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Editorial

The power of points in presentation

Girija Kartha
Professor, Department of Community Medicine, C..U. Shah Medical College, Surendranagar Email – karthagirija@gmail.com

Many topics came to my mind for this editorial, mostly health and medicine related, obviously. But I thought "why not break the track" and write about one of the most "used and abused tools" of presentations, of present day.

I had chances to attend many seminars and conferences and no presenter comes without a PPT, which means, a PPT is a part of our life, be it Medicine, Business, or any other profession, for that matter. As professionals, we would be required to know the effective use of PPT. Just having a basic knowledge of PPT which, to many seems to suffice, is actually not enough, which is why I used the terms the most "used and abused tool".

Before we get on to the topic, I remember one of the presentations I attended. With due respect to the presenter, the presenter bombarded us with a PPT with so much content therein that we were busy deciphering the PPT and in the process we heard only half of what the presenter had to say. By the end of the presentation, we were left with more confusion and little information though the topic was very important. The ppt (precipitate) of Lesson learnt - *The technology should be used only to reinforce the information you have to share.*

As far as information sharing is concerned, a public health expert has to be really good in "putting things across" and highly vocal in presenting what ever data, that is in store, even if it is sparse. We are good "togglers", some times, even "jugglers", conjuring up varieties of tables and graphs out of nowhere. The single minded aim and attempt is to convince " at any cost". These days, we have this powerful, fancy ally, the Microsoft Power Point, popularly known as "ppt".

Seriously, it will be an understatement, if we comment that the most used, abused and overused tool of teaching and presentations, is powerpoint. It rang the "death bell" of conventional, faithful black board and even the fancy white board is not spared. Over head projectors which massacred the good old slide projectors are now facing the same treatment at the hands of "ppts". Powerpoints have become ubiquitous and almost "unavoidable". Hence, it is important to understand the good and bad points of powerpoints so that we can make the best use of this "necessary evil".

THE TEN SINS OF POWERPOINT:

1. PowerPoint is now used frequently as a speaker's "crutch," especially when the speaker is repeating or simply following what's displayed on a PowerPoint slide. This has been shown to diminish a listener's attention, and at the very least, it shifts attention from the speaker to the screen, which detracts from the speaker's ability to engage with his or her audience. **Speakers who simply recite what is on their PowerPoint slides are notoriously dull public speakers.**

2. PowerPoint users routinely put more information on a slide than slides should display. PowerPoint is best used as a tool of illustration—to show audiences things that supplement and *enhance* what the speaker is saying. Unfortunately, many PowerPoint users **put so much information on a single slide** that the typical audience member can't read it easily, or doesn't even try. (Such slides are humorously known as "eye charts.") And the speaker has lost the audience's attention to its frustration.

3. PowerPoint contains "tricks" of slide transition or text and graphics animation that are almost all unnecessary, distracting, and too "cute." Tricks such as text that bounces into the screen, or shoots into the slide from the side margins, or flips upside-down, etc., add nothing to the presentation and usually **detract from its professionalism**.

4. Everyone has seen a PowerPoint presentation that exhibits an awful, sometimes even embarrassing, lack of design sense, especially when the presentation is displayed in low-contrast colors that make it difficult to read. Nothing destroys a presentation's effectiveness more thoroughly than when the **audience is straining to see what's on the screen**, or when people are wincing because of a bad design or color scheme.

5. PowerPoint routinely does something that trips up a speaker and suddenly the speech is stalled, or it becomes a series of mutterings about what has gone wrong with PowerPoint. When PowerPoint's behavior **gets in the way of delivering a speech**, the speech has gone wrong in a way that is all too familiar.

6. Many speakers today assume, without thinking about it, that when they use PowerPoint they should have a slide on the screen during the entire presentation. Or they simply leave a slide on the screen, again without thinking about it. A common result is that the audience is **forced to stare at a PowerPoint slide that has lost any connection to what is being said.**

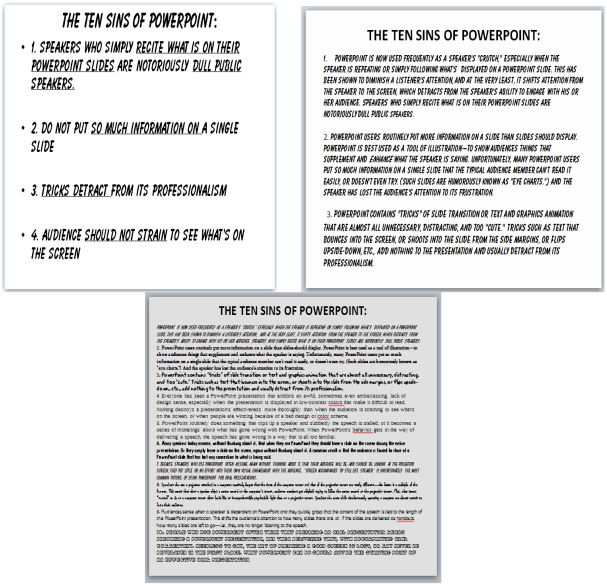
7. Because speakers who use PowerPoint often assume, again without thinking about it, that their audience will be, and should be, looking at the projector screen, they put **little or no effort into their own visual engagement with the audience**. "Screen accompanied by still-life speaker" is unfortunately the most common picture of using PowerPoint for oral presentations.

8. Speakers who use a projector attached to a computer routinely forget that the sizes of the computer screen and that of the projection screen are vastly different—the latter is a multiple of the former. This means that when a speaker whips a cursor around on the computer's screen, audience members get whiplash trying to follow the cursor around on the projection screen. Plus, what seems "normal" to do on a computer screen often looks like an incomprehensible psychedelic light show on a projection screen. **Speakers who orate while simultaneously operating a computer are almost certain to lose their audience.**

9. **Audiences sense when a speaker is dependent on PowerPoint** and they quickly grasp that the content of the speech is tied to the length of the PowerPoint presentation. This shifts the audience's attention to how many slides there are, or, if the slides are delivered as handouts, how many slides are left to go—*i.e.*, they are no longer listening to the speech.

10. People who use PowerPoint often think that preparing an oral presentation means preparing a PowerPoint presentation, and then delivering that, with accompanying oral commentary. Needless to say, **the art of preparing a good speech is lost**, or may never be developed in the first place. What PowerPoint can do should *not* be the starting point of an effective oral presentation.

Figure-1 : "The Good, Bad and the Ugly"



Computer haters (really, those who have no patience, confidence or aptitude to learn it) would be happy to note the above points and can utilize them to advance their points of arguments against "powerpoints". But, they forget that one should not try to swim against the tide. "ppts" are here to stay and we better learn how to use them effectively.

An effective presentation is one where your audience can easily grasp the ideas you are trying to get across. Anything that makes it *more difficult* for your audience to understand what you are trying to say *does not belong* in your presentation. Here are some tips for making effective powerpoint presentations:-

1. Organize!

Prepare your presentation just like you would do for anything else you write. Plan it first on paper by listing the main ideas, and then fill in the points you want to make under each idea. Add an introduction, describing what the presentation will be about. A table of contents will be very useful. Add a final summary, listing the key points that were covered.

2. Choose Colours Carefully

Your background, which can be either a solid colour or a design, should be a good contrast to the text colour you choose. The aim is to make your text easy to read. If you choose a design template, make it simple and unobtrusive, and use it on all your slides; don't keep changing it.

3. Text Size and Type

Choose a font that's easy to read, not fancy ones. Don't try to fit too much on one slide by decreasing the font size, especially if the presentation will be made on a big screen. Use more slides instead.

4. Sentences or Point Form?

If you are making an oral presentation along with the Powerpoint show, the ideas you present on-screen should be in point form. No-one likes a presentation where the presenter just reads what's on the screen. Your talk should be directed at the audience; use points bulleted on the screen to reinforce what you are saying. Even if your presentation is meant to stand alone, use point form; it will help you present your ideas more succinctly

5. Animations

Resist the urge to use all the animations. Stick to one simple effect (like a 'fly-in' or 'appear') and use it on all your bullets. (Don't even *consider* animating a sentence letter-by-letter!!) Make sure to set the animation to happen with a mouse click ... you want to make sure your audience has time to read it at their speed. And finally, add a little variety and structure by not animating the title of each slide.

6. Use Photos, Not Clip-Art

People like to look at photographs. Photos can convey a lot of extra information, and do a better job. Find pictures that illustrate what you are trying to say. Avoid the use of tired old clip-art ... it's been used so much in everything by everybody else that it's lost its punch ... it will just make your presentation weaker.

7. Sound Effects

No! Don't even *think* of using sound effects to highlight the arrival of your bullets on-screen! Screeching tires and cowbells don't belong in any presentation! Using the same sound effect over and over will drive your audience crazy; using a new one every time will take the emphasis off your ideas ... the audience will spend all their time wondering what sound will come next, instead of concentrating on what you are trying to say.

The secret to using PowerPoint successfully is to be minimalist – fewer slides and less text. PowerPoint is a powerful tool. Used well, it will enhance a presentation. Used poorly, it can destroy it. Few more useful suggestions in relation to "powerpointing", some of them to emphasize the already mentioned points, as they are most important:

1. **Highlights:**

Use PowerPoint to emphasize your key points. Your presentation likely has five or six (or ten) key points. Use PowerPoint to reinforce those points graphically.

2. **Not a crutch:**

Don't use your PowerPoint slides as your script or note cards. Few things are less engaging that watching a presenter read their PowerPoint slides to the audience. (Often referred to as death-by-PowerPoint.) One of the benefits of using your PowerPoint slides to just reinforce your key points is that they cannot substitute for your notes.

3. **Only use a maximum of six (6) words on each line**.:

Too many words is too much clutter and hard for your audience to read.

4. **Only use a maximum of six (6) lines of text on each slide**.:

If you have too many lines of text your audience will spend their time reading your slides and not listening to you speak.

5. **Use animation where relevant but don't overdo it:**.

This feature can really highlight a key message... or distract your audience if not done correctly.

6. **Don't rely on your PowerPoint:**

Technology can sometimes fail us - know your content and also have a hard copy of your presentation with you at all times.

7. **Not a distraction:**

You are the presenter. PowerPoint is there to support you. Don't make it the other way around. Human interaction is still the best means to communicate. Don't focus on making your PowerPoint slides too animated or splashy. This shows up often when a presenter is uncertain of his or her presentation skills and tries to compensate by creating dazzling slides. Audiences can see through this ploy. They want to connect with you, not your PowerPoint slides.

8. **Can you do without?**

Ask yourself honestly, do you really need PowerPoint for your presentation. Is it going to enhance your presentation? Will your presentation be more impactful without it? Don't feel obligated to use it if you don't need it. Not using PowerPoint will likely set you apart from other presenters. With PowerPoint so overused, many audiences will thank you if you choose not to use it, at least once in a while. **Consider it.**

And most of all, make your presentation a conversation. Most people enjoy conversations. If your presentation is conversational instead of a lecture, your audience is much more likely to enjoy and remember it. When it comes to lecture materials, less is more. Put as little information on each slide as possible. Remember, you don't want your students to concentrate on writing down lots of words-- you want them to listen to you and to interact with you. According to Rich E. Mayer who has done a scientific analysis on powerpoint overload, "Cognitive scientists have discovered three important features of the human information processing system that are particularly relevant for PowerPoint users: *dual-channels*, that is, people have separate information processing channels for visual material and verbal material; *limited capacity*, that is, people can pay attention to only a few pieces of information in each channel at a time; and *active processing*, that is, people understand the presented material when they pay attention to the relevant material, organize it into a coherent mental structure, and integrate it with their prior knowledge."

As per the essence Dual Coding Theory, we can process words and pictures or animation simultaneously quite effectively. By tapping into the Dual Coding Theory, learning can be enhanced if your presentation uses both visual and verbal format. Humans can absorb information quite easily if shown an image and told about the image at the same time. Our mind naturally creates both visual and verbal representations in our memory. But remember, it is difficult for any audience to process two amounts of same type of information such as text and speech - and it can be overwhelming, as the audience struggles to understand what you are saying and what's on screen. Most people end up jumping between what you are saying and what is on the slide, but don't do either of these things very well.

With text, reveal one bullet point at a time; this is known as Progressive Disclosure. Four to five words per bullet point is best. This minimises the amount of time people spend reading the information and maximises the amount of time they spend listening. If it is crucial to present a lot of text on a slide, stop talking for some of the time to allow the audience to read the text and then proceed. Try to pause to give the audience time to absorb the information and then allow them to focus on what you say next. If your PowerPoint slide contains complex information such as a graph, always take extra time to explain the contents of that slide.

What has been narrated above is the result of thoughts based on my experiences and the product compiled from surfing and search, relevant and applicable to almost all fraternities, more so to the teachers and practitioners of community health as their "bread and butter" is communication. We should make sincere efforts to sharpen the tool of our powerpoint presentations so much so that we can make it a "boon" and not a "bore".

