40 percent of recovered patients will suffer relapses. (Source: NIMH, 2005). Mood stabilizers, ECT, and psychotherapy are the treatment modalities for bipolar disorder.

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NEED AND SIGNIFICANCE

The Prevalence Rate for bipolar disorder is approximately 1.1% of the population over the age of 18 or, in other words, at any one time as many as 51 million people worldwide suffer from bipolar disorder, including;

- 12 million people in China
- 8.7 million people in India
- 2.2 million people in USA
- 285,000 people in Australia
- Over 280,000 people in Canada
- Over 250,000 diagnosed cases in Britain
- The United States had the highest prevalence rate of bipolar spectrum (4.4 percent), while India had the lowest rate (0.1 percent). More than half of those with bipolar disorder in adulthood note that their illness began in their adolescent years[2].

Bipolar disorder has traditionally been associated with a better outcome than schizophrenia because of a presumed absence of cognitive impairment and seemingly normal functioning between episodes[3]. Thus, generally little attention has been given to psychosocial outcomes in patients with bipolar disorder[4]. However, in contrast to early studies[3-4], recent studies point to

a significant degree of psychosocial dysfunction even when patients are euthymic[5,6].

• Functioning is a complex concept since it involves the capacity to work, study, live independently and engage in recreation and romantic life[4]. Functional recovery has been described as the ability to achieve the level of functioning prior to the most recent episode[5]

Bipolar disorder is a complex disorder of mood and behavior that requires a multimodal treatment approach. In the past 10 years there has been growing interest in psycho educational interventions delivered as adjuncts to conventional management.

The functional consequences of bipolar disorders are staggering. Bipolar disorder is the 6th leading cause of years lost to disability among all medical conditions according to World Health Organization 2001 report.

Bipolar disorder (BD) represents a chronic and recurrent illness that can lead to severe disruptions in family, social, and occupational functioning. The severity of mood symptomatology has been associated with functional impairment in this population. However, the majority of studies have assessed global functioning without considering specific domains.

Studies related to functional improvement of Bipolar disorders

There are relatively few studies conducted on the functional improvement in bipolar disorder.

Tobias Drieling et al 2010[7] conducted study on Interpersonal and instrumental functioning of patients with bipolar disorder in Germany. The findings were correlated with potentially influencing factors. The sample included 32 outpatients with bipolar disorder and 33 healthy controls. The Life Functioning Questionnaire (LFQ) and clinical ratings for manic and depressive symptoms were applied. Patients differed significantly from controls in each domain of social functioning. They reported substantial interpersonal problems (47% vs. 13% control) and difficulties with their work and/or with duties at home (39% vs.12%). Amongst patients being euthymic, fewer were found to have interpersonal problems (23%) and difficulties at work and/or with duties at home (15%). Social and instrumental functioning was found mainly influenced by depressive symptoms. Study concluded that Bipolar disorder is related to a significant impairment of instrumental and interpersonal functioning. This impairment depends mainly on remaining depressive symptoms.

Miklowitz and colleagues have pioneered family-focused[8-12] psychoeducational treatments for bipolar disorder (2000, 2003and 2008. Their family-focused treatment involves all available immediate family members in 21 one-hour sessions delivered over 9 months (12 weekly, then 6 fortnightly, then 3 monthly). It comprises three consecutive modules:

Psychoeducation focusing on the signs and symptoms of bipolar disorder, the etiology of bipolar episodes according to a stress-vulnerability model and the development of strategies to prevent relapses; communication enhancement training sessions using role-play and between-session rehearsal to teach skills for active listening, ways to deliver positive and negative feedback and constructive ways to request changes in behavior; Problem-solving skills training sessions in which participants learn to identify specific family problems that might contribute to relapse and develop skills for finding acceptable solutions to these problems.

Colom & Vieta[13] in Barcelona have developed a group psychoeducation programme for people with bipolar disorder. This intervention comprised 21 sessions of 90 minutes delivered weekly by two psychologists to groups of between 8 and 12 patients. Four main areas are targeted: illness awareness; adherence to treatment; early detection of prodromal symptoms and recurrences; and lifestyle regularity. Each session begined with a 30–40 minute presentation on the topic of the day, followed by a related exercise (for example, drawing a life chart or compiling a list of potential triggers for relapse) and concludes with a group discussion.

Six randomized controlled trials involving 468 patients carried out by four independent research teams in three countries show the efficacy of interventions that involve the identification and management of early warning symptoms of mania and depressive episodes (Perry *et al*, 1999; Lam *et al*, 2000; Miklowitz *et al*, 2000; Colom *et al*, 2003, 2004; Lam *et al*, 2003,2005).[1415]

Additional efficacy against depressive relapses has been achieved with the use of more experienced therapists and the provision of lifestyle advice, including teaching patients additional coping mechanisms and communication techniques, and problem solving for dealing with the first symptoms of depressive relapse (Lam *et al*, 2003, 2005; Colom *et al*, 2003,2004). In a

Randomized controlled trial, Psycho social interventions have been shown to enhance pharmacotherapy outcomes in bipolar disorder. The trial examined the benefits of 4 disorder-specific psychotherapies in conjunction with pharmacotherapy on time to recovery and the likelihood of remaining well after an episode of bipolar depression. Fifteen clinics affiliated with the Systematic Treatment Enhancement Program for Bipolar Disorder. A total of 293 referred outpatients with bipolar I or II disorder and depression treated with protocol pharmacotherapy were randomly assigned to intensive psychotherapy (n=163) or collaborative care (n=130), a brief psycho educational intervention. intensive psychotherapy was given weekly and biweekly for up to 30 sessions in 9 months according to protocols for family-focused therapy, interpersonal and social rhythm therapy, and cognitive behavior therapy. Collaborative care consisted of 3 sessions in 6 weeks. Outcome assessments were performed by psychiatrists at each pharmacotherapy visit. Primary outcomes included time to recovery and the proportion of patients classified as well during each of 12 study months. This study found no main effect of the number of sessions or interaction between treatment modality and the number of sessions in predicting recovery time (Miklowitz DJ etal.,2006)[16].

Miklowitz DJ etal 2007[17] found that psychosocial interventions were effective adjuncts to pharmacotherapy in delaying recurrences of bipolar disorder; however, to date their effects on life functioning have been given little attention. No effects of psychosocial intervention were observed on work/role functioning or recreation scores during this 9-month period. Intensive psychosocial treatment enhances relationship functioning and life satisfaction among patients with bipolar disorder. Alternate interventions focused on the specific cognitive deficits of individuals with bipolar disorder may be necessary to enhance vocational functioning after a depressive episode

Methods to improve functional improvement of bipolar disorders

Nearly half of people diagnosed with bipolar disorder experience problems with thinking that can make day-to-day life difficult. But now, we can offer few new intervention designed by many researchers and those interventions proved to be efficient. Carla Torrent and colleagues at the Hospital Clinic of Barcelona, Spain found the intervention educates and teaches life skills to patients when they are in a stable or "euthymic" mood state. "Functional remediation for bipolar disorder," Neuro-cognitive-behavioral approach to train patients in strategies for coping with the challenges and difficulties of daily life" [21] Cognitive abilities such as concentrating, problem solving, and learning and remembering new information.