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Continuing Medical Education:
Cancer registration: Principles & methods

Nitil Talsania[1], Jawahar Talsania[2], D. V. Bala[3],
[1]Professor, Department of Community Medicine, B.J.Medical College, Ahmedabad.
[2]Professor, ENT, [3] Professor, Community Medicine, NHL Municipal Medical College, Ahmedabad
Corresponding author: Dr.Niti Talsania, nitibenok@hotmail.com

Definitions :

Cancer Registration

The process of continuing, systematic collection of data on the occurrence and the characteristics of reportable neoplasms, with the purpose of helping to assess and control the impact of malignancies on the community is known as cancer registry.

Hospital-based cancer registry:

Record all cases in a given hospital "without" knowledge of the background population. The emphasis is on clinical care and hospital administration

Population based cancer registry:

Records all new cases in a defined population (most frequently a geographical area) General: records all cancers Specialized: records specific cancers, e.g. childhood cancer, lymphomas etc.

The emphasis is on epidemiology and public health.

The task of the registry

Collection of data serving as basis for Individual follow-up of patients.

Reliable morbidity statistic with a view to accurate estimate of therapeutic results

Accurate evaluation of variation in incidence of malignant neoplasms, secular, geographical, occupational etc.

Establish nothing but a basis for research

Methods of data collection work

Active : Collection at source- visit, abstraction, copying.

Passive : Self-reporting by source staff copies, discharge letters etc.

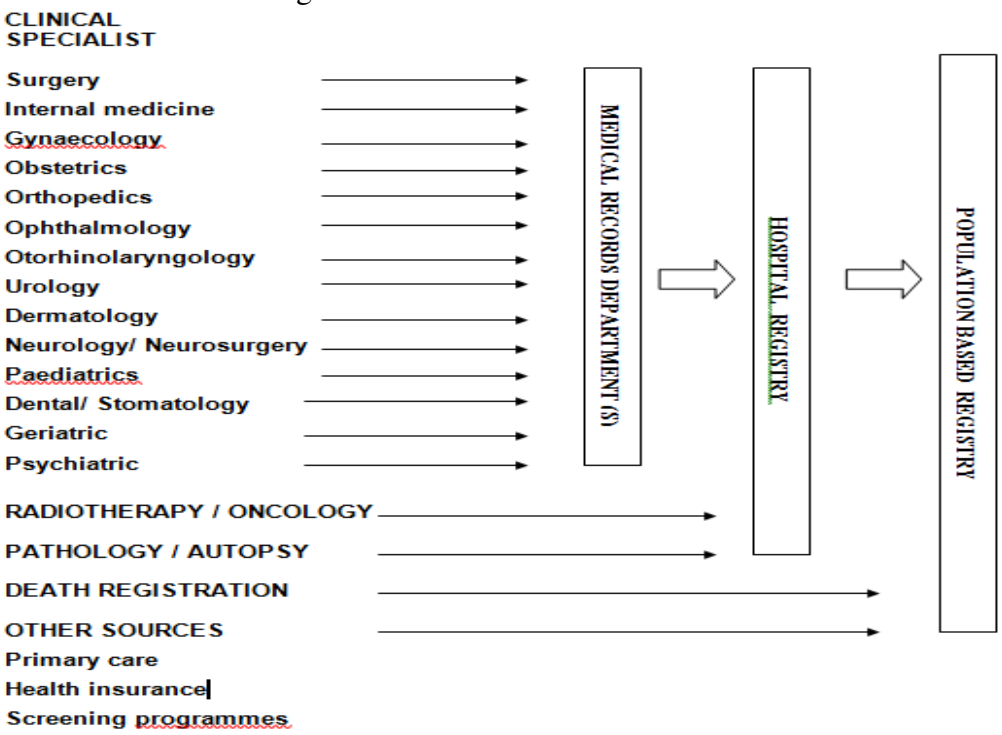
Linkage :Computer assisted linkages to files containing the information.

Table: 1
Relative Frequency of Cancer Cases: Population based Vs Hospital Registry (The Gujarat Cancer & Research Institute 2001)

CD10	SITE	Population Based (1998)		Hospital Based (2001)	
		M	F	M	F
COO C 14 C 01	Buccal Cavity& Pharynx (Tongue)	10.63 6.26	3.22 2.53	33.96 10.95	10.69 2.41
C 15 C 26 C 15	Digest. Org & Peritoneum (Oesophagus)	11.11 7.89	6.77 3.81	14.85 5.21	9.22 3.41
C 30 C 3b & C 39 C 34	Respiratory Organs (Lung)	0.11 7.37	3.39 2.97	15.49 11.61	3.80 2.23
C 40 C 41 C 42	Bone Bone marrow	1.04	0.53	1.73 0.02	1.18 0.00
C43 C44	Skin	1.77	1.19	1.35	1.14
C45 C49	Soft Tissue			1.71	1.43
C 50	Breast	0.18	23.76	0.38	19.96
C 53	Cervix	----	13.54	----	1.14
C 61	Prostate	2.50	----	1.42	----
C 67	Bladder	2.19	0.68	1.63	0.44
C 81-C 96	Lymhoma & Leukaemia	8.34	6.95	11.75	8.30

The Leading Sites in men were Lung, Oesophagus and Base of Tongue. In Women they were Breast, Cervix, Oesophagus & Lung. Breast and Cervix cancer constituted 37% of all female Cancers.

Figure: 1 REGISTRY LINKS



CANCER REGISTRY:
Source Documents :

Hospital:
(1) Specifically designed registration (notification/reporting) forms- completed by hospital staff, or registry staff.
(2) Copies of radiotherapy notes or summaries.
(3) Copies of discharge letters or case summaries.
(4) Hospital patient information systems.

Laboratory:
(1) Pathology department: histopathology + autopsy reports
(2) Other laboratories: hematology, clinical chemistry, imaging- must be sorted at source.

Death certificate: Mentioning cancer in part I or II

Other

Table 2 :Basic information for cancer registries

Item no	Item	Comments
The person	Personal identification	
3	Name	According to local usage
4	Sex	
5	Date of birth or age Demographic	Estimate if not known
6	Address	Usual residence
11	Ethnic group	When population consists of two or more groups
The tumor		
16	Incidence date	
17	Most valid basis of diagnosis	
20	Topography (site)	Primary tumor
21	Morphology (histology)	
22	Behavior	
35	Source of information	E.g. hospital record no name of physician

The minimum information collected is to ensure that if the same individuals are reported again to the registry, they will be recognized as being the same person. This could also be a personal identification number.

Table 3 :Details of information in the registry

Item	DATA ITEM
Personal identification	
1	Index Number
2	Personal Identification number
3	Names
Demographic and cultural	
4	Sex
5	Date of Birth
6	Address
7	Place of Birth
8	Marital Status
9	Age at Incidence Date
10	Nationality
11	Ethnic Group
12	Religion
13	Occupation and Industry
14	Year of Immigration
15	Country of Birth of Father and or/ Mother
Tumor, investigations and treatment	
16	Incidence Date
17	Most Valid Basis of Diagnosis
18	Certainty of Diagnosis
19	Method of Detection
20	Site of Primary Tumor: Topography (ICD-O)
21	Histological Type: Morphology (ICD-O)
22	Behavior
23	Clinical Extent of Disease before Treatment
24	Surgical-cum-pathological Extent of Disease before Treatment
25	TNM Code
26	Site(s) of Distant Metastases
27	Multiple Primaries
28	Laterality
29	Initial Treatment
Outcome	
30	Date of Last Contact
31	Status at Last Contact
32	Date of Death
33	Cause of Death
34	Place of Death

SOURCES OF INFORMATION

(35.1) Type of Source:
Whether death certificate only, doctor, laboratory, hospital or other.

(35.2) Actual Source:
Identity of laboratory or Hospital

MULTIPLE CANCER RULES:

Although every tumor registry has the prerogative to set its own rules, it should pay attention to the comparability of its data with those of other registries as well as consistency over time. For international comparative purposes, the IARC has suggested a rather simple set of rules, In brief, these rules state the following:

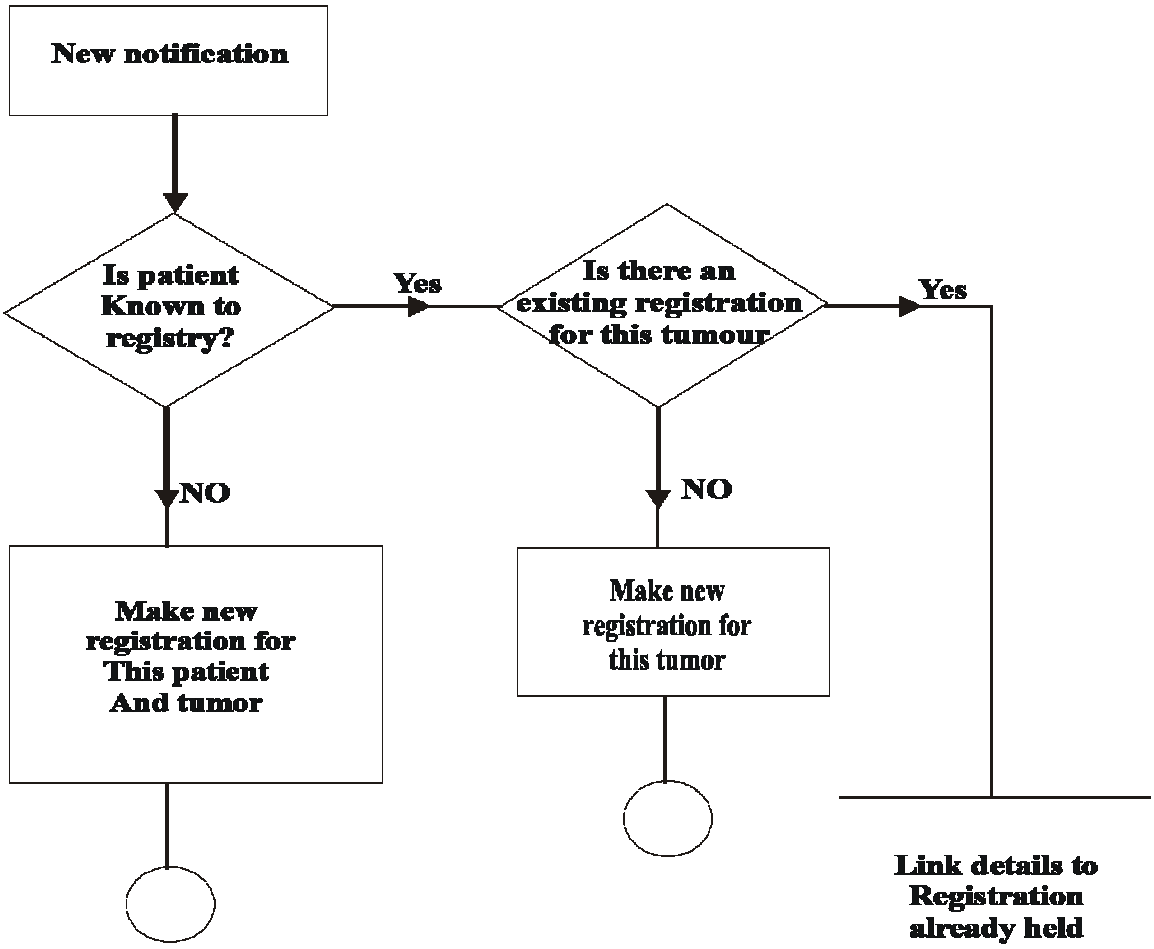
(1) The recognition of the existence of two or more primary cancers doesn't depend on time.

(2) A primary cancer is one of which originates in a primary site or tissue and is thus neither an extension, a recurrence nor a metastasis.

(3) Only one tumor shall be recognized in an organ or pair of organs or tissue (as defined by the three - digit rubric of the ICD). (This rule may have to be reviewed when ICD -10 comes into effect, for bone, for example, which has been divided between two three-digit rubrics).

(4) Rule 3 does not apply if tumors in an organ are of different histology. Table 3 (adapted from Berg, 1982) lists eight major groups of carcinomas and non-carcinomas. The specific histologies (the groups numbered 1,2,3,5,6, and 7) are considered different for the purpose of defining multiple tumors; groups 4 and 8 include tumors, which have not been satisfactorily typed histologically and cannot therefore be distinguished from the other groups.