Psychoeducation and cognitive therapy are valuable adjunctive treatments during all phases of the illness and can also serve to optimise compliance and facilitate recognition of early relapse. Group psychoeducational programs added to pharmacotherapy also shown efficacy in many studies.[13]

Miklowitz and colleagues Family-focused therapy involves developing and individualizing interventions such as visitation, communication, family involvement in care giving activities, patient/family education, and counselling[16]

CONCLUSION

Bipolar disorder is a complex, recurrent mood disorder, and its impact on everyday life can be devastating. Although pharmacological interventions remain the primary tool in its management, medicines cannot control all aspects and consequences of the disorder. So other adjuvant psychosocial and psycho educational interventions target issues untouched by pharmacological treatment. When combined with long-term pharmacological treatment with nurse run psychosocial/family interventions may enable individuals to take a more active role in the management of their disorder, and lead to improvements in mood stability, occupational and social functioning, and quality of life.

Conflict of Interest: Nil

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Ethical Clearance: JIPMER Institute Ethics Committee Approved

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The Offshoots of Technology

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ABSTRACT

"Our technological powers increase, but the side effects and potential hazards also escalate"- *alvin toffler*

Today's world is profusely into the world of technology. It is this technology that has very easily conquered every aspect of our lives. Denying the detrimental effects would be an fallacious argument. Many research studies erstwhile have been proving the consequences of this internet and various social networking sites. This article is an overview of few of the weighty consequences posed by this technology to all the age groups. There are physical and psychological both, effects that can hamper our daily lives. Turning a cold shoulder towards gaining an insight into them can land up into some grave psychiatric illness as proven in earlier studies. It will take no time for these internet related disorders to be included in DSM as already it is under discussion. There are many guidelines or prevention measures that are been implemented to curb this overpowering by internet and help people use it in safe manner. With the guidelines given we can inhibit the indisposition of internet related disorders.

Keywords: *Internet addiction, Mental illness, Prevention.*

INTRODUCTION

Internet addiction in all its guises is essentially a continually growing worldwide pandemic, with studies across multiple countries estimating the prevalence of such addictions to be between 0.7% and 11% of the population, rivaling – and in some cases exceeding – alcohol and drug addiction statistics.As the Internet evolved into a ubiquitous part of ModernLife, there is a rise in the number of distinct mental disorders directly tied to the use of digital technology. Some of these disorders are new versions of old afflictions retooled for the mobile broadband age, while others are wholly new creatures.

Psychiatrists say there is a rise in the number of Sefitis cases -According to Mumbai psychiatrists, addiction with selfies in youth, especially teenagers, is on the rise as they are seeing many parents coming with the same complaint. A Sion Hospital study among school students on selfie-obsession showed that a majority of selfie-addicts are girls. The study, conducted by Dr Era S Dutta and Dr Payal Sharma, showed that 55% selfie-takers were insecure or self-obsessed. The study was surveyed 230 students of class 11 at an urban Mumbai school [(1)].

MENTAL ILLNESS WE NEED TO CHECK OUT FOR

Phantom Ringing Syndrome

What is it: When your brain punks you into thinking your phone is buzzing in your pocket.

Have you ever reached for the vibrating phone in your pocket only to realize that it was silent the whole time—or weirder still, it wasn't even in your pocket to begin with? While you may be slightly delusional, you aren't alone.

We probably always felt slight tingling in our pocket. A few decades ago we would have just assumed it was a slight itch and we would scratch it. But now we've set up our social world to be tied to this little box in our pocket. So, whenever we feel any tingling in our leg we get a burst of neurotransmitters from our brain that can cause either anxiety or pleasure and prompt us to action. So, instead of reacting to this sensation like its a few wayward tingling nerves, we react as if it's something we have to attend to right now.

Nomophobia

What is it: The anxiety that arises from not having

access to one's mobile device. The term "Nomophobia" is an abbreviation of "no-mobile phobia."

Nomophobia is the marked increase in anxiety some people feel when they are separated from their phones. We are been conditioned to be alert for notifications from our phones. We are like Pavlov's dogs in a way. we see people pull out their phones and two minutes later do it again even though nothing has taken place. That's driven by reflex action as well as by anxiety to make sure we haven't missed out on anything. It's all part of the FOMO [Fear Of Missing Out] reaction.

Cybersickness

What is it: The disorientation and dizziness some people feel when interacting with certain digital environments.

Apple's latest version of iOS is a flattened, versatile, and beautiful reinvention of the mobile user interface! Unfortunately, it is also making people barf. And it provided the most recent high-profile example of cybersickness.

As soon as the new incarnation of iOS was pushed out to iPhone and iPad users last month, the Apple support forums started filling with complaints from people feeling disoriented and nauseous after using the new interface. This has largely been attributed to Apple's snazzy utilization of the parallax effect, which makes the icons and homescreen appear to be moving within a three-dimensional world below the display glass.

This dizziness and nausea resulting from a virtual environment has been dubbed cybersickness. The term came about in the early 1990s to describe the disorienting feeling experienced by users of early virtual reality systems. It's basically our brains getting tricked into motion sickness when we're not actually moving.

The Apple support forums were alive with talk about the barftastic elements of the new iPhone iOS.

Facebook Depression

What is it: Depression caused by social interactions, or lack thereof, on Facebook.

A University of Michigan study shows that depression among young people directly corresponds to the amount of time they spend on Facebook.

One possible reason is that people tend to post only good news about themselves on Facebook: Vacations, promotions, party pics, etc. So, it's very easy to fall under the false belief that everyone else is leading far happier and successful lives than you (when this may not be the case at all).

Internet Addiction Disorder

What is it: A constant and unhealthy urge to access the Internet. Beard recommends that the following five diagnostic criteria are required for a diagnosis of Internet addiction: (1) Is preoccupied with the Internet (thinks about previous online activity or anticipate next online session); (2) Needs to use the Internet with increased amounts of time in order to achieve satisfaction; (3) Has made unsuccessful efforts to control, cut back, or stop Internet use; (4) Is restless, moody, depressed, or irritable when attempting to cut down or stop Internet use; (5) Has stayed online longer than originally intended. Additionally, at least one of the following must be present: (6) Has jeopardized or risked the loss of a significant relationship, job, educational or career opportunity because of the Internet; (7) Has lied to family members, therapist, or others to conceal the extent of involvement with the Internet; (8) Uses the Internet as a way of escaping from problems or of relieving a dysphoric mood (e.g., feelings of helplessness, guilt, anxiety, depression) [2].

Online Gaming Addiction

What is it: An unhealthy need to access online multiplayer games.

When we are addicted to something our brain is telling us that it needs certain neurotransmitters—particularly dopamine and serotonin—to feel good. The brain learns very quickly that certain activities will release these chemicals. If you're a gambling addict, that activity is gambling. If you're a gaming addict, then it's playing games. That need for those neurotransmitters drives your behavior. It makes you want to do it again and again.

Cyberchondria

What is it: The tendency to believe you have diseases you read about online.

Have a headache? It's probably nothing. But then again, WebMD did say that headaches are one of the

symptoms of a brain tumor! There's a chance you may die very soon!

The kind of thinking that goes on in the head of Cyberchondriacs—a downward spiral of medical factoids strung together to reach the worst possible conclusions. The Internet can exacerbate existing feelings of hypochondria and in some cases cause new anxieties. Because there's *so much* medical information out there, and some of its real and valuable and some it's contradictory Cyberchondria is just hypochondria with a broadband connection.

The Google Effect

What is it: The tendency of the human mind to retain less information because it knows that all answers are only a few clicks away.