Figure 2 : RECORD LINKAGE



RECORD LINKAGE

Purpose: to avoid duplicate registration
Method: compare notification

(1) Personal Identification Number

(2) Name

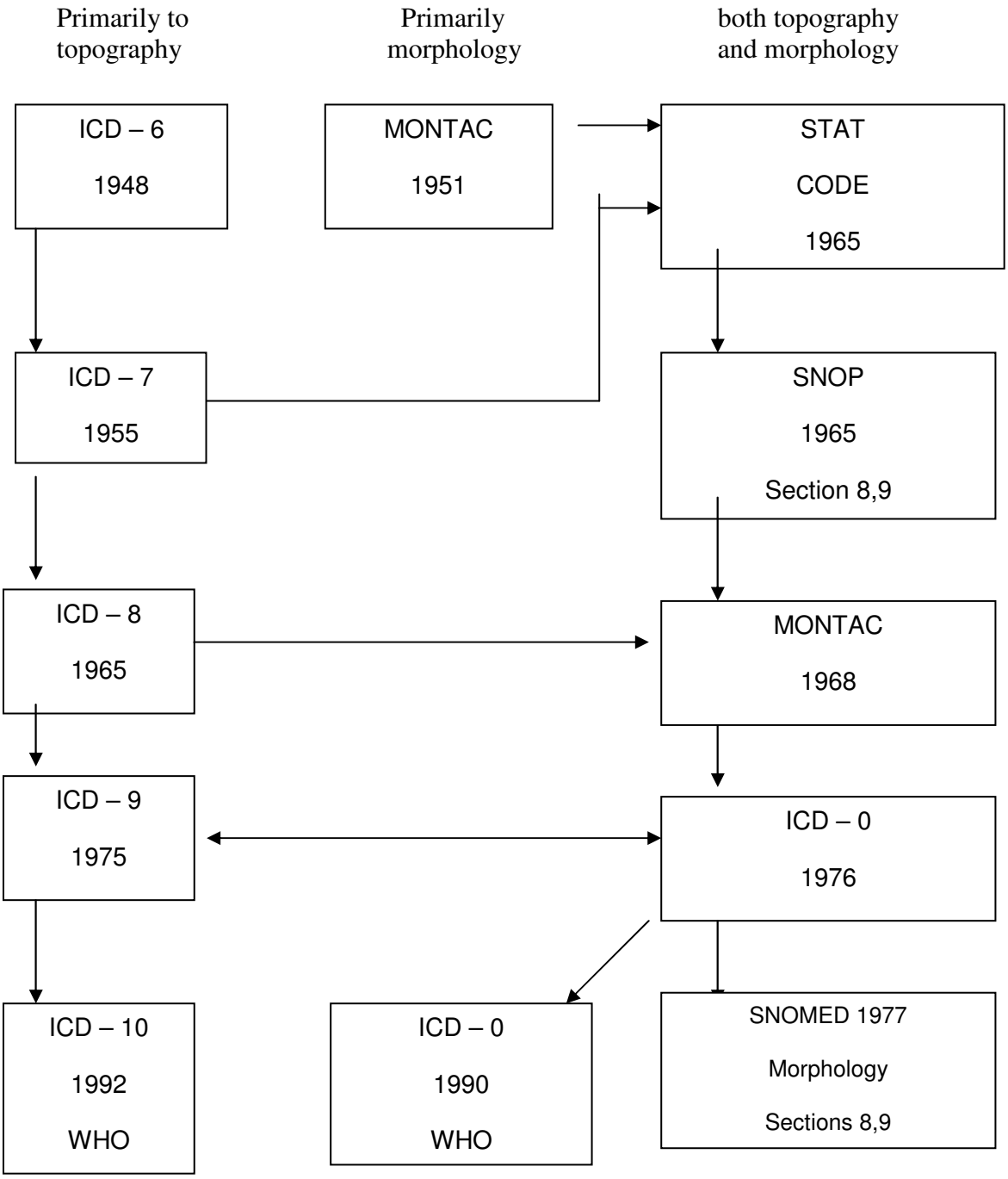
(3) Sex

(4) Date of birth (age/date of diagnosis)

(5) Diagnosis (consider second cancers)

(6) Other: Address
Place of Birth
Etc.

Figure 3: Codes for neoplasms 1948 – 1985



WHO = World Health Organization,
ACS = American Cancer Society,
CAP = College of American Pathologies,
ICD = International Classification,
MOTNAC = Manual of Turner Nomenclature and Coding,
STAT = Statistical Code for Human Tumors,
SNOP = Systematized Nomenclature of Pathology,
SNOMED = Systematized Nomenclature of Medicine

Table 3: Groups of malignant neoplasms considered to be histologically 'different' for the purpose of defining multiple tumours (adapted from Berg, 1982)

I	Carcinomas	
(1)	A.	Squamos 805-813
(2)	B.	Adeno carcinomas 814, 816, 818-823, 825-855, 857,894
(3)	C.	Other specific carcinomas 803-804, 815,817, 824, 856. 858-867
(4)	D.	Unspecified (Carcinomas NOS) 801-802
(5)	II.	Lymphomas 959-974
(6)	III.	Sarcomas and other soft tissue 868-871, 880-892, 904-905, 912-934, 937, 949-950, 954-958.
(7)	IV.	Other specified (and site-specific) types of cancer 872-879, 893,895-898, 900-903,906-911, 935-936, 938-948, 951-953
(8)	V.	Unspecified types of cancer 800,999

The numbers refer to the first three digits of the ICD-O morphology code

QUALITY CONTROL IN CANCER REGISTRATION

(1) **Comparability of Definitions**:
1. Classification and coding
2. Definitions of incidence
(i) Multiple primaries
(ii) Incidental diagnosis

(2) Completeness:
1. Death certificate method
Proportion of cases not first notified by DC
2. Independent case ascertainment method
(i) Comparison with independent source(s)
(ii) Mortality data: the M/I ratio

(3) Historic data method

(4) **Validity**:

(5) Diagnostic criteria method
Percentage histologically verified (HV%)
Percentage registered from death certificate only (DCO%)
Percentage with unknown primary site (PSU%)
Percentage with unknown age

(6) **Reabstracted record method**

(7) **Internal consistency method**
Internal Validity checks
Invalid codes or combinations
Unlikely combinations

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Review Article

Health and Hospital Management Education in India

Kavya Sharma [1], Sanjay Zodpey [2]
[1]Manager Academic programmes and Adjunct Lecturer, [2]Director Public Health Education
Public Health Foundation of India, New Delhi
Correspondence to Dr. Kavya Sharma Email: kavya.sharma@phfi.org

Public health has been of national and international concern as in the process of assuring the health standards of any nation, it involves mobilizing and engaging local, state, national and international resources. Since the health problems and issues vary from country to country, the health policies and reforms addressing these should also be customized. To effectively implement and practice these developments, it is necessary to scientifically derive the lessons learnt and relate them to adequately trained and adroit health workforce. Winslow in his definition of Public Health stated, "Public Health is the science and art of preventing disease, prolonging life and promoting health and efficiency through organized community efforts for the sanitation of environment, the control of community infections, the education of individuals in principles of hygiene, the organization of medical and nursing services for the early diagnosis and preventive treatment of disease and the development of social machinery which will ensure to every individual in the community a standard of living adequate for maintenance of health, so organizing these benefits as to enable every citizen to realize his birth right of health and longevity[(1)]. To effectively comply with the multidisciplinary dimensions reflected in Winslow's definition, it is necessary to explore the different domains of public health and provide sufficient capacity building initiatives to work upon the existing situations related to each of these domains. Public health education and competencies at various levels needed to translate evidence into policies, and to design, implement and evaluate programs[(2)]. The reach of public health has now burgeoned from studying infectious and tropical diseases to understanding the health systems and workforce at large.

The need of an ardent workforce equipped with the appropriate qualifications and professional trainings is necessary for strengthening the public health architecture of any country. Most low- to middle-income countries (LMIC) including India have to cope with a wide range of health problems that interfere with their future economic development[(3)]. This entails the requirement of formal training and courses in public health addressing specific issues and areas; to help build the capacity of individual professionals and the health systems of the countries at large. Public health education broadly covers the multidisciplinary domains of biostatistics, epidemiology, social and behavioral sciences, environmental and occupational health and health management and administration. Looking at the global health scenario and the emphasis laid upon achieving the Millennium Development Goals, public health education covering these five domains is the main forte and need of the hour.

Traditionally public health education in India is catered through medical colleges and is open for medical graduates only. However, a predominant medical model of public health education is inadequate to answer a public health concern of a large magnitude. Public health professionals with medical background alone cannot address the severe crunch of public health personnel in the country. There is a growing recognition that public health is a multi-disciplinary field. This is because public health activities are a product of teamwork and involve an extensive and continual engagement between the community and the health team. Good health is dependent upon a much wider range of determinants that encompass economics, equity, education, empowerment, social justice and governance. Addressing these multiple dimensions is not possible for any one single profession and would need team work in policy formulation, administration and service delivery to the beneficiaries. In order to address these issues currently there is a conscious shift in public health education in India with a few institutions (with medical and non-medical background) initiating public health programs for both medical and non-medical graduates. Some of them offer core public health programs (Masters in Public Health - MPH) and some of them offer specialized courses in health management and administration[(4,5)].

The healthcare industry in India is rapidly expanding with endeavors of the various public and private stakeholders. There has been multi-

million dollars of investments by various national and international donor agencies, pharmaceutical sector, central and state governments and the developmental partners. It is projected to grow 23% per annum to touch US $77 billion by 2012 from the current estimated size of US $35 billion, according to Yes Bank and an industry body report published in November 2009[6]. In order to respond to this growth and effectively and efficiently utilize the available resources and achieve realistic targets, it requires trained professionals in the areas of public health management and hospital administration. The ability of healthcare systems to provide safe, high quality, effective and patient centered services depends on sufficient, well-motivated, and appropriately skilled personnel operating within service delivery models that optimize their performance[7,8]. However, the country faces a dearth of adequately trained workforce in these domains to be suitably located at the various levels of the health care deliveries. The wide gap between supply and demand for trained healthcare managers/administrators to work for hospitals, pharmaceutical companies, health insurance and third-party administration, and other healthcare provider organizations needs attention[4,5]. Thus, understanding the existing health sector growth and complying with the increasing need of trained health care management professionals, it is important to understand the existing situation of health and hospital management education in the country.

Presently, several institutions in India are offering a joint program comprising both the domains - health and hospital management. Some of them offer these programs as a general program with a focus on both the domains and some of them offer either hospital or health management stream as specialization in the second year. Moreover, there are many institutions in the country which offer long term capacity building programs in health and hospital management separately either as post-graduate diploma or master's degree. The following sections of the manuscript discuss these initiatives separately for health and hospital management education in India.

Health management is a very important and critical domain of public health education. A total of fifty-one institutions are identified across India, which offer such courses. Every year, around 2500 qualified professionals would be available to work in the field of Health Management/Administration based on the yearly intake capacity of these institutions. One of the important initiatives in this regard is undertaken by the Ministry of Health and Family Welfare, Government of India under the National Rural Health Mission to train in service medical professionals in public health management through the network of eight premier public health institutions in India (Indian Institutes of Public Health at Gandhinagar, Hyderabad, Delhi and Bhubaneswar under the umbrella of Public Health Foundation of India, New Delhi, National Institute of Health and Family Welfare, New Delhi, All India Institute of Hygiene and Public Health, Kolkata, Mahatma Gandhi Institute of Medical Sciences, Sewagram, and Jawaharlal Institute of Postgraduate Medical and Research, Pondicherry) in order to strengthen the management capacity of these professionals. The PG Diploma in Public Health Management is a Government of India flagship program which is a one year, fully residential program with a strong component of field-based project work mainly focusing upon the applications of management principles and tools in the field of health sector. Indian Institute of Health Management Research (IIHMR) group of institutions has a mandate to build capacity in managerial cadre, and consist of three premier health management research Institutes in India. These institutes contribute towards management research, education, training and development programs in the health sector through institutes located in Jaipur, New Delhi and Bangalore. A new institute has been planned in Kolkata and would be operational in the coming academic session. Other Government institutes which offer similar programs are All India Institute of Local Self Government-Mumbai, Institute of Management Studies, Devi Ahilya Vishwa Vidyalaya-Madhya Pradesh, Christian Medical College-Vellore, Faculty of Management Studies-University of Delhi, Jamia Hamdard University-New Delhi and School of Health Sciences-IGNOU New Delhi. Many private institutes and societies also provide related courses in health management and have been contributing to the growing demand of the health professional in the desired field. This list includes institutes like Symbiosis Institute of Health Sciences-Pune, Tata Institute of Social Sciences-Mumbai, Birla Institute of Science and Technology-Pilani and Manipal Academy of Higher Education-Manipal. The programs offered by most of the institutes are usually a 1-2 year regular Post Graduate Diploma in Health Management or a Master's Degree. Some institutes are offering an MBA with specialization in

Healthcare Management, and also a Master's in Health Administration, acronym as MHA. The eligibility criteria for these courses vary from institute to institute, with a minimum requirement being a recognized Bachelor's degree in any stream, preferably medical or paramedical, life-sciences background. MBBS, BDS, AYUSH or physiotherapy, allied health science and pharmacy graduates are given preference over others. Although the aforementioned institutions annually produce around 2000 qualified professional to work in the domain of health management the demand assessment has projected that 20,000 professionals would be required based upon the country's present needs, which reflects the dearth in their workforce capacity[4].

Hospitals are intricate organizations that require multi-sectoral coordination and strong managerial supports. Hospital management is a domain which offers expertise to the participants in providing leadership for the coordination activities across the hospital setup. The medical colleges and hospitals have an exclusive hospital administration department that is responsible for the various operational activities run within the hospitals. These are accountable for data handling, medical records section, issuance of the birth and the death certificates, kitchen and laundry services, medical gases, biomedical engineering etc, which contribute as an equally vital factor in smooth functioning of the hospitals. There are various institutions in India that offer short and long term courses in this field. Fifty-one institutions have been identified which offer such courses, which range from MD in Hospital Administration for medical graduates, full time master's program in management to post graduate diplomas, distance learning programs, certificate programs, etc. Around 2526 qualified professionals in the field of hospital management and administration are available every year. This is a cumulative count of seats available in the regular programs offered by these institutes, and also includes three distance learning programs. Many such programs are also offered through various universities via distance learning mode. Several institutes offer the Doctor of Medicine (MD) degree in Hospital Administration for medical graduates. Eleven MD (Hospital Administration) are produced every year across the medical colleges in India, while two prime institutes offer the similar program as Masters in Hospital Administration, i.e. All India Institute of Medical Sciences (AIIMS), New Delhi and PGIMER (Postgraduate Institute of Medical Education and Research), Chandigarh. There are institutes like the Indian Institute of Health Management Research Society, Tata Institute of Social Sciences, Symbiosis Institute of Health Sciences etc, which encourage the non-medical background students to pursue a related course in hospital management, and thus contribute significantly in building up on this workforce. The programs are usually of the span of 1-2 years duration. Some institutes also offer the Master's in Hospital Administration (MHA) or Master's in Hospital Management (MHM) courses. Around 447 MHAs and 200 MHMs are produced annually. Some institutes offer postgraduate diplomas for 1-2 years which form a major portion of the qualified graduates in this field. Core MBA with specialization in hospital management is also available with some institutes to provide the industry edge. Around 540 MBAs and 858 regular Postgraduate Diploma holders in this stream graduate every year. The eligibility criteria range course structure and curriculum of these program. graduate every year. The eligibility criteria range from plain graduates in the science stream to medical professionals, having an MBBS or an allied health degree. Although the total annual output of these institutions is 2500 qualified professionals which are available to work in the domain of hospital management / administration the need is estimated to be of 22,000 professionals based upon the country's present status, which reflects the dearth in their workforce capacity[5].

Issues like accreditation and affiliation of these programs which offer health and hospital management education are challenging questions, since there is no set council to answer to the comprehensive needs of these courses. Medical Council of India accredits courses which are offered to the medical graduates only. Rest of the programs have a usual university status granted by the UGC or affiliations by the AICTE. With the formation of a recognized and registered council (National Council for Human Resource in Health), there are hopes for better regulation and uniformity.

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Original Article

Process evaluation of routine immunization in rural areas of Anand District of Gujarat

Tushar Patel[1], Devang Raval[2] Niraj Pandit[3]
[1]Assistant Professor, P.S. medical College, Karamsad ,[2]Associate Professor ,Community Medicine Department, Govt medical college, Bhavnagar; [3]Associate Professor ,Community Medicine Department,SBKS Medical College, Waghodia
Correspondence to: Tushar patel, Email: trushar_9@yahoo.com

Abstract:

Objective:

To evaluate the process components of routine immunization such as planning of immunization sessions, cold-chain and logistic management, community mobilization, appropriate technique of vaccination etc. in district Anand, Gujarat.

Study Design:

Cross-sectional observational study.

Study setting:

Sub-centre or Aanganwadi where immunization sessions are conducted and Primary Health Centres.

Methods:

Total 88 immunization sessions were evaluated in 44 PHCs. With the help of pre-tested structured questionnaire information was gathered.

Results:

Almost 46 percent of session sites did not have list of beneficiaries for active mobilization. In nearly 78.4 % of sessions, number of mobilizer present during immunization session was one and/or two. Only 50 percent of session sites had all vaccines available. 93.2 % of Primary Health Centres had no written plan for supervision of immunization sessions. Out of 44 PHC, in 29.6 % of PHCs, sessions were not conducted as per micro-plan on the date of visit.

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Conclusion:

All ASHA / Aanganwadi workers should mobilize infants from their respective area if village has more than one AWW/ASHA. There is need to send BCG vaccine at all session sites irrespective of wastage concerns. Problem of Vacant post of FHW or FHW on leave/deputation should be dealt with.

Key words: Routine Immunization, Process evaluation

Introduction:

Infectious diseases are one of the major causes of morbidity and mortality in children. One of the most cost effective and easy methods for child survival is immunization. To reduce the morbidity and mortality due to vaccine preventable diseases World Health Organization (WHO) launched Expanded Programme on Immunization in 1974. As a member country Government of India also accepted the immunization programme in 1978 which was re-introduced as the Universal Immunization programme in 1985. Initially the target was set to cover at least 85% of all infants [(1)]. However national socio-demographic goals in National Population Policy 2000 set a target of achieving 'universal' immunization of children by 2010[(2)].

In spite of Immunization Programme operating in India since 1978, approximately10 million infants and children remains unimmunized. Number is higher than any other country in the world [(3)]. Only 44% of infants receive full vaccination (all doses up to age of one year) and 5% of infants don't receive any vaccine in India [(4)].

It was realized that merely providing vaccine just to achieve targets without giving adequate attention to quality of immunization services doesn't guarantee a reduction in disease morbidity & mortality. Full course of potent vaccine given at right age, at right interval, by right technique with a valid documentation constitutes quality criteria of vaccination services. For successful implementation of routine immunization service all its components – planning of immunization sessions, cold-chain and logistic management, community mobilization, appropriate technique of vaccination etc. should also be carefully looked into. This requires an in-depth process evaluation. The present study was conducted with an objective to evaluate the process of routine immunization in district Anand, Gujarat with specially focus on quality of services.

Materials and Methods:

The present study was immunization session based evaluation study. The study was carried out during the year 2008 in Anand district of Gujarat. The district is situated in central Gujarat and popularly known as "charotar" green belt of agriculture, where main agriculture product is tobacco. Author of the study worked as Routine

Immunization Monitor and study was conducted along with monitoring. The district Anand has 44 Primary Health centres in 8 Talukas, which covers 1.86 million populations according to 2001 census. It was decided to cover all PHCs for evaluation and at least two sessions should be monitored for study. Thus total 88 sessions in different villages were observed on Wednesdays (Fixed Immunization day). The schedule of vaccination programme was taken from Chief District Health officer and Block Health officer. Two sessions/sites in one PHC area were selected randomly. The PHC staffs were informed about visit of supervision and the session visited.

The data was collected on structured pretested questionnaire, which was prepared by WHO/Government of India and modified as per requirement of study [3]. The questionnaire consists of interview and observations of various aspects like programme management, cold chain management, injection technique and safety, quality of record keeping and reporting, IEC, micro plan and community mobilization. All the data collected was then coded and analyzed using Microsoft Excel. Co-Author assisted in designing the study and analysis of data.

Results:

Total 88 immunization sessions were observed during 2008. It also showed that only 13.6% of Female Health Workers have registered 90-100% of expected number of births. Birth registration is essential for mobilizing beneficiaries. The poor registration was observed at majority of sub-centres (Table 1).

Almost 46% of session sites did not have list of beneficiaries for active mobilization. Infant mobilizer plays an important role in vaccination coverage. In immunization programme, Aanganwadi worker, ASHA worker, Village volunteers are working as mobilizer. In 78.4% of sessions, number of mobilizers present during immunization was one and/or two.(Table-1)Most of the Female Health workers (92.1%) were correctly filling immunization register. IEC materials were displayed at 97% of session sites. Only 62% of ANMs were giving four key messages tobe given after vaccination viz. name of vaccine that has been given, side effects of vaccination, when to come for next vaccine and to bring immunization card along during next visit.

Table 2 depicts that only 50% of session sites had all vaccines available. In respect to cold chain maintenance, 98.8% of sites shows VVM stage I or II and 98.8% of sites had freeze sensitive vaccines in liquid form. This was quite positive for the district. However, at 28.5% sites, time of reconstitution was not written on vial after reconstitution of freeze dried vaccine.

Table I: Status of record keeping and infant mobilization during immunization session

DIFFERENT ASPECTS	N=88	ADEQUATE (%)
Number of births registered (% of total target): 90 – 100%	12	13.6
70-90 %	59	67.1
Less than 70 %	17	19.3
List of due beneficiaries prepared Yes	48	54.5
No	40	45.5
Number of AWW/ASHA/other mobilizer present < three	10	11.4
One / Two	69	78.4
Zero	9	10.2
Correct filling in of immunization register Yes	81	92.1
No	7	7.9
ANM is giving all 4 key messages after vaccination Yes	55	62.5
No	33	37.5
IEC displayed on site Yes	85	96.5
No	3	3.5

Technique of vaccine administration was quiet good with 95.4% of Female Health Workers selecting appropriate site and route of vaccination, 86.4% of FHWs gave appropriate dose of vaccine and 92.0% of them administered vaccine at appropriate age. The study also revealed that only

3% of ANMs had needle stick injury in the last three months. All ANMs were using auto-disable syringes for vaccination.

Table 2: Cold chain, logistics, safety issues etc. at session site

DIFFERENT ASPECTS	N=88	ADEQUATE (%)
All vaccines along with diluents available Yes	44	50.0
No	44	50.0
Freeze sensitive vaccine in liquid form and shake test OK Yes	87	98.8
No	01	01.2
VVM stage I or II on OPV Yes	54	98.8
No	01	01.2
Time of reconstitution written on vial Yes	64	61.4
No	34	28.6
Correct selection of Injection site and route Yes	84	95.4
No	04	04.6
Correct dose of vaccine given Yes	76	86.4
No	12	13.6
Correct age of administration Yes	81	92.0
No	07	08.0
Number of ANMs asking to wait for half an hour after vaccination Yes	86	97.2
No	02	02.8
Use of separate syringe and needle for each injection Yes	88	100.0
No	00	0
Needles stick injury to ANM during last three months Yes	02	02.8
No	86	97.2

Programme management and cold chain aspects at Primary Health Centre (Table- 3) shows that 93.2% of Primary Health Centres had no written plan for supervision of immunization sessions. Out of 44 PHCs, in 29.6% of PHCs sessions were not conducted as per micro-plan, due to various reasons like vacant post, FHW on leave or in training etc. Temperature of ILR (in 90.9% of PHCs) and storage of vaccines in ILR (in 93.2% of PHCs) were appropriate.

Table 3: Programme management and cold chain issues at PHC level

DIFFERENT ASPECTS	N=44	ADEQUATE (%)
Plan for supervision available at PHC Yes	03	06.8
No	41	93.2
Percentage of sessions Conducted against planned on the date of visit 100%	31	77.0
80-100%	08	18.2
< 80%	05	11.4
Drop out for DPT1-DPT3 at PHC as per monthly report < 10%	41	93.2
> 10%	03	06.8
Correct storage of vaccines in ILR Yes	41	93.2
No	03	06.8
ILR temperature +2 C to +8 C Yes	40	90.9
No	04	09.1

Discussion:

To achieve the target of 100% immunization of infants, the first step is to achieve 100% birth registration. However, present study shows that 86.36% of female health workers had registered less than 90% of expected births and 45% of FHWs had not prepared due beneficiary list. Not preparing the list of due beneficiary infants, further reduces the possibility of the infant mobilized to session site for vaccination.Around 9.7% of mothers lacked information about the session as reporteded by U Manjunath et al in his study on

Maternal Knowledge and perception about routine immunization [5]. These mothers require active mobilization. Only one or two mobilizer was present in session at 78% sessions and at 10% session sites there were no mobilizers. Even if a village had more than one Anganwadi, only one Anganwadi worker remained present during sessions as per rotation. Workers from other areas neither mobilize infants nor remain present at session.

Regarding availability of all vaccines at session sites, only 50% of sites were having all vaccines. This was mainly because of BCG vaccine which FHW gives only once in a month to avoid wastage. No tracking of drop-outs and left-outs and missing opportunities due to wastage concerns were also identified by National Immunization Programme Review [6].

Cold chain issues at vaccine sites, like VVM for polio vaccine and shake test for freeze sensitive vaccine were satisfactory. But reconstitution time was not written on vial for almost 28% of session site which is important for prevention of toxic shock syndrome followed by measles vaccine. Other vaccine safety aspects like correct site for vaccination, correct dose, and correct age were satisfactory. Injection safety issue was also good in district. Only 3% ANM reported needle stick injury in last three months. This is much lower than reported by Pandit NB[7] in his study from the same district in 2004. He has reported more than 19% of annual needle stick injuries among service providers in district Anand, India. The reason for lower needle stick injury among vaccinator may be due to universal use of AD syringe.

Arun Aggarwal et al in his evaluation of cold chain system has identified that storage of vaccine and packing was proper, most ILRs had temperature within prescribed range (4 to 8^0 C) [8]. The present study also supports the Arun et al study. Similarly Sokhy J et al has also reported satisfactory immunization session organization, cold chain maintenance and injection techniques [9]. Micro-plans have been prepared by PHCs. But all sessions are not conducted as per micro-plan due to various reasons like vacant post, staff deputed for training, staff on leave etc. Lack of staff and resources for service delivery has also been reported by National Immunization Programme Review by World Health Organization[6].

Recommendations:

Though cold chain maintenance is appropriate, to achieve 100% target of immunization coverage there is need to improve birth registration and active mobilization of infants. All ASHA workers/ Aanganwadi workers should mobilize infants from their respective area if village has more than one AWW/ASHA. Name of mobilizer should also be mentioned in micro-plan. Some incentive to mother can improve attendance during routine immunization session.

BCG Vaccine is given only once in a month by FHWs to avoid wastage. However different sessions in one month are for different areas. So there is need to send BCG vaccine at all session sites irrespective of wastage concerns.