Sometimes referred to as "The Google Effect," research has shown that the limitless access to information has caused our brains to retain less information. We get lazy. Somewhere in our minds we think "I don't have to memorize this because I can just Google it later [(2)].

Jennie Carroll, a technology researcher from RMIT University in Melbourne studying the effects of modern communication, said the mobile had become meshed into teenagers' lives. Texting is quite tribal - it is just what teenagers do with phones. Dr Carrolls study into the effects of modern communication has found four distinct disorders - textaphrenia, textiety, post-traumatic text disorder and binge texting.

TEXTAPHRENIA is thinking you've heard a message come in or felt the device vibrate when it actually hasn't.

TEXTIETY is the anxious feeling of not receiving any texts or not being able to send any.

With textaphrenia and textiety there is the feeling that 'no one loves me, no one's contacted me. **POST-TRAUMATIC TEXT DISORDER** is physical and mental injuries related to texting. There are physical issues arising like walking into things while texting. There were reports from Japan of 'repetitive thumb syndrome' and of young people's thumbs growing in response to too much texting, leading to 'monster thumbs. **BINGE TEXTING** is when teens send multiple texts to feel good about themselves and try to attract responses[(3)].

"An ounce of prevention is worth a pound of cure"- BENJAMIN FRANKLIN

At Dr. Young's US Center for Internet Addiction, they encourage "digital diets" and "digital nutrition", which do exactly what they say on the tin. With digital dieting, the length of time you use internet technology is reduced, while with digital nutrition it's about controlling *what* you click on. As Dr Young puts it, "it's the difference between eating a bag of potato chips or fruit and veg."

How can we protect ourselves from internet addiction?

1. **Check your checking**. Reduce the amount of times you check your phone or computer for messages and updates. Instead of checking Facebook/email/news 30 times a day, perhaps twice is more than enough.

2. **Set time limits.** Do not let hours of internet use go by unregulated, set a time limit to prevent a quick check online ending in an all-night internet binge.

3. **Disconnect to reconnect**. Have 100% device-free time in your daily and weekly life. In her TEDx talk, Dr Young challenges us all to a 48-hour digital detox[(4)].

DISCUSSION AND CONCLUSION

As can be seen from this brief review, the field of Internet related disorders is advancing rapidly. Coupled with the rise and popularity of internet use there is also rise in the harmful effects it poses. These internet related disorders are better to be prevented then cured. There are many researches and news too, related to suicide, fraud and even deaths due to over involvement and abuse of this technology. The craving for selfies and its appreciation is landing into something that is undesirable, something at the risk of people's lives. As health care team members it is our responsibility to spread awareness about these consequences, empowering people to use internet in a healthy manner.

Conflict of Interest: Nil

Source of Funding: Self

Ethical Clearance: Consent sheets and anonymity of Patient information.

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A Study to Assess Comparative Study on Depressive Symptoms among Urban and Rural Elderly Population

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ABSTRACT

Background: Depression is a common public health issue with the increasing life expectancy worldwide and depression is associated with morbidity as well as disability among the elderly. It has been observed that physical diseases, psychological illness and adjustment problems are quite common during this phase of life

Method: Descriptive comparative study designwas conducted among 86 elderly populations of Old aged home, Pokhara and Old aged home, ramdi with the aim to compare Depressive symptoms among urban and rural old aged home during June /July 2015. Demographic Performa, Geriatric depression Scale were used for data collection. Purposive Sampling was adopted for sampling technique. The respondents were individual's age >60yrs who agreed to voluntarily Participate in the study and met the Inclusion Criteria. Data were collected by interview technique. The data was analyzed using Excel 2007 and SPSS for Window Version 19.0.Data were analyzed using Descriptive statistics and Man Whitney was used for correlation.

Results: The Study revealed among the 86 Participants half of the Participants age from both Urban and Rural areas were 60-70.Majoritywere female, Most of them were Hindu religion from both areas, Most of them were unmarried from urban areas but most of them were Widow/widower from rural area .Most of them were Illiterate, Majority were not having children from urban area but most of them were having one children from rural area, Majority of them were not getting mental support from both area, Regarding reason behind Leaving home Most of them answered they left voluntarily(self). Among the elderly Population 19% of elderly population had severe depressive symptoms in urban aged home and 1% of elderly population was having severe depressive symptoms in rural aged home.There is difference in Mean value 57.01 and 28.67 in Urban and rural respectively and there is significant difference between depressive symptoms of Urban and Rural aged home (z=--5.266, p= 0.00) .005 level of significance.

Conclusion: The findings show19% of elderly population had severe depressive symptoms in urban aged home and 1% of elderly population was having severe depressive symptoms in rural aged home.

Keywords: *Elderly,Depressive symptoms, Rural, Urban.*

INTRODUCTION

Ageing is a natural process associated with Physical, Biological and Psychological changes. Elderly population aged 60 years and above in the world will reach 1.2 billion by the year 2025, the majority of whom will be in developing countries[1] A high prevalence of mental disorders is seen in old age. Predominant among these is "Depression", which is an affective illness characterized by depressive in mood, cognition and behaviour.[2]Depression is the condition characterized by a prolonged period of time in which negative thoughts and feelings predominate, interfering with our usual functioning, or blinding us from our true potential.[3]

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Depression is a potentially devastating illness estimated to afflict more than 14 million individuals. Depressive illness in elderly has an estimated prevalence of approximately 3% in the general population and 15-25% among nursing home resident. It has been observed that approximately 15% of older individuals have clinically significant depressive symptoms; these symptoms are seen in approximately 25% of elderly patients with a chronic medical illness.[4]

The World Health Organization estimated that the overall prevalence rate of depressive disorders among the elderly generally varies between 10 and 20%, depending on the cultural situations. [5]Yet, under diagnosis of depression in the older adult population—often overlooked clinically because its symptoms are erroneously assumed to be a normal part of aging—represents a serious public health Problem.[6,7]

A study was conducted to compare the prevalence of depression between110 elderly people living in old-age home in Devghat, Chitwan, Nepal and its adjacent communities. The result shows that the prevalence rate of depression was 52.73% in old-age home and 25.45% in community. Females had higher prevalence rate of depression than male in old-age home (93.1% vs. 6.9%), whereas in the community group, it was higher in males (64.3% vs. 35.7%).[8]

METHOD

Descriptive comparative study design was conducted among Rural and Urban Elderly population residing in old aged home. Sample size was 86 elderly Population (41 from Rural and 45from Urban). Data collection was done with Demographic Performa, standard tool Geriatric Depression Scale:GDS is developed to measure the depressive symptoms among geriatric population. The scale consists of 30 items; each item is scored on yes/No to questions about their feelings over the past week Scoring was accompanied by summing responses to the questions and mean score. Higher score indicates Severe Depression (20-30), Mild depression (10-19), Normal (0-9) .[9]Purposive Sampling was used for sampling technique

Ethical approval was taken from the Chairperson of both old aged home. An informed consent was taken from the elderly individuals after explaining about study and its purpose. Interview was conducted for Data Collection. Data entry and analysis was done using SPSS version 19. Data analysis was done by both Descriptive and inferential Statistics and Mann-unity test was used for correlation.