Vacant posts of FHWs should be filled so that all planned sessions can be conducted. There should be alternate plan available in case of any unforeseen condition like leave and training of ANM/FHW. It is also recommended that concept of mobile immunization team could be considered which could fill the gap of staff on leave or deputed for training and other reasons

Other activities like Orientation training of ANM, Waste management. Review Meetings, Strengthening the Cold Chain Systems, organizing immunization week, etc. could be carried out to improve the coverage and effectiveness of the programme.

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Original Article

A study of nutritional status and high risk behavior of adolescents in Ahmedabad: A Cross Sectional Study

Mital Prajapati[1], D.V.Bala[2], Hemant Tiwari[3]
[1]Regional child Survival Officer, Bhavnagar Region
[2]Professor and Head, [3] Assistant Professor in Bio-statistics, department of Community Medicine, NHL Municipal medical college, Ahmedabad
Correspondence to: Dr. Mital Prajapati, , M: 09879579967, Email: drmit82@yahoo.com

Abstract:

Background:
Adolescence is a distinct age group (10-19 yrs) with complex needs because of physical and psychological development during puberty.

Aim:
To evaluate adolescents' nutritional status and high risk behavior.

Settings and design: A Cross Sectional study was conducted in West Zone of Ahmedabad Municipal Corporation, Gujarat.

Methods & Material:
401 students (10-19years) from 10 schools and colleges surveyed using pretested questionnaire about nutritional status and high risk behavior. To analyze nutritional status height, weight and BMI were taken and analyzed using WHO growth standards 2007.

Statistical analysis:
Qualitative data analysis done using Epi Info and WHO Anthro Plus softwares.

Results:
47.4% (95% CI= 30.7% - 64.6%) were stunted and 19.5% (95%CI=12.6% - 28.7%) were overweight according to WHO growth standards 2007. Awareness about HIV/AIDS was 93.27% and main media of awareness was television(55.35%). 13.22% were sexually active and 35.85% used condoms during last sexual act. 22.56% have habit of masturbation. 25.19% students believe masturbation is bad habit. Only boys (15.9%) had addiction and common was tobacco chewing (61.29%). No one was Intravenous Drug User. Mean age for menarche was 12.84 yrs. From them 60.93% have problems during menstruation. Most common problem was dysmenorrhea (58.7%). For discussing sexual health problems, 74.64% students prefer with friends.

Conclusions:
Adolescents have many health problems that need to be taken care of by effective interventions.

Key message:
Nationwide adolescent health data is inadequate. Focus must be given on analyzing adolescent health issues and to solve them.

Key words: adolescent, high risk behavior, nutritional status.

Introduction:

Adolescent is defined by WHO as a person between 10-19 years of age. There are about 1.2 billion adolescents worldwide and one in every five people in the world is an adolescent. Adolescents constitute 18-25% of the population in member countries of South East Asia Region[(1)].

Adolescence involves:
Rapid physical growth and development;
Physical, social and psychological maturity, but not all at the same time; Sexual maturity and the start of sexual activity; Trying out experiences for the first time; A frequent lack of knowledge and skills to make healthy choices; Patterns of thinking in which immediate needs tend to have priority over long term implications; The start of behaviors that may become life-time habits that results in diseases many years later[(2)].

One in every five people in the world is an adolescent, and 85% of them live in developing countries[(3)]. Nearly two thirds of premature deaths and one third of the total disease burden in adults are associated with conditions or behaviours that began in youth, including tobacco use, a lack of physical activity, unprotected sex or exposure to violence[(3)]. Promoting healthy practices during adolescence and efforts that better protect this age group from risks will ensure longer, more productive lives for many[(3)]. Total adolescent population of India is 209 148 (21% of the total population)[(4)] adolescent health issues can be further complicated by factors associated with rapid social and economic development, increased urbanization, the widening gap between rich and poor, youth unemployment and rural poverty put adolescents at greater risk for sexually transmitted infections, pregnancy, undernutrition and overnutrition, and substance abuse[(5)].

Adolescents should receive explicit attention with services that are sensitive to their increased vulnerabilities and designed to meet their needs[6]. The present study was carried out to determine the nutritional status and high risk behavior of the adolescents.

Subjects & Methods

It was a cross sectional study , conducted amongst 401 Students (195 boys and 206 girls) in the age group of 10-19years attending 10 schools and colleges of West Zone of AMC in the period of July 2008 to December 2008 .Systemic random sampling technique was used to select a sample. Schools and colleges were selected by draw method. Students to be included were determined by taking every 5th, 10th, 15th, 20th, as per the roll number of the respective class. On an Average, 40 students were taken in each age group. There were 2 survey teams. 2 trained MBBS students were trained for interviewing, filling questionnaire and practical method of taking weight, height and BMI. After taking permission from school/college authority, teachers were explained the purpose of the study. By using pre-tested, pre-designed questionnaire, Students were personally interviewed for high risk behavior. General information like weight, height and Body Mass Index (BMI= Weight/Height^2= Kg/m^2) was collected for nutritional status assessment. Weight upto 100gm and height upto 0.1cm accuracy were taken. Analysis was done by using AnthroPlus software[7] and Epi info software. Chi square test was applied to find out correlation between overweight and menstrual problems.

BMI-for-age is the recommended indicator for assessing thinness, overweight and obesity in children 10-19 years.[7]

Cut-offs for BMI[7]

Overweight: >+1SD (equivalent to BMI 25 kg/m^2 at 19years)
Obesity: >+2SD (equivalent to BMI 30 kg/m^2 at 19 years)
Thinness: <-2SD
Severe thinness: <-3SD

Ethical Consideration: Consent of ethical committee was taken prior conducting the study.

Results:

Mean weight and height of the students were 45.34kg (2 SD= 11.08) and 147.35cm (2SD= 9.99) respectively. Mean BMI was 22.71 kg/m^2 (2 SD=35.06). According to WHO 2007 growth standards, from all the adolescents surveyed, as per BMI 19.5% (95%CI=12.6% - 28.7%) were overweight (>+1SD) and 0.5% (95%CI=0.1% - 2%) were categorized as thin. Overweight was more common in males. 80% of the adolescents have BMI in normal range. 26.7% (95%CI=16.1%, 40.8%) boys and 12.6% (95%CI=7.8% - 19.9%) girls were overweight. No one was found to be obese or severe thin. Average height for age was lower than standard WHO median height. 47.4% were stunted. (%<-2SD= 47.4, 95% CI= 30.7% - 64.6%). [Table 1]

Table 1. BMI for age and Height for age according to WHO growth standards 2007.

BMI for Age			
	Sexes combined	Male	Female
% <-2SD (95% CI)	0.5 (0.1%-2%)	0.5 (0.1%-4.6%)	0.5 (0.1%-4.2%)
%>+1SD (95% CI)	19.5 (12.6%-28.7%)	26.7 (16.1%-40.8%)	12.6 (7.8%-19.9%)
Mean(Z score)	0.23	0.49	-0.02
SD (Z score)	0.85	0.8	0.83
Height for Age			
	Sexes combined	Male	Female
% < -3SD (95% CI)	11 (5.2%, 21.6%)	19 (8.5%, 37.2%)	3.4 (0.9%, 11.7%)
% < -2SD (95% CI)	47.4 (30.7%, 64.6%)	53.8 (34.1%, 72.4%)	41.3 (24.2%, 60.7%)
Mean(Z score)	-1.86	-1.98	-1.75
SD (Z score)	1.09	1.27	0.87

Awareness about HIV/AIDS was good (93.27%). Only 3.49% were screened for HIV/AIDS. Most common media for HIV/AIDS awareness was television (55.35%) followed by radio, newspaper and internet (more than one choice of media for this question is given by the students who are aware of HIV/AIDS). All were unmarried. 13.22% (girls=22.64%, boys=77.36%) students were sexually active (premarital sex). all were heterosexual and only 35.85% had used condom in last sexual act. 22.56% students had habit of masturbation. 25.19% students believed that masturbation was a bad habit. Only boys had

addiction (15.9%) and most common was tobacco chewing (61.29%). No one was Intra Venous Drug User (IVDU). 43.64% believed that sex education in schools and colleges should be mandatory. [Table 2,3 & 4]

Table 2. Addiction pattern amongst 31 boys who had addiction.

	N=31	%
Tobacco chewing	19	61.29
Smoking	9	29.03
Drinking	3	9.68
Other	0	0

N= No. of respondents

Table 3. Characteristics of adolescent behavior

S.	Variables	No	yes	%
1	Awareness about HIV/AIDS N=401)	27	37	93.2
2	Screened for HIV/AIDS (N=401)	38	14	3.49
3	Sexually active (N=401)	34	53	13.2
4	Used condom during last sexual act amongst who are sexually active(N=53)	34	19	35.8
5	Doing masturbation (N=401)	35	44	22.5
6	Masturbation – a bad habit (N=401)	30	10	25.1
7	Any addiction (N=195)*	16	31	15.9
8	Sex education is mandatory (N=401)	22	17	43.6
9	Menarche achieved (N=206)**	55	15	73.3
1	Any menstruation problem amongst girls who achieved menarche(N=151)	59	92	60.9

N= No. of respondents *only boys=195 had addiction **only for girls=206

73.3% girls have achieved menarche from 11 to 15 years of age. Mean age for menarche was 12.84years (SD=0.86; 95%CI=12.39%- 13.33%). From 151 girls who achieved menarche, 60.93% had problems during menstruation. Most common complaint was dysmenorrhea (58.7%) followed by irregular menstruation (20.65%), excessive bleeding per vaginum (19.56%) and foul smell discharge (1.09%). There is no statistical significance between overweight and menstrual problems (p=0.0907, OR= 2.17, 95% CI= 0.9369, 4.122). [Table 5, 6 & 7]

Table 4. Media of awareness about HIV/AIDS. (N=374)

Sr. No.	Media of awareness	Total no. of responses given by adolescents	%
1	Television	207	55.35%
2	Radio	91	24.33%
3	Newspaper	62	16.58%
4	Internet	9	2.41%
5	Other	5	1.33%

Table 5. Age at menarche (N=151)

Age	N	%
11	8	5.3
12	39	25.83
13	65	43.05
14	38	25.17
15	1	0.65

N= No. of respondents

Table 6. Type of menstrual problems among adolescent girls who have problems during menstruation (N=92)

Sr. No.	Menstrual problems	No. of girls	%
1	dysmenorrhea	54	58.7%
2	Irregular menstruation	19	20.65%
3	Excessive bleeding per vaginum	18	19.56%
4	Foul smell discharge	1	1.09%

About discussing sexual health problems, most students prefer with friends (74.64%) followed by doctor (14.49%), sibling (7.97%) and

then teacher (1.93%). Negligible students prefer to discuss with their parents. More than one response is allowed to be given by adolescents. [Table8]

Table7. Correlation between overweight and menstrual problems.

	Menstrual Problem+	Menstrual Problem -	P value
Overweight	16	10	0.0907
Non overweight	76	103	

Table-8. Adolescents discussing sexual health problems with the following persons commonly (N=414)

Sr. No.	Discussing sexual problems with following persons	Total no. of responses given by adolescents	%
1	Friends	309	74.64
2	Doctor	60	14.49
3	Siblings	33	7.97
4	Teacher	8	1.93
5	Other	4	0.97

Discussion :

Adolescents and young adults are adversely affected by serious health and safety issues such as substance abuse, unsafe sex and high risk behavior.

Adolescence is a phase of rapid growth and development during which physical, sexual and emotional changes occur. Adolescents are not homogeneous group and their needs vary with their gender, stage of development, life circumstances and the socio economic conditions in which they live. Many premature deaths among adults are largely due to behaviors initiated during adolescence[1]. Young people can easily be influenced to smoke, take drugs, drive dangerously, have unsafe sex, and commit crimes[13].

When children are growing up into adolescents, they feel very guilty and abnormal because they think about sex so often. Also, when they need some information, they are not allowed to have it. From the questions that frequently come up on the telephone help-line, and over radio programmes, it is also known that adolescents are bothered most about issues that are considered taboo by society - like masturbation, homosexuality, and abortion. They want authentic information and do not often know who to turn to or where to seek it[13]. Adolescence is also a period of forming relationships and breaking others. Many adolescents do not wish to acknowledge their parents and families, and parents should not wonder why they are seeking other company – it is a temporary phase and a natural part of growing up to seek relationships among peer groups. The traditional and conservative societies among which adolescents grow up may frown upon interactions, or close relationships, with members of the opposite sex. At the same time, they are being increasingly exposed to the freedom enjoyed by their counterparts in affluent societies. All this can lead to extreme frustration, unless community centers or other outlets like clubs can provide harmless activities and opportunities to keep them occupied. Frustration can lead them to seek undesirable company, to pursue dangerous activities, and to adopt harmful behaviour such as indulging in substance abuse[13].

Regardless of gender, the rate of stunting was higher in Indian adolescents from India (25.5-51%) when compared with Indian adolescents in UAE(3.1-21%)[16].Study by Sarah Bott[8], conducted in three remote rural areas found that the majority of adolescent girls were stunted and undernourished, including 72% of girls aged 10– 14 and 45% of girls aged 15–18. The majority (70%) of younger girls had a Body Mass Index (BMI) less than 5%, as did 15% of girls aged 15–18. The same study found that adolescent girls achieved menarche later. Large numbers of girls in Nepal are malnourished and reach menarche at an average age of 13.2 years[8]. Lower rates of undernutrition (except during the first 6 months of life) and higher rates of overweight and obesity was based on the WHO standards 2007[9]. In present study also overweight was 19% more than thinness amongst adolescents. Stunting is predominantly higher which indicates chronic malnutrition and lag of physical growth. So Nutritional status of

adolescents must be improved in consideration of stunting, thinness and overweight and health programme should focus on adolescent nutrition. Mean age at menarche was 12.84years which is approximate to above mentioned study in Nepal. The prevalence of anemia was found to be 59.8% in adolescent girls in rural Wardha[10]. In the present study it was 15.53% which is underestimated because it was based on clinical diagnosis.

Findings of the few available studies (see for example, Jejeebhoy, 2000, for India; or Abraham, this volume) generally suggest that between 20% and 30% of young men and between 0% and 10% of young women report premarital sexual experience. Sexual initiation occurs earlier than many assume, and is often unplanned and unprotected[11]. Young people aged 15-24 accounted for an estimated 45% of new HIV infections worldwide in 2007[3]. In our study 22.64% girls, 77.36% boys report pre-marital sexual act and only 35.85% were using condom. Boys are more commonly involved in premarital sexual act. So in the era of HIV/AIDS pandemic there is a great need to increase awareness about safe sexual behavior amongst adolescents.

According to the study conducted by A Dasgupta and M Sarkar[14], mean age of menarche in adolescent girls was 12.8 yrs, whereas in a study conducted in Rajasthan by Khanna at el[15], the mean age of menarche was found to be 13.2 yrs. In the present study mean age of menarche is 12.84yrs. The findings of the present study showed 58.7% prevalence of dysmenorrheal. Comparatively higher prevalence of dysmenorrheal has been reported in study by by Anil Agrawal[17], (79.67%) and Sundel et al[18], (67%).

Limited access to sex education and attitudes that prohibit discussion of sex exacerbate their ignorance. Three papers, namely those by Rashid (Bangladesh), ul Haque and Faizunnisa (Pakistan) and Masilamani (India), explore communication between adolescents and adults. Parents reported embarrassment about discussing issues with adolescent children believes that talking to adolescents about these matters will imply approval of premarital sexual activity. Adolescents perceive discussions with parents about sexual and reproductive topics to be taboo and express embarrassment at the prospect. In both rural areas and urban slums, parents often want and expect their adolescent children, particularly daughters, to remain uninformed about sex. Educational systems also tend to be ambivalent about sex education, though this has begun to change in the wake of the HIV/AIDS pandemic. Teachers often find the topic embarrassing or shameful, and may avoid such issues, even in schools that supposedly teach a family life/sex education curriculum. As a result of adults' reticence to address these issues, young people tend to rely on peers and mass media for information about sex, reproduction and STIs including HIV/AIDS[8]. In our study 93.27% adolescents were aware of HIV/AIDS. Major media of HIV/AIDS awareness was T.V. (55.35%) and majority adolescents discuss various aspects of sexual health with their friends (75%) and no one with their parents. So there is a need for educators and parents to improve their ability to communicate with young people.

The vast majority of tobacco users worldwide begin during adolescence. Today more than 150 million adolescents use tobacco, and this number is increasing globally.[3] Tobacco companies have long targeted youth as "replacement smokers" to take the place of those who quit or die. The industry knows that addicting youth is its only hope for the future. Although anyone who uses tobacco can become addicted to nicotine, people who do not start smoking before age 21 are unlikely to ever begin. Adolescent experimentation with a highly addictive product aggressively pushed by the tobacco industry can easily lead to a lifetime of tobacco dependence. The younger children are when they first try smoking, the more likely they are to become regular smokers and the less likely they are to quit[12]. In this study tobacco addiction is most common in the form of tobacco chewing and smoking amongst adolescents. So for deaddiction and awareness programmes related to tobacco addiction, adolescents and youth must be targeted for interventions.

Unless we can address these critical issues, it is not possible to promote the health of adolescents in the Region. The answer appears to lie in universal education, improved quality of life, equitable opportunities, access to health care, confidential counseling and information services but above all, understanding and supportive parents[13].

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Original Article

Impact of knowledge about Post exposure prophylaxis among nursing students - A cross sectional study

Harshal. H. Sabane[1], Ruchita R. Dixit[1], P. M. Durge[2]
[1]Assistant Professor, [2] Professor & Head, Dept. of PSM, NKPSIMS and RC Nagpur
Correspondence to: Harshal. H. Sabane, Email: harshalsabane@gmail.com

Abstract

Background:
A cross sectional study was conducted to study the level of knowledge and attitude about Post Exposure Prophylaxis (PEP) among nursing students of Nagpur. Pre tested closed ended questionnaires were completed before and after an educational intervention to assess the knowledge retention in the students.

Method:
The study is a cross sectional study with a pre-test and post-test conducted among 108 nursing students of a Nursing college in Nagpur. The questionnaire consisted of a total of 19 questions with sections of general information of the students followed by facts about HIV and AIDS, prevention and lastly PEP.

Result:
The knowledge in pre test session was poor in all the three sections. It was observed that knowledge on all the three aspects improved in the post test session. The increase in knowledge was statistically significant for all the three sections. The retention of knowledge imparted to the students was satisfactory.

Conclusion:
Nurses are probably the most vulnerable of all the health care workers to get exposed to the occupational hazard of HIV infection. Sadly the knowledge regarding various vital aspects of this plague of modern times is unsatisfactory in this important health workforce. However it is encouraging to note that the situation can be rapidly changed using simple methods of teaching and discussions focused on the topic.

Key words: **PEP, Nursing students, Pre and Post test, HIV, AIDS**

Introduction

Healthcare settings are constantly exposed to numerous occupational hazards. With the growing trend of HIV infection in recent years, it has posed increasingly difficult challenge for this population. It has rapidly become one hazard that people in the healthcare field fear most. It has been reported that nearly 3 million healthcare workers suffer percutaneous exposures each year. Of these, an estimated 66,000 hepatitis B, 16,000 hepatitis C, and up to 1000 HIV infections occur each year[(1)].

Avoiding occupational blood exposures is the primary way to prevent transmission of hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV) in health-care settings [(2)]. Due to the increasing problem of HIV infection from needle sticks, the Center for Disease Control now recommends what is known as post-exposure prophylaxis (PEP) for those workers with needle stick injuries thought to be at risk of carrying the HIV virus.

This is all the more important as the incidence of needle stick injury in specific health care groups such as surgeons, orthopedics is very high. In some studies as high as 44 % of the surgeons admitted having suffered a needle stick injury[(3)]. The risk of transmission of blood borne diseases is still low by this route. Another study reports that the probability of transmission of HCV from an infected patient to the doctor is only 0.001 – 0.032% annually. [(4)] This being so, these is no place for complacency, because as the prevalence of HIV infection will show a surge the probability of the health care workers acquiring HIV from the patients due to various professional activities will also increase.

Any direct contact (i.e., contact without barrier protection) to concentrated virus in a research laboratory or production facility is considered an exposure that requires clinical evaluation. For human bites, the clinical evaluation must include the possibility that both the person bitten and the person who inflicted the bite were exposed to blood borne pathogens. Transmission of HBV or HIV infection only rarely has been reported by this route [(5,6,7)].

PEP should be initiated as soon as possible. The interval within which PEP should be initiated for optimal efficacy is not known. Animal studies have demonstrated the importance of starting PEP soon after an exposure [(8,9)].

Nurses are probably the most commonly exposed health care staff exposed to needle stick injuries and contact with infectious fluids. They also influence the behavior of other health care works allied with them like the ward boys and cleaners. Hence it is utmost important that they must know how to protect themselves from this potential but devastating professional health hazard. Little information is available about the knowledge of nurses in this critical area. A study was thus envisaged to study the existing knowledge and attitude about this vital issue amongst them.

Aims and Objectives

- To study the level of knowledge and attitude about Post exposure prophylaxis (PEP) in nursing students.
- To improve knowledge about PEP in nursing students.
- To study the impact of session and retention of knowledge in the study subjects

Material and methods

Study area: Madhuritai Deshmukh Nursing College, Vidya Shikshan Prasarak Mandal, Nagpur

Study subjects: 108 General nursing students including 2nd, 3rd year students and interns.

Study duration: 2 months in year 2009

Study design: Cross sectional study

Statistical analysis: Students paired single tailed "t" test was applied.

A pre and post test study was conducted among 108 nursing students. A prior permission of the head of the institute was taken and briefed about the objective of the study. After institutional ethic committee permission the study was started. All students were called in lecture hall and there were given pre test to fill the questioner. After pre-test, the students were briefed about the study and the lecture on HIV and PEP was delivered by investigator. Various aspects of HIV and PEP were discussed in detail. The topics covered were overview of HIV and AIDS, WHO classification, epidemiology, modes of transmission, symptomatology and testing. Special emphasis was given on practical aspects of prevention of infection during professional practice like the correct use of the syringe and handling of potentially infected material and fluids. The questionnaire consisted of a total of 19 questions with sections of general information of the students followed by facts about HIV and AIDS, prevention and lastly PEP section having 8, 5, 6 questions respectively.

The participants were encouraged to ask queries related to the topic. All the queries were answered by the investigators.

A post test session was conducted after a week of the pre test to assess the retention of knowledge. The collected data was analyzed with the help of student 't' test. Every correct answer was awarded +1 and every incorrect answer was given – 1. The "don`t know" option was given 0.

Results:

Table 1. Facts, prevention and PEP knowledge pre test and post test scores

Pre test scores Post test scores				P Value <0.001
Facts about HIV & AIDS				t value 9.50
Mean	S.D	Mean	S.D	
0.80	2.74	5.70	1.73	P Value <0.001
95% C.I: 0.27-1.33		95% C.I: 5.36-6.03		
Prevention				t value 14.16
Mean	S.D	Mean	S.D	
-0.25	1.35	3.67	1.33	P Value <0.001
95% C.I: -0.52 – – 0.00		95% C.I: 3.40 – 3.95		
PEP				t value 9.69
Mean	S.D	Mean	S.D	
1.05	2.13	4.40	1.45	
95% C.I: 0.64 – 1.46		95% C.I: 4.12 – 4.68		

108 nursing students participated in the study. An overwhelming majority of the sample consisted of females. The mean knowledge on the section of basic facts of HIV and AIDS was 0.80±2.74. In the post test for the same mean scores improved and was 5.70±1.73. The increase in the level of knowledge in the section of facts about HIV and AIDS was found to be statistically significant. ($t=9.50$, $p<0.001$)

In the prevention of HIV infection section the scores in the pre test session were poor. The mean scores were -0.25±1.35. This indicated that although the general awareness about the disease is increasing, the nursing students were unaware about the exact possibilities and circumstances where infection is possible. The post test mean score was 3.67 ± 1.33. The range of the scores of the pre test and the post test is maximum for this section. It indicates that if specific information is provided regarding the prevention of HIV and its modes of transmission, the subjects are likely to retain the same. One reason contributing to this raised score could also be that the lecture and following discussion focused specifically on individual case scenario at a time. Fox example: Is it possible to get infected by spilled blood, soiled toilet seat, needle stick injury rather than a generalized and rhetoric talk on the modes of spread. The difference in the pre test and the post test scores for the section of prevention was found to be statistically significant. ($t=14.16$, $p<0.001$). For the section on PEP the pre test session score was 1.05±2.13. In the post test the scores improved with means of 4.40±1.45 which is a significant improvement. ($t=9.69$, $p<0.001$)

It is observed that there is a big jump in the knowledge regarding all the 3 sections included in the study. The variation between the knowledge of the study subjects also decrease in the post test session. When the improvement in the mean scores in each of the three sections of facts of HIV and AIDS, prevention and PEP was tested statistically, it was observed that the improvement was significantly better than that expected by chance alone for all the sections.

The abysmal score in the pre-test section of the prevention section is especially bothering. Knowledge is the first line of defense against the blood borne infections including HIV. Ignorance in this area of work can have a disastrous outcome on the health of the nurses. It is safe to assume that this will also undermine the confidence of the nurses to deal with patients confidently and effectively. However, it is also good to know that the difference between the scores is also the highest in the prevention section. This demonstrates that focused and clear messages on HIV prevention if delivered even for a brief period will make a lasting impression on the subjects.

Discussion:

Nurses play a pivotal role in the health care delivery system in India. Consequently the education of nurses is important for successful prevention of transmission of HIV at workplaces. Without being armed with correct and precise knowledge about the disease which spread through occupational work exposure, carrying out the duties of a nurse is fraught with problems. As the number of cases who get infected with HIV will increase the patients needing hospitalization and professional care is also bound to increase. This may expose the nursing staff to unacceptably high probability of contracting the infection in absence of the knowledge regarding prevention. Given the level of stigmatization of HIV and AIDS in the current day, special emphasis was given on the need to seek urgent medical attention in case of an occupational exposure to potentially infected material especially blood. Although the infectivity of HIV is lower than that of Hepatitis B and C the outcome is grave and hence needs specific mention.