Table 1. Demographic Characteristics of the Urban and Rural Old aged home n=86

Demographic Variables	Urban Aged home		Rural old aged home	
	Frequency	Percentage	Frequency	Percentage
Age				
60-70	18	21.2	19	46.3
71-80	15	17.6	13	31.7
>80	12	14.1	9	22.0
Sex				
Male	21	46.7	9	22
Female	24	53.3	32	78
Religion				
Hindu	40	88.9		
Buddhist	4	8.9	41	100
Others	1	2.2		
Marital status				
Married	22	48.9	16	39
Unmarried	13	28.9	2	4.9
Widow/widower	9	20.0	17	41.5
Separated/Divorce	1	2.2	6	14.6

Cont... Table 1. Demographic Characteristics of the Urban and Rural Old aged home n=86

Educational Status				
Illiterate	41	91.1	36	87.8
literate	4	8.9	5	12.2
Number of children				
One or more	19	42.2	30	73.2
none	26	57.8	11	26.8
Occupation				
Service	8	17.8	2	4.9
Skilled	1	2.2	9	22
Unskilled	6	13.3	0	0
others	30	66.7	30	73.2
Mental Support				
Yes	21	46.7	16	39
no	24	53.3	25	61
Economic Support				
Yes	17	37.8	17	41.5
No	28	62.2	24	58.6
Reason to Leaving home				
Low socioeconomic status	2	4.4	1	2.4
Family conflict	8	17.8	1	2.4
Lack of caring person	13	28,9	0	0
Self	22	48.9	39	95.1
Duration of staying				
Below 6 months	8	17.8	4	9.8
Below 1 year	7	15.6	1	2.4
More than 1 year	30	66.7	36	87.8

RESULTS

Among the 86 Participants half of the Participants age from both areas were 60-70.Majoritywere female,

Most of them wereHindu religion from both areas, Most of them were unmarried from urban areas but most of them were Widow/widower from rural area.Most of them were Illiterate, Majority were not having children from urban area but most of them were having one children from rural area., Majority of them were not getting mental support from both area, Regarding reason behind Leaving homeMost of them answered they leftvoluntarily (self).

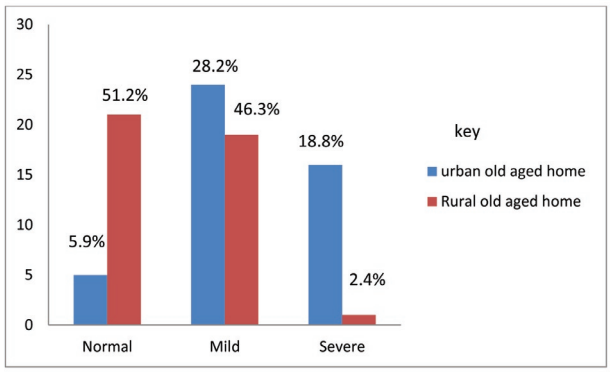

Fig: 1Bar diagram showing Comparison of depressive symptoms between urban old aged home and rural old aged home

Fig 1 revealed 19% of elderly population had severedepressive symptoms in urban aged home and 1% of elderly populations had severe depressive symptoms in rural aged home.

Table 2: Comparison of mean Depressive symptoms betweenUrban and Rural aged home N=86

Items	Mean	Mean	test	Z value	P value
Depressive Symptoms	Urban 57.01	Rural 28.67	Man Whitney	-5.266	0.00

Significant at p=0.005

Table 2 states that result shows that there is difference in Mean value 57.01 and 28.67 in Urban and rural respectively and there is significant difference between depressive symptoms of Urban and Rural aged home(z=--5.266, p= 0.00) .005 level of significance.

DISCUSSION

A Cross-sectional study "Urban –rural comparison of depression among the elderly Population was conducted by Pracheth R with the objectives to establish the differences in the prevalence and determinants of depress among urban and rural elderlyresidents. Result shows that the prelevance of depression was found to be 27.71% and 24.46% among the urban and rural elderly Population respectively.[10] where as present study contraindicates this study as findings shows depressive symptoms was found more in urban elderly population than rural elderly Populationthat is percentage 28% of elderly population had mild depressive symptoms in urban aged home and highest percentage 24% of elderly population were having no depressive symptoms.

A Cross-sectional Study was conducted by Arumugam B "Geriatric depression among Urban and rural Community in chennai, Tamil nadu. Study revealed Prelevance of Geriatric depression to be 41.0% and 45.8% in urban and rural Community respectively.[11] Whereas present study is similar to this study as findings shows that 28% of elderly population had mild depressive symptoms in urban and highest percentage 24% of elderly population were having no depressive symptoms in rural old age home.

CONCLUSION

Study findings shows that among the 86 Participants half of the Participants age from both areas were 60-70.Majoritywere female, Most of them were Hindu religion from both areas, Most of them were unmarried from urban areas but most of them were Widow/widower from rural area. regarding reason behind Leaving home Most of them answered they left voluntarily (self). Study revealed 19% of elderly population had severe depressive symptoms in urban aged home and 1% of elderly population was having severe depressive symptoms in rural aged home. There is significant difference between depressive symptoms of Urban and Rural aged home (z=--5.266, p= 0.00) .005 level of significance.

Source of Funding: Self

Conflict of Interest: Nil

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Knowledge on Mental Illness among the People of Lekhnath Municipality-2, Kaski, Nepal

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ABSTRACT

Objectives: This study was done to assess the knowledge on mental illness among the people of Lekhnath Municipality-2, Kaski, Nepal and to find out the association between knowledge and demographic variables

Materials and method: Sample size was 100 people of Lekhnath Municipality-2, Kaski, Nepal. The devices that are used for data collection was: Demographic Performa, Knowledge questionnaire on mental illness. Data collection technique was through interview.

Results: Most of the participants (34%) were of age 35 years above and most (54%) of them were female, most (71%) of them were Hindu. Majority of the people's education level was below SLC level i.e. (31%) and Most (58%) of the people's were unemployed with family monthly incomes below NRs.5000 (33%) and majority (79%) of people were aware regarding mental illness and most (44%) of them had information on mental illness. Most (58%) of the people had average knowledge and least (1%) had poor knowledge regarding mental illness. There is significant association between knowledge and age, religion, level of education, occupation, family income, awareness regarding mental illness ($p<0.05$) and Non-significant between knowledge and gender , family members.

Keywords: *Knowledge, Mental illness, People.*

BACK GROUND OF THE STUDY

In most societies mental illness carries a substantial stigma, or mark of shame. The mentally ill are often blamed for bringing on their own illnesses, and others may see them as victims of bad fate, religious and moral transgression, or witchcraft. Such stigma may keep families from acknowledging that a family member is ill. Some families may hide or overprotect a member with mental illness keeping the person from receiving potentially effective care or they may reject the person from the family.[2]

Mental illness is maladjustment in living which produces a disharmony in the person's ability to meet human needs comfortably or effectively and function within a culture. Such patients lose their ability to respond according to the expectations they have for themselves and the demands that society makes on them.