The unsatisfactory scores observed in the pre-test questionnaire could be a reflection of the wider ignorance regarding the disease in the general population. Although the scene is rapidly changing, it is observed that knowledge regarding specifics of transmission and prevention is lacking[10,11]. This situation although not desirable even in the general population is more worrisome in nursing and other health care staff who have to deal with infected materials on a day to day basis. Even surgeons have a very low reporting rate (9%) of serious exposures like needle stick injury [3]. Hence these is a further need to educate and motivate the health care workers to seek help in case of potentially infectious exposures.

The study emphasizes on need of education about HIV for the nurses by means of training programs that have HIV as a center issue. This will not only lead to curbing the spread of the disease occupationally but is also expected to bring about a change in the outlook and attitude of the staff towards the patients. Eventually it may mean a higher quality of care to people living with a HIV AIDS (PLWHA) and the public at large.

The study was done at a single college and the sample size is also small. Hence the findings of the study lack wide generalization ability. How much retention of the imparted knowledge remains over an extended period of time also remains to be

seen. Follow up studies are required to assess the same.

Conclusion:

It is concluded that a single interactive session shows tremendous increase in the level of knowledge about PEP among the nursing students. Multiple exposures to such lectures and actual demonstrations can be expected to reinforce the understanding and knowledge of various aspect of PEP. Although education about the disease, its prevention and PEP is incorporated in the syllabus of the students, such extra interactions seem to benefit the students in a great way. The message is expected to be passed to their peers and other class III and IV workers and can prove to be a boon to the all the health care workers working with people living with HIV AIDS.

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Original Article

Prevalence of Skin morbidity among construction site workers working at Vadodara

Trivedi Ashish[1], Patel Yogesh[2], Pandit Niraj[3], Bhavsar Bharat[4]
[1]Associate Professor, [2] Assistant Professor, [3] Associate Professor, [4] Professor and Head; Department of Community Medicine, SBKS Medical Institute and Research Center, Sumandeep Vidyapeeth, Piparia Vadodara Gujarat
Correspondence to Dr. Ashish Trivedi Email: trivediaa@gmail.com

Abstract

Background:
Construction workers are the second largest workforce in un-organized sector of the country. They are exposed to various hazards due to work conditions. Occupational Dermatitis is one of the commonest hazards among construction workers, most commonly due to exposure to cement and other materials like paints and resins, used at construction sites.

Objectives:
To find out prevalence of skin morbidity and its relation with provision and practice of usage of Personal Protective Equipments (PPEs) among construction workers.

Methodology:
A cross sectional study among construction workers working at various sites of Sumandeep Vidyapeeth. Data was collected with the help of a pre-designed and pre-tested questionnaire for skin morbidity.

Results:
20.3% of workers had skin morbidity like dermatitis and itching. Only 28(12.5%) out of 230 workers were provided the PPEs at workplace, however, only eight were using them regularly during work and it was found that prevalence of skin morbidity was less in this group compared to the group which was not using them regularly at workplace.

Conclusion:
Skin morbidity is one of the commonest hazards among construction workers. Morbidity is lesser among regular PPE users at workplace.

Keywords : Construction workers, Skin morbidity, Personal Protective Equipments.

Introduction:

The construction industry is one of the world's major industries. It is an essential contributor to the process of development. In India, construction workers are the second largest unorganized sector after agriculture workers [(1)].

Being an unorganized sector, the risk to limb and life is high and the workforce is at risk of developing safety and health related hazards at work [(1)].

Occupational dermatitis, defined as 'a skin disease that would not have occurred if the patient had not been doing the work of that occupation' is one of the frequent occupational diseases[(2)].

It is of two types, 1.Primary (irritant) Dermatitis and 2. Secondary (Contact) Dermatitis (OCD). OCD is a significant occupational hazard in some jobs, like the construction industry. Reported prevalence of allergic contact dermatitis to chromate among this population usually is more than 10% [(3)].

In the construction industry, various categories of workers are involved such as masons, helpers, fitters, supervisors, carpenters and painters. The common irritants at construction site are cement, chalk, fly ash, hydrochloric and hydrofluoric acids, fiberglass and rockwool and common sensitizers are cement, fly ash, chromate, cobalt, epoxy resin, rubber, leather gloves, adhesives (phenol or urea-formaldehyde resins), wood preservatives, fiberglass impregnated with phenol-formaldehyde, epoxy and polyurethane resins [(4)].

Diagnosis and management of occupational skin disease (OSD) is often inadequate. It is even more poorly addressed in resource-limited countries, like India [(5)].

Objectives of Study:

To find out the prevalence of skin morbidity among construction workers.

To find out the provision of Personal Protective Equipments and pattern of its usage among construction workers and its effect on skin morbidity.

Methodology:

Type of study : A Cross sectional study among workers working at various construction sites of Sumandeep Vidyapeeth University.

Sample Size: All the workers working at various sites of the campus were included in the study. Total sample size was 230 workers.

Method of study : Data Collection was done by intern doctors posted in Community Medicine department with the use of a predesigned – pretested questionnaire. Questionnaire included questions about demographic profile of the workers, availability and usage of PPEs, and skin morbidity. Presence of Dermatitis was confirmed by observation of affected part by intern doctors.

Ethical Issues: Prior Permission of the Contractors were obtained before starting the service. Confidentiality of the data was ensured to individual worker and they were involved in the study after their consent only. Ethical Clearance was obtained from Local Ethics Committee before staring the study.

Data collected was analyzed by Epi-info, Version 3.5 – a statistical package.

Results and Discussion

Demographic Profile of Construction site workers

Age of the workers ranged from 12 to 60 years with mean age of 25.14 ± 6.71. Most of the workers (51%) were in age group of 20 – 30. Total 23 (10%) workers were under 18 years of age. Majority of the workers (72.6%) were male. 65.5% were illiterate and 22.4% were literate up to primary school level.

Majority of workers (52%) were involved in construction work for the last 5 years or less (Table I). Their daily work hours were ranging from 5 to 18, with mean work hour of 10.1± 1.84. More than 85% of workers had their daily working time of more than 8 hours.

Table 1: Job Duration and Daily Work hours

Total Job duration	Number	(%)	Daily Work hours	Number	(%)
≤5 years	116	52%	≤8 hours	32	14.2
5 – 10 yrs	68	30.5	> 8 hours	193	85.8
10 –15 yrs	25	11.2	TOTAL	225	100
> 15 yrs	14	6.3			
TOTAL	223	100			

All the workers were having at least 1 hour of break during their work shift. (Table 1)

Table : 2. Provision and Usage of Personal Protective Equipments (PPE):

Provision of PPE	Number of Workers	Percentage(%)
Provided	28	12.2
Not Provided	201	87.8
TOTAL	229	100

Only 28(12%) workers were provided with any form of PPE, and only 8 were using them regularly and rest of them were irregular in usage of PPEs.

The most common reason given by the workers for not using the PPEs, even though provided was “Not needed” or “Not necessary” in their opinion. One worker had side effects with the use of gloves and he stopped utilizing them.

Skin Morbidity:

47 out of 230 workers (20.3%) had skin complain or skin lesion. out of which 18 (38.3%) had dermatitis while 29 (61.7%) complained of itching.

The commonest site of lesion was hands (51%) while, 25% of workers had skin problems involving multiple sites (mostly Hand and Feet) of the body.

Table: 3. Type & site of skin problems

Type of Skin problem	Number
Dermatitis	18 (38.3%)
Itching	29 (61.7%)
TOTAL	47

Site of Skin problem	Number (%)
Hand	24 (51)
Foot	4 (8.5)
Forearm	5 (10.6)
Leg	2 (4.25)
Mutliple Site	12 (25.5)
TOTAL	47

Table: 4. Relation between PPE provision and Skin Morbidity

PPE provision	Skin morbidity		Total
	Yes	No	
PPE provided	8 (28.5%)	20	28
PPE not provided	39 (19.4%)	162	201
TOTAL	47	182	229
X2 = 1.65 P = 0.64 (Not Significant)			

It was observed that 28.5% of workers, who were provided PPEs were suffering from skin morbidity while only 19.4% of workers who were not provided PPEs were suffering from it. But while analyzing the data for regular usage of PPEs while at work the results were as under:

Table: 5. Relation between PPE usage and Skin Morbidity

PPE usage	Skin morbidity		Total
	Yes	No	
Regular Usage of PPE	1 (12.5%)	7	8
Irregular usage of PPE	7 (35%)	13	20
TOTAL	8	20	28
Yates's Corrected X^2 = 0.52 P = 0.46 (Not Significant)			

Among the workers, using PPEs regularly, only one (12.5%) worker had skin morbidity, while it was 35% in those who were not using it regularly at workplace. So to ensure regular usage of PPE at work is very important rather than just providing PPEs.

Conclusion

- 47 workers (20.3%) had skin morbidity like itching and dermatitis and 51% had hand as a site of involvement.
- Only 28(12.2%) of workers were provided Personal Protective Equipments and only 8 were using them regularly at work.
- Skin morbidity was higher among the workers who were not using PPEs regularly at work but the difference was statistically not significant.

Recommendations:

- Proper Engineering control measures should be the first target for prevention of hazard. It should be implemented for the construction site workers to reduce the burden of skin diseases.
- All the workers should be provided with the appropriate Personal Protective Equipments at the workplace.
- Awareness prgoramme related to work place hazards and for the regular usage and maintenance of the PPE should be carried out at regular interval.

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Original Article

A study on awareness toward the early detection of breast cancer on nursing staff in civil hospital, Ahmedabad, Gujarat, India

Jaydip R Oza[1], Jagruti D Prajapati[2], Rohit Ram[3]
[1]Assistant Professor, Community Medicine Department, M.P.Shah Medical College, Jamnagar Gujarat, India.
[2]Tutor, [3]Resident, Community Medicine Department, B.J.Medical College, Ahmedabad, Gujarat, India.
Correspondence to: Jagruti D Prajapati, Email: drmit82@yahoo.com

Abstract
Background: Breast cancer accounts for about 20% cancers in Indian women. The nurses can play an important role in educating women through specially designed educational programme in the clinical setting, as well as through community out reach strategies that suit our social & cultural settings.

Objective: The purpose of this study was to know the knowledge, attitude & practices of nursing staff towards the early detection of breast cancer.

Method: A cross sectional study was carried out in civil hospital Ahmedabad during September 2008. 250 nurses were selected out of total staff of 1000 nurses. Data was collected by pretested questionnaire. Data entry and analysis were done in Epi info version 3.4

Results: The results of the study indicated that 74% of the nurses knew that early detection of breast is possible.71% of the nurses would like to go for early detection by mammography. Only 7.2% of nurses had undergone investigation for early detection. 96% of nurses want information regarding the breast cancer and most them by the mean of seminar and workshop.

Conclusion: Though knowledge regarding early detection was satisfactory but practice was very poor. There is need to create awareness & periodic screening.
Key words: breast cancer, early detection

Introduction

Breast cancer is easier to treat if early diagnosed. For that reason, some experts recommend that women over age 20 perform a monthly breast self examination to look for new lumps and other changes[1]. The self breast examination has some limitations, but it has definite role for early diagnosis in country like India and however, one should not forget the importance of regular breast examinations by doctor or screening by mammogram.

Breast cancer accounts for about 20% cancers in Indian women. It is a more common than cancer cervix in the developed as well as in developing countries[1]. In past 20 years, breast cancer incidence in the world has a dramatic increase of 50-100%, which strongly supports the need for breast cancer prevention, and screening programmes[(1)].

The most programmatic solution to early detection lies in breast cancer education of women. Nurses constitute a special group having characteristics most suited for disseminating breast cancer information to the women[(2)].

The nurses can play an important role in educating women through specially designed educational programme in the clinical setting, as well as through community out reach strategies that suit our social & cultural settings. In addition they constitute an important source of information within their social networks[(3)]. Since the nurses have a major influence on the behavior of our women, they need to be knowledgeable themselves about breast cancer risk factors and the importance of early detection through screening.[(1)]

The aim of this study was to objectively assess the awareness among nursing staff in civil hospital Ahmedabad towards the early detection of breast cancer.

Material & methods:

A cross sectional survey was conducted in civil hospital Ahmedabad in September 2008.
As civil hospital Ahmedabad is the biggest hospital of Asia having nursing staff of around 1000 (including male nurses). Nurses have shift duty in the morning, afternoon & in the evening.

The target population comprised of female nurses working in the different department. Nurses who have previous history of breast cancer were excluded form the study. By considering 30% of total staff, sample size was turn out to be 300 by stratified random sampling; out of them 50 were non response. After taking oral consent from the

participants data were collected by using predesigned & pretested proforma by personal interview. The questioner contained various aspects of knowledge, attitude and practices related to self breast examination. Thus collected data were analyzed with use of Epi info version 3.4

Result

The mean age (standard deviation) of female registered nurses in present study was 40.65± 9.8 years. All the nurses had received basic level nursing education of general nursing diploma. Ninety-nine (91%) percent of the nurses in the study correctly identified breast cancer as a non communicable disease and more than 90% nurses had opinion that breast cancer is the most common cancer in females (Table 1).

Table 1: Knowledge about most common cancer in female

Knowledge about most common cancer in female (n=250)	Frequency	Percent
Breast	229	91.6
Uterine	25	10
Cervical	23	9.2
Don't know	18	7

80% nurses opined that not breast fed to the baby is the risk factor for breast cancer while 60% have opinion of radiations is the reason for breast cancer (Table 2).