It has been realized that knowledge and attitude of the community people towards mental illness is not satisfactory. Most of the people think that mental illness means being crazy or a lunatic, being possessed by spirits or losing control of oneself. There is a need each individual in the community for to understand about mental illness which can lead to less negative attitudes and can make it easier for the mentally ill to have a better quality of life.[1]

Mental illness often generates misunderstanding, prejudice, confusion and fear. Some people with mental illness report that the stigma can at times be worse than the illness itself. People may be less willing to offer support and empathy if someone is experiencing a mental illness rather than a physical health problem. Those with a history of mental illness may find that others become uncomfortable or distrustful around them and that they lose contact with family and friends. People who are known to have had mental illness may find it more difficult to find employment or get a promotion, even if they are well at the time.[3]

A cross sectional descriptive study was conducted

to examine the knowledge, attitude and beliefs about causes of mental illness in a village in northern Nigeria. Data was collected by a semi-structured questionnaire among 250 samples. Drug misuse including alcohol,cannabis,and other street drugs was identified in 34.3% of responses as a major cause of mental illness, followed by divine wrath/God's will (19%), and magic/ spirit possession(18%). This study demonstrates the need for educational programs aimed at demystifying mental illness.[4]

PURPOSE OF THE STUDY

The purpose of the study is to assess the level of knowledge on mental illness among the people of Lekhnath-2. The findings of the survey will help the health care professionals, investigators to plan for any intervention if required for the particular community.

OBJECTIVES OF THE STUDY

1. To assess the level of knowledge on mental illness

2. To find out the association between knowledge and demographic variables

ASSUMPTIONS

1. Knowledge regarding mental illness will be assessed.

2. People of Lekhnath-2 will actively participate in the study.

RESEARCH METHODOLOGY

In order to achieve the objectives of the study, a survey approach is found to be appropriate. Descriptive Survey is adopted for the present study.The present study was conducted in Community of Lekhnath-2, Kaski, Nepal.In this study sample size was 100 people of Lekhnath Municipality-2, Kaski, Nepal.Sample was selected from Lekhnath municipality-2, Kaski, Nepal.

INCLUSION CRITERIA

1. Adults of Lekhnath Municipality-2

2. Adults of age above 20 yrs

3. Adults who were willing to participate in the study.

4. Adults present during data collection.

EXCLUSION CRITERIA

1. Adults who are not willing to participate in the study.

2. Adults who were absent during data collection period.

DATA COLLECTION, TECHNIQUE AND INSTRUMENT

Self-administered instruments were used for data collection. Instruments that were used for data collection are:

Tool 1: Demographic questionnaire

Tool 2: Knowledge questionnaire

Description of the tools

1. Demographic Proforma:

The demographic Proforma is designed to collect the sample characteristics.

The tool consists of 8 items on age, gender, religion, type of family, level of education, occupation status, family income (monthly) and awareness regarding mental illness.

2. Knowledge questionnaire:

This questionnaire is developed to measure the knowledge level of Lekhnath people on mental illness. Itcovers meaning, incidence, definition, causes, clinical manifestations and management regarding mental illness. There are 20 multiple choice questions. For every right answer score given is 1 and for wrong answer 0.

The scoring is graded as:

Poor knowledge (1-7)

Average knowledge (8-14)

Good knowledge (15-20)

RELIABILITY

The reliability co-efficient of the whole test was then estimated by using Spearman-Brown Prophecy formula. The knowledge was found reliable (r =0.792). The attitude scale was also found reliable (r =0.793). The instrument was found reliable on testing.

PILOT STUDY

Prior permission was obtained from the concerned authority and informed consent of the sample was obtained. The pilot study was conducted on 10th March, 2013 among the people of Lekhnath Municipality-12, Kaski. 10 people who fulfilled the sampling criteria were selected for the study by using non probability purposive sampling technique.

The findings of the pilot study in Lekhnath-12, reveal that most (90%) of the samples had good knowledge, some (10%) of them had average knowledge, and no one had poor knowledge on mental illness.

After conducting the pilot study, it was found that the study was feasible, the concerned authority and the sample were found to be cooperative, the questionnaire was relevant, and the time and the cost of the study were within the limit.

DATA COLLECTION

Administrative permission was taken from respective principal, MCOMS (Nursing Programme). Verbal consent was taken from participants that are community people. The data was collected from the sample by means of the tools designed to measure the variables.

DATA ANALYSIS

Data analysis was planned based on the objectives of the study. It was done to reduce, organise and give meaning to the data by using descriptive and inferential statistics.

RESULTS

Table1: Description of sample characteristics n=100

S.No.	Sample characteristics	F	%
1.	**Age**		
	20-25	14	14%
	26-30	21	21%
	31-35	31	31%
	35 above	34	34%
2.	**Sex**		
	Male	46	46%
	Female	54	54%
3.	**Religion**		
	Hindu	71	71%
	Buddhist	21	21%
	Christian	6	6%
	Other	2	2%
4.	**Family type**		
	Nuclear	36	36%
	Joint	64	64%
5.	**Level of education**		
	Illiterate	26	26%
	Below SLC	31	31%
	Higher secondary	25	25%
	Bachelor and above	18	18%
6.	**Occupation status**		
	Employed	42	42%
	Unemployed	58	58%
7.	**Family income(monthly)**		
	NRs 5000 and below	33	33%
	NRs 5001-15000	32	32%
	NRs 15001-20,000	16	16%
	NRs 20,001 above	19	19%
8.	**Awareness regarding mental illness**		
	Yes	79	79%
	No	21	21%

Data presented in Table 1 Show that Most of the participant(34%) were of age above 35 years , most(54%) of them were female, most(71%) of them were Hindu . Majority of the people's education level was below SLC level i.e. (31%) and most (58%) of the people's were unemployed with family monthly incomes below NRs.5000 (33%) and majority (79%) of people were aware regarding mental illness.

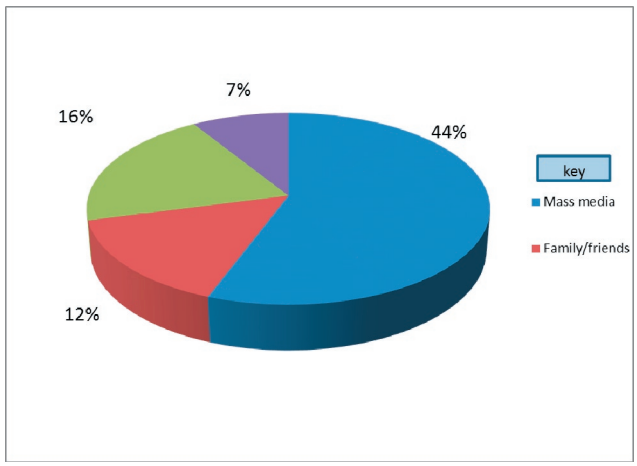

Fig 1: Pie chart representing source of awareness regarding mental illness

Fig 1 reveals that majority (44%) of people were aware regarding mental illness through mass media followed by family/friends (16%).

Table 2: Range of Knowledge on mental illness **n=100**

	Range	Min score	Max score	Mean	Mode	Median	Standard deviation
Knowledge Score	13	7	20	13.9	13	14	3.27

Mean % of knowledge score = 13.9/20*100

= 69.5%

Data presented in Table 2 show the data regarding knowledge on mental illness which was collected by administering knowledge questionnaire.

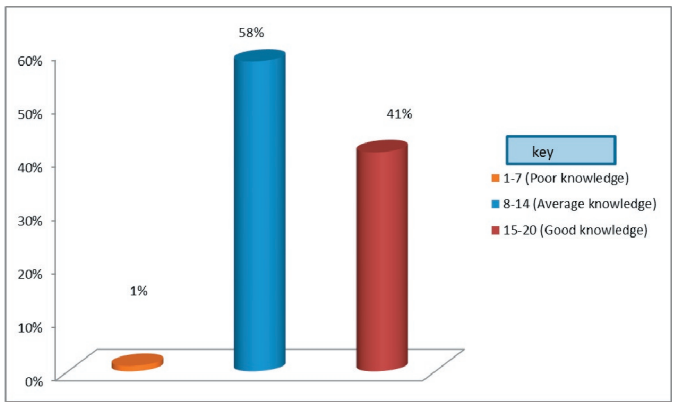

Fig: 2 Cylindrical diagram representing Knowledge Score

Fig: 2 reveals most (58%) of the people had average knowledge and least (1%) had poor knowledge regarding mental illness.

Table 3: Association of demographic variables with Knowledge **n=100**

Sample characteristics	Knowledge score			Chi-Square		df	Significance
	Poor	Average	Good	Calculated	Table		
1. Age in years							
20-25	0	5	9				
26-30	0	7	14	13.11	12.59	6	S
31-35	0	22	9				
35 above	1	22	11				
2. Gender							
Male	0	25	21	1.03	5.99	2	NS
Female	1	31	22				
3. Religion							
Hindu	0	39	32				
Buddhist	0	12	9				
Christian	1	4	1	16.8	12.59	6	S
Others	0	1	1				

Cont... Table 3: Association of demographic variables with Knowledge n=100

4. Family types							
Nuclear	1	18	17	2.37	5.99	2	NS
Joint	0	38	26				
5. Level of education							
Illiterate	1	23	2				
Below SLC	0	21	10	34.9	12.59	6	S
Higher secondary	0	10	15				
Bachelor and above	0	2	16				
6. Occupation status							
Employed	0	17	25	8.4	5.99	2	S
Unemployed	1	39	18				
7. Family income							
NRs 5000 and below	1	26	6				
NRs 5001-15000	0	21	11		12.59		
NRs15001-20,000	0	6	10	26.28		6	S
NRs20,001 above	0	3	16				
8. Awareness							
Yes	1	36	42	16.6	5.99	2	S
No	0	20	1				
9. Source							
Mass media	0	19	25				
Family/friends	1	9	2		15.51		
Health workers	0	7	9	32.42		8	S
Others	0	1	6				

Table 3 reveals there is significant association betweenknowledge and age, religion, level of education, occupation, family income, awareness regarding mental illness and Non significant between knowledge and gender, family members

MAJOR FINDINGS OF THE STUDY

Most of the participants (34%) were of age 35 years above and most (54%) of them were female, most (71%) of them were Hindu. Majority of the people's education level was below SLC level i.e. (31%) and Most(58%) of the people's were unemployed with family monthly incomes below NRs.5000 (33%) and majority (79%) of people were aware regarding mental illness and most (44%) of them had information on mental illness**.**Most (58%) of the people had average knowledge and least (1%) had poor knowledge regarding mental illness.There is significant association betweenknowledge and age, religion, level of education, occupation, family income, awareness regarding mental illness ($p<0.05$) and Non significant between knowledge and gender, family members.

DISCUSSION

A cross-sectional survey conducted from October 2008 to March 2009 among general public of southern Indiashowed that most respondentswere femaleparticipants (67%) [16]. This study supports the present study as majority of respondents i.e. (54%) were female.

A cross sectional survey conducted among 2254 Qataris from October 2008 to march 2009 showed most of the respondent were male(54.8%) and female(45.2%).[17] This study contradicts the present study finding as majority of respondent i.e. (54%) were female.

The study conducted to assess the knowledge, attitude and practices of family members of clients regarding mental illness in Vellore in Oct 2003concluded that family members of Vellore had an adequate level of knowledge regarding mental illness.[18] This study

supports the present study as majority of respondentshad average knowledge regarding mental illness.

A study done on Mental health knowledge, attitude and health seeking tendency (Malaysia)in 2005 among 587 respondents reveals that majority of respondents did not have good knowledge of mental health issues (50%). Only 26.5% of the respondents correctly answered.[19] This study contradicts the present study finding as majority of respondent i.e. (58%) had average knowledge regarding mental illness.

Therefore, the present study showed that majority of the people of Lekhnath-2 had average knowledge regarding mental illness while very few had good and poor knowledge.

CONCLUSION

The study reveals that the people do not have adequate knowledge regarding mental illnesses. So people should be educated and made aware about mental illness at the government level through different means such as media which may help to remove misconceptions regarding mental illness.

IMPLICATIONS

The findings of the study have various implications in different areas of nursing that is Nursing Education, Nursing Practice, Nursing Administration and Nursing Research.

A. On Nursing Education:

One of the major objectives of Nursing Education is to develop in its learners the sense of the professional responsibility towards population at large, who are the potential clients. Nursing education helps the students with adequate knowledge, skills and attitude to fulfill their duties and responsibilities in the field of nursing. Findings of this study can be used by nurse educators to educate students to help them update their knowledge on mental illness. Nurse educators can use the findings of this study to understand what different strategies can be adapted for educating the students.

B. On Nursing Practice:

The fulfillment of any kind of education lies in its appropriate utilization. The findings of the present study clearly point out the need for the active involvement of Nursing Professionals in a health action on mental illness for the specific target population from where the samples are drawn. In a hospital or community set up nurses play an important role in providing awareness regardingmental illness. Nurses can teach about the causes, sign & symptoms and prevention and treatment. Along with it efforts should be made to remove the misconceptions regarding mental illness.

C. On Nursing Administration:

A Nurse as an administrator has a role in planning the policies for imparting health information to the target population. The Nursing administrative functions include the planning, implementation and evaluation of Nursing Education, Practice and Research. In order to accomplish these functions, the administrator needs to coordinate, collaborate and co-work with other related areas of Health Care Management Sectors. The findings of the present study are important, as they have opened up an area, where the Ministry of Health of Nepal needs to pay attention in order to improve the National Health status in the field of psychiatric disorders. It is the responsibility of the Nursing Administration to bring to the notice of the District Health Administration, the significance of the study findings and assist in all the related activities to manage this area of health care. The nurse administrator should organize educational programs for the students with a view to providing knowledge on mental illness.

D. On Nursing Research:

The Nursing Diagnoses stand apart from Medical Diagnoses in its uniqueness. Medical Diagnoses describe the nature of the diseases and prescribe treatments. Nursing Diagnoses identify the ‘effects’ of diseases on the affected individuals, their families and their communities. In this lies the scope of Nursing Research. By research in the field of knowledge on mental illness, one can plan and implement awareness activities. Further research can be conducted on the basis of the findings of the present study too.

LIMITATIONS

1. The study limits the generalizability of the findings due to probability sampling.

2. The study was limited to the adults of Lekhnath municipality-2.

3. The study was limited to 100 samples.

4. The data collection of the study was limited for a short period of duration

SUMMARY

Thus major findings of the study were there is significant association between knowledge and age, knowledge and religion, knowledge and level of education, knowledge and occupation, knowledge and family income, knowledge and awareness regarding mental illness.($p<0.05$).

It also concluded that most of the people had average knowledge (58%), while 41% had good knowledge and (1%) had poor knowledge regarding mental illness. This study has implications to the nursing field in various areas of nursing education, nursing administration and nursing research. This study is supported by many studies mentioned above.

The study findings are limited to the generalizability of the findings due to purposive sampling and also limited to the adults of Lekhnath Municipality-2, Pokhara, Kaski, Nepal.

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Ethical Clearance: Ethical Permissions was taken from Principal, MCOMS (Nursing Programme) Verbal permission was taken from the participants.Privacy and confidentiality of all the respondents was maintained.

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Conflict of Interest: Nil

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Vitamin B 12: Minor Nutrient, Major Impact – Literature Review

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ABSTRACT

The current study aims to understand the structure, functions and major impacts of Vitamin B_{12} on human body. The researcher had done an extensive literature review to understand the impact of vitamin B_{12} in humans. Health care professionals should be aware about importance of vitamin $B_{12.}$

It was concluded that vitamin B_{12} is one of the major nutrient required for healthy life. It has impact on our cognitive, neurological and other aspects of health. Abnormal serum levels may cause serious health problems and irreversible neurological and genetic impairments.

Keyword: *Vitamin B_{12}, deficiency symptoms, DNA, genetic role.*

INTRODUCTION

Vitamins have been defined as organic compounds occurring in natural foods either as such or as utilizable precursors, which are required in minute amounts for normal growth, maintenance and reproduction. Vitamins are broadly classified in 2 major groups based on it's solubility i.e. fat soluble and water soluble vitamins. Fat soluble vitamins are vitamin A (retinol), D (D_2Cholecalciferol and D_3 calciferol), E (Tocopherol) and vitamin K.[1]

Another group is water soluble vitamins includes Vitamin C (ascorbic acid), niacin, α-Lipoic acid and vitamin B complex group. B complex group contains a bunch of variety of B group vitamins necessary to perform vital functions in human body. It is Vitamin B_1 (thiamin), B_2 (riboflavin), B_5 (pantothenic acid) B_6 (Pyridoxin),B_7 (biotin), B_9 (folic acid group) and (B_{12} (Cobalamin).[1]

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Out of all B group vitamins, Vitamin B_{12} is also known as antipernicious anemia factor. In the structure of vitamin B_{12} central portion of the molecule consists of four reduced and extensively substituted pyrrole rings, surrounding a single cobalt atom. This central structure is called as Corrin Ring system. Below the corrin ring system, is DBI ring –5, 6- dimethyl Benz imidazole riboside which is connected at one end, to central cobalt atom, and at the other end from the riboside moiety to the ring IV of corrin ring system. One PO4 group connects ribose moiety to amino propanol, which in turn is attached to propionic acid side chain of ring IV. A cyanide group is coordinately bound to the cobalt atom and then is called as cyanocobalamin. When cyanide atom is removed, it becomes cobalamin.

When OH group replaces cyanide group it is called "hydroxocobalamin" (Vit.B_{12a}), when cyanide group is replaced by NO_2 it is termed as "Nitritocobalamine", a replacement made by CL^- it is termed as "Chlorocobalamine"**.** In another form a replacement by $SO_4^=$ atom it is known as Sulphatocobalamine.[1]

Vitamin B_{12} is absorbed in ilium with the help of intrinsic factor of castle and hydrochloric acid. [1]

B vitamins are required for proper functioning of the methylation cycle, monoamine oxidase production, repair and maintenance of phospholipids. Vitamin B

deficiency could influence memory function, cognitive impairment and dementia. [2]

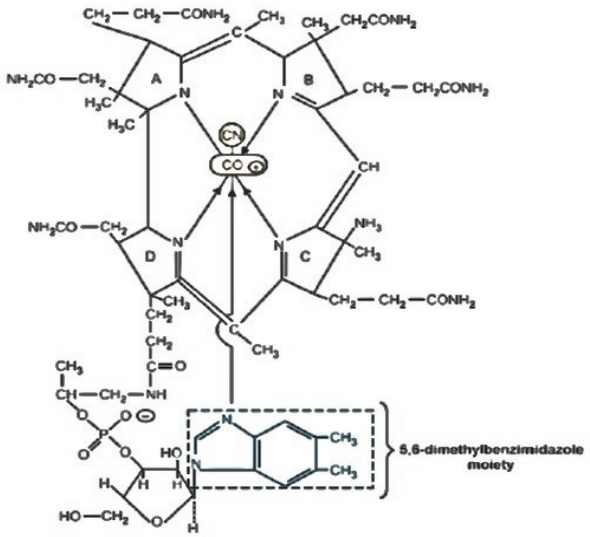

Figure: 1 STRUCTURE OF VITAMIN B12

Researchers have discovered that B_{12} deficiency generally occurs in four distinct stages: -

Stage 1

Declining blood levels and cell stores.

Stage 2

Low cellular levels.

Stage 3

Functional B12 imbalance

Stage 4

Clinical signs of B12 deficiency like macrocytic anemia, peripheral neuropathy and neurological disorders may present themselves.[3]

In an attempt to understand the biological importance of vitamin B_{12} researcher had done an extensive literature review.

The literature reviewed was obtained through different database which includes Cochrane database of systematic reviews, Cumulative Index to Nursing & Allied Health Literature, PubMed, Science Direct, Springer Link, ProQuest & Google scholar along with textbook of medical biochemistry by MN Chatterjee.

MATERIAL, METHOD AND FINDINGS

Literature review worked as Methodology.

An extensive literature review was conducted to find out causes, consequences and public health implication on low vitamin B status in aging by Kirsty Porter et.al. at Northern Ireland Centre for Food and Health, Ulster University, UK. The review concluded that low B_{12} status is primarily associated with food-bound malabsorption. The observations also reported that low status of folate and the related B-vitamins with a higher risk of degenerative diseases including cardiovascular disease, cognitive dysfunction and osteoporosis. The study found that folate and the related B-vitamins as co-factors for one-carbon transfer reactions, which are fundamental for DNA and RNA biosynthesis and the maintenance of methylation reactions.[4]

A randomized controlled cross-over intervention trial was conducted at Australia among 56 sub-clinically vitamin B_{12} -deficient participants. Participants who received 50g whey protein isolate or 50g soy protein isolate as a control for 8 weeks followed by 16 week wash-out phase and then cross-over to alternative supplement for next 8 weeks. Consumption of whey protein isolate resulted in significant increase in serum active B_{12} and serum folate. Methyl malonic acid, homocysteine and nucleoplasm bridges increased significantly after soy protein isolate intake but not after whey protein isolate. Results indicate that whey protein isolate consumption improves active B_{12} and folate status.[5]

A study was conducted by Reem Malouf, et.al. with the objective of examining the effects of folic acid supplementation, with or without vitamin B12, on elderly healthy or demented people, in preventing cognitive impairment or retarding its progress. All double-blind, placebo-controlled, randomized trials, in which supplements of folic acid with or without vitamin B12 were compared with placebo. The analysis of trials shown that there is no adequate evidence of benefit from folic acid supplemententation with or without vitamin B12 on cognitive function and mood of unselected healthy elderly people. [6]

A systematic review and meta-analysis of randomized placebo-controlled trials of folate and vitamin B12 for depression was conducted by Almeida OP et.al.. The results of these meta-analyses suggest that treatment with folate and vitamin B12 does not decrease the severity of depressive symptoms over a short period of time, but may be helpful in the long-term management of special populations.[7]

A systemic review on interventions with vitamins B_6, B_{12} and C in pregnancy was done by Dror DK, Allen LH "to evaluate the risks and benefits of interventions with vitamins B_6, B_{12} and C during pregnancy on maternal, neonatal and child health and nutrition outcomes." relevant publications were identified. Meta-analyses were conducted. The results of meta-analysis reveals that vitamin B_{12} supplementation may reduce the incidence of neural tube defects in the offspring based on theoretical considerations.[8]

A systematic review and meta-analysis of epidemiological studies on "association between B-group vitamins and venous thrombosis was conducted by Kuangguo Zhou et. al. Researchers had searched databases to collect information on all eligible studies to make a meta-analysis about the relationship between B-group vitamins and venous thrombosis. Literature search results did not suggest a correlation between vitamin B group and venous thrombosis. [9]

Snorri B. Rafnsson et. al. conducted a study to assess the prior hypothesis that low blood vitamin B_{12}, partly through hyperhomocysteinemia and partly through direct effects, increases the risk of cardiovascular diseases and diabetes. A systematic review of prospective cohort studies reported data on the association between vitamin B_{12} blood levels, or other appropriate surrogate biological markers. Seven studies were included. Only one high-quality study reported that low B_{12} increased the risk of incident cerebral ischemia. The association suggesting that the effects of low B_{12} were only partly mediated by homocysteine, in two studies, higher B_{12} levels were associated with a greater risk of total mortality and combined fatal and non-fatal coronary events. The study results concluded that there is very limited evidence that vitamin B_{12} deficiency predisposes to the risk of mortality and morbidity from either cardiovascular diseases or diabetes in adults.[10]

A randomized, double-blind, placebo-controlled intervention trial was conducted to determine the "efficacy of the regular consumption of a fortified cereal with milk, compared with unfortified cereal, consumed either as a breakfast or a supper, in improving micronutrient intake and micronutrient status of adolescent girls ages 16–19 years, from schools and colleges in Sheffield, UK". Girls were randomized to receive 50 g fortified or unfortified cereal, with 150 ml semi-skimmed milk, daily, for 12 weeks, as a breakfast or as a supper. Dietary intake was estimated using a 4-day food diary and blood collected for the assessment of nutritional status. Consumption of unfortified cereal elicited an increase in the intake of vitamins B1, B2 and B6; consumption of fortified cereal elicited increases in vitamins B1, B2, B6, B12, folate and iron and of vitamin D, all increases were significantly greater than for unfortified cereal. Consumption of the fortified cereal also led to a significant improvement in biomarkers of status for vitamins B2, B12, folate and of iron. The findings justify strategies to encourage the consumption of fortified cereal with milk by adolescents, either as a breakfast or a supper.[11]

Demir N, et. al. conducted a study on "Visual and brainstem auditory evoked potentials in infants with severe vitamin B_{12} deficiency" to investigate the effects of infantile vitamin B_{12} deficiency on evoked brain potentials and determine whether improvement could be obtained with vitamin B_{12} replacement at appropriate dosages. Thirty patients with vitamin B_{12} deficiency and 30 age-matched healthy controls were included in the study. Hematological parameters, visual evoked potentials, and brainstem auditory evoked potentials tests were performed prior to treatment followed at 1week and 3 months. Visual evoked potentials and brainstem auditory evoked potentials were found to be prolonged in 53.3% and 50% patients, respectively. The results demonstrate that vitamin B_{12} deficiency in infants causes significant impairment in the auditory and visual functioning tests of the brain.[12]

Cui Song et. al conducted a study on "Effect of the one carbon unit cycle on overall DNA methylation" at Children's Hospital of Chongqing Medical University, China. In order to analyze the impact of the one-carbon unit cycle on the overall level of DNA methylation in children with Down's syndrome the levels of indicators associated with the one-carbon unit cycle, including folic acid, vitamin B_{12} and homocysteine and the overall DNA methylation level of Down's syndrome and healthy controls were determined. A total of 36 Down's syndrome children and 40 age- and gender-matched healthy controls were included in the study. The results demonstrated that the level of vitamin B_{12} was decreased, while the homocysteine level was increased in Down's syndrome patients compared with the healthy controls. Folic acid and vitamin B_{12} levels decreased with increasing age in Down's syndrome patients. DNA hyper methylation and hypo methylation were

observed in Down's syndrome patients with vitamin B_{12} deficiency. [13]

Adaikalakoteswari A et.al conducted a study on "Vitamin B_{12} insufficiency induces cholesterol biosynthesis by limiting s-adenosylmethionine and modulating the methylation of SREBF1 and LDLR genes." Both human and animal studies have shown that vitamin B_{12} deficiency is associated with altered lipid profile and play an important role in the prediction of metabolic risk. [14]

Lahner E, et. al conducted a study to determine the frequency of single nucleotide polymorphisms related to vitamin B_{12} levels in autoimmune gastritis patients, with or without pernicious anaemia, compared to healthy controls. 14 studies were selected from literature. 83 autoimmune gastritis patients and 173 controls were enrolled. Genomic DNA was extracted from peripheral blood leukocytes. The study results shown that TCN2 GG genotype, related with lower vitamin B12 levels, was found in 3.6% autoimmune gastritis patients, but in none of controls. The study concluded that a genetic variant of TCN2 gene related to lower vitamin B_{12} levels was more frequent in pernicious anemia patients compared to controls, showing the plausibility of genetic factors determining the possible clinical manifestation of autoimmune gastritis.[15]

Swart KM et.al. conducted a study on "Vitamin B12, folic acid, and bone" Vitamin B12 and folic acid deficiency are associated with a higher serum concentration of homocysteine which is a risk factor for fractures. Both vitamins play a role in the remethylation of homocysteine to methionine. Results showed that B vitamins could decrease hip fracture incidence. [16]

Dr. P. Haggarty et. al. conducted a prospective cohort study on "Effect of B vitamins and genetics on success of in-vitro fertilization" among 602 women undergoing fertility treatment. They assessed intake of folate and vitamin B_{12} with a questionnaire and measured their plasma and red-blood-cell concentrations by radioimmunoassay and measured five B-vitamin-related gene variants in women who received treatment and in 932 women who conceived naturally. Results shown that there was no association between folate and vitamin B12 levels and likelihood of a successful pregnancy.[17]

In the duodenum, proteases digest B_{12} binding proteins and release B_{12}, which then binds to intrinsic factor, to form a complex. Once the intrinsic factor and B_{12} complex is recognized by specialized ileal receptors, it is transported into the portal circulation. Following absorption, the vitamin is transported to the liver in the blood bound to trans cobalamin II. The trans cobalamin-II is degraded within a, and free B_{12} is finally released into the cytoplasm, where it may be transformed into the proper coenzyme.[20]

Individuals who lack intrinsic factor have a decreased ability to absorb B_{12}. Gastric acid releases the vitamin from food particles. There for antacid and acid-blocking medications may inhibit absorption of B_{12}. Vitamin B_{12} Deficiency Results in pernicious anemia neurological complications, gastrointestinal symptoms, hematological dysfunction, DNA degeneration, demyelination of nerves, cognitive dysfunctions, pernicious anemia etc.[18]

B_{12} is supplemented either in oral supplement or intramuscular shots.[18]

Common Symptoms of Vitamin B12 deficiency includes loss of central vision; pale conjunctiva, enlarged inflamed tongue; mucosal ulceration jaundice, pigment changes, loss of appetite; digestive issues, anemia, peripheral paresthesia and numbness to hands and feet, generalized weakness, loss of position and vibratory sense, dizziness, impaired memory and concentration, anxiety and depression.[19]

CONCLUSION

This literature review is part of planned research project aimed to assess the knowledge of samples regarding vitamin B_{12} and its clinical importance. It was concluded with this literature review that knowledge of these minor nutrient can help health care professionals to have better opportunity to diagnose and treat vitamin B_{12} related sign/symptoms and deficiency manifestations.

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