Table 2: Knowledge about risk factors for breast cancer (n=250)

Knowledge about risk factors for breast cancer (n=250)	Frequency	Percent
No breast feeding	197	78.8
Radiation	145	58
Alcohol	132	52.8
Unmarried	106	42.4
Family history	102	40.8
Old age pregnancy	94	37.6
Obesity	86	34.4
Old age marriage	83	33.2
Old age	68	27.2
Fatty diet	51	20.4
Don't know	3	1.2

Knowledge regarding methods & benefits of early detection of breast cancer shown in

Table 3: Knowledge regarding methods & benefits of early detection of breast cancer

Knowledge regarding methods of early detection (n=185)	Frequency	Percent
Mammography	72	38.9
Self examination	58	31.4
Don't know	46	24.8
Symptoms	24	12.9
Biopsy	1	0.5
Early detection can reduce mortality (n=185)		
Sure	150	81.08
Mostly	31	16.75
No	2	1.01
Early detection can give better treatment (n=185)		
Yes	183	98.91
No	1	0.5

\Out of total almost 65.6% nurses had information for early detection of breast cancer out of them around 18% gets it through books/posters or via hospital exposure (Table 4). Out of total nurses 92.8% nurses had practiced regarding investigation for early detection of breast cancer.

Table 4: Source of information received previously for early detection of breast cancer

Information taken before (n=250)	Frequency	Percent
Yes	164	65.6
No	86	34.4
Mode by which information received (n=164)		
Books/ poster	31	18.9
Hospital exposure	28	17.1
Health care provider	19	11.5
Media	16	9.7
Seminar/ conference	12	7.3

Out of total study subjects 91 (49.2%) nurses were believe that they were exposed to one or another risk factor for breast cancer in which radiation (42.85%), age (40.66%), obesity (39.66%), no breast fed to baby (29.67%) shown in Table 5 and table 6. 72% of total nurses had knowledge that early detection of breast cancer is possible.

Almost 40% of the nurses had knowledge about mammography, as a method of early detection of breast cancer while very few were knowing about self breast examination (31.4%) & biopsy (0.5%) majority of nurses have opined that early detection of breast cancer can surly reduce mortality (81.08%) & can give better treatment (98.91%).

Table 5: Belief of exposure to risk factor

Belief of herself at risk (n=250)		
No	123	49.2
Yes	91	36.4
Why herself at risk (n=91)		
Radiation	39	42.85
Age	37	40.66
Obesity	36	39.56
No breast feeding	27	29.67
Polluted food	24	26.37
Family history	15	16.48
History of breast disease	13	14.28
Old age marriage	13	14.28
Old age pregnancy	12	13.18
Un married	2	2.19

Table 6: Willingness & knowledge about detection

Willing for early detection (n=250)	Frequency	Percent
Yes	237	94.8
No	13	5.2
Methods for early detection (n=237)		
Memography	169	71.4
Self examination	163	68.7
Doctor	109	45.9
Don't know	52	21.9
Reasons of early detection (n=237)		
Better treatment	164	69.2
Prevent condition to be worst	162	68.35
Reduced complication	96	40.51
Reduced mortality	82	34.6
Want information (n=250)		
Yes	241	96.4
No	9	3.6
Methods by which information want (n=241)		
Telephone	15	6.2
Doctor	102	42.3
Books/ literature	133	55.2
Seminar/ workshop	187	77.6

In this study 65.6% of total nurses had taken information regarding early detection of breast cancer through books/posters (18.9%), hospital experience (17.1%), and health care providers like doctors (11.5%), media (9.7%) or seminar / conference (7.3%)

Discussion

To date, the etiology of breast cancer is uncertain and adequate primary prevention is not possible. Thus early detection measures remain the first priority. More than 50%of the total breast cancer diagnosed annually is found in premenopausal patients[1], creating the need to initiate breast cancer screening programs in this population.

Nursing profession is very important for self-carefulness to be able to recognize the signs of their own illness. In this study majority of nurses knew that breast cancer is most common cancer in female.

The important resources of dissemination of breast cancer knowledge to women are the health-care professionals, educational institutions and media. Among the healthcare professionals, female nurses comprise the group most suited for this purpose.

Studies in the developing countries show diverse results ranging from poor to good knowledge about breast cancer. Among the Nigerian nurses, about half were well-informed of two out of five risk factors[4]. Sixty percent Iranian nurses correctly identified family history as a risk factor for breast cancer, while smaller proportions knew about other risk factors[5]. Breast cancer risk factor knowledge among nurses is important so that they can provide appropriate screening recommendations to women with a high risk profile, especially in the Pakistani context where breast cancer screening is not a national phenomenon. Most of the nurses in our study were able to correctly answer the general breast cancer questions which included risk factor questions.

Conclusion & recommendations:

Breast self examination is an examination that should be perfect for nurses. They have the knowledge of the clinical signs of breast cancer and of the examination technique; nurses can promote monthly breast self examination by supporting realistic beliefs about screening and cancer as well as demonstrating BSE, especially among married women. And they can do it themselves without consulting a physician.

Furthermore, they are especially aware of the importance of the early detection of breast cancer for a successful treatment. It has been shown that confidence in one's early detection ability is

strongly correlated to early detection practices in the general population.

Though awareness regarding early detection of breast cancer among nursing staff of civil hospital Ahmedabad is satisfactory but to create more awareness need to give education in form of seminar/conference to use their services in preventive strategies and breast cancer screening should be done periodically.

Acknowledgment: Nursing staff, civil hospital, Ahmedabad

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Original Article

Effectiveness of Workshop on Evaluation Methodology for Medical Teachers

Chinmay Shah[1], P. A. Gokhale[2], H.B. Mehta[3]
[1]Assistant Professor, [2] Professor , [3]Professor and Head, Department of Physiology, Govt. Medical College Bhavnagar,Gujarat.
Correspondance: Chinmay Shahm Email: cjshah79@yahoo.co.in

Abstract:

A workshop on evaluation methodology was designed at Government Medical College, Bhavnagar. The workshop comprised of six modules namely: Mechanics of Paper setting, MCQ formulation & Item analysis, Mini CEX, OSPE, OSCE and Structured Viva. Study was carried out with aim to find out effectiveness of workshop in changing knowledge and attitude towards different evaluation methodology.

Method:

Instruction was provided during a one day workshop with eight hours interactive sessions. Medical teachers from different parts of Gujarat participated, and the instructors were experienced clinicians and educationist. Lectures, group discussions, case simulations, video presentations and role-plays were the forms of instruction.

Results:

Using standardized questionnaires, the participants rated the quality of the workshop highly. They considered it to be a feasible and appropriate educational intervention and that it had a positive impact on their teaching skills.

Conclusion:

This workshop showed that significant change in knowledge and attitude towards different aspects of medical Student Evaluation process . The results show that it is a suitable and effective educational intervention

Background:

The educational objective in medicine as well as in other disciplines, are generally allotted to three domains – cognitive, psychomotor and affective(1). Hence, student evaluation should be designed to answer whether an undergraduate student ahs achived the above education objectives or not.

Evaluation has a profound effect on nature of learning and is considered as the single most important variable in directing the students to learn in a particular way. The word 'evaluation' is defined by Webster's dictionary 'examination and judgement concerning the worth, quality, significance, amount, degree or condition.' In the field of education, the term is understood as examination by someone else-teacher or any other agency, board, university, etc. – of students who have been educated in a certain way for a particular subject / course. Unless the agency other than the student himself certifies the worth of the end of a given course.

Evaluation system in Gujarat traditionally consists of the written papers, practical examination and viva voce. In recent era of objective evaluation, main format remains essentially unaltered but changes has to be made, mainly to make examination more objective and reliable. All junior and senior teachers need to be trained in this way to decreases subjectivity in evaluation of medical students. Study was conducted to assess effectiveness of one such workshop comprised of six modules namely: Mechanics of Paper setting, MCQ formulation & Item analysis, Mini CEX, OSPE, OSCE and Structured Viva.

Methodology:

After obtaining ethical permission from the institutional ethics committee study was conducted at our institute.

Study Design: This pre-post test experimental descriptive study was conducted at Government Medical College, Bhavnagar. 200 Medical teachers working in different Medical colleges of Gujarat participated in Workshop on evaluation methodology organized at our institute.

Interventions: Instruction was provided during a one day workshop with eight hours interactive session in the form of Lectures, group discussions, case simulations, video presentations and role-plays. Instructors were experienced clinicians and educationist. Overall, the participatory development approach used to create mutually-acceptable workshop and co-learning experience(2).

A pre-lecture pre tested structured questionnaires consisting of likeart scale and Multiple Choice Question (MCQ) was completed by teachers to test their existing knowledge. Pre test /Post test questionnaire was prepared and validated with the help of feedback of FAIMER

fellow on list-serve as well as consultation of resource faculty was done for the same. Following the lecture the Post test was repeated to assess retention and application of knowledge derived from the interactive lecture. Response of programme evaluation was also assessed to know the overall rating of workshop.

Statistical Analysis: Statistical analysis was performed using the Sigma state trial version. Mean was used to determine of test scores. The Student paired t-test was used to determine if the differences between the pre lecture and post-lecture test results were significant. Differences were considered significant at $p < 0.05$.

Result:

Questions	Pretest score	Post test score
1.Formative evaluation gives feedback to both students and teachers	83.93	87.78
2.SAQs, unlike MCQs do not require pre-validation	22.32	26.67
3.Question paper should reflect the health needs of the geographic region	80.36	84.44
4.Question paper should include such questions whose answers students do not know	16.07	5.556
5. MCQ should be designed to measure an important learning outcome	91.96	87.78
6.The stem of the MCQ should be positive most of the time	58.04	78.89
7. Validation of MCQs should as far as possible be an individual effort	40.18	41.11
8. Prevalidation is done before administering the MCQs to the students	81.25	88.89
Questions	Pretest score	Post test score
9. MCQ can only test the recall component of knowledge	41.96	40.00
10. A MCQ with poor discriminative index should be stored if it is relevant	25.89	60.00
11. Subjectivity of the viva can be reduced by a structured viva	61.61	72.22
12. Viva Voce can test all levels of knowledge in cognitive, psychomotor (as part of Practical / Clinical examination) and affective domains	66.07	58.89
13. Viva can be conducted in a group of - students as a part of formative assessment	48.21	51.11
14. OSCE requires more planning time as compared to conventional examination	47.32	76.67
15. Mini CEX can be used both for formative as well as summative assessment	31.25	72.2

Questions (Tick correct alternative for the statements)	Pretest score	Post test score
16. What should be the minimum % of students responding to a distractor, so that it can be considered as an effective alternative?	31.00	62.00
17. In Item analysis of MCQ "p" is	13.00	70.00
18. In Item analysis of MCQ "d" is	30.00	81.00
19. The ideal range of difficulty index is	30.00	71.00
20. What is a disadvantage of multiple-choice questions?	58.00	56.00
21. On which type of question is it easier for students to guess the correct answer?	63.00	73.00
22. What is the name of the part of a multiple-choice question that contains the question or problem?	33.00	81.00
23. How many possible answers are supplied in multiple-choice questions?	76.00	84.00

Correct Likert scale for different questions (1-15)	Pre-test	Post-test	P value
AGREE	62%	76%	0.042
DISAGREE	49%	53%	0.042
DO NOT KNOW	16%	04%	0.006

The mean score was calculated for all 23 questions covering different evaluation methodology, incorporating combination of MCQ and Likert scale (ranging from 'I fully disagree' 5 1 to 'I fully agree' 5 5). Paired t-tests were used to compare outcomes between baseline and post workshop result. Pre and Post test result is shown in Tables, below

Discussion:

Halder and co-workers assessed the effectiveness of training in West Bengal[3]. They conducted an assessment before the commencement of training and repeated assessments after every training

session. Significant difference was found in the post workshop scores.

Similar methods of assessing effectiveness of workshops and teaching sessions have been used and proved to be helpful for general practitioners[4]; asthma patients[5]; school teachers[6], and parents[7].

Same method was used in present study to access the effectiveness of workshop on evaluation methodology. As shown in result table 1 shows definite increase in knowledge regarding different minute aspects of evaluation process. Change in the attitude regarding different technical aspects of evaluation process was also observed which is statistically significant as shown in table 2. Difference in Pre and Post MCQ question (Q.16 to 23 as shown in table 1) result is also statistically significant (P =0.006)

Due to this workshop Faculty Of different colleges were very much sensitized for field of medical education and realized that what common mistakes are done during evaluation of students. 80% of participants are in favor of regular CME of different topic of medical education. Four faculty from our college were applied for FAIMER regional fellowship and one was selected for CMCL-2009. Faculty of our college has stared using guideline received during workshop in all evaluation method

Limitations of this study was the small number of teachers who participated. This study tested immediate recall of knowledge and it remains to be seen whether the knowledge gained as a result of the event will be retained by the them and whether their habits will improve as a result. It would be useful to examine knowledge sometime after such an event to determine the need for continued and repeated training into this important subject.

In addition, the improvement in the MCQ score could be at least partially attributed to an 'Order effect'. It is possible that improvement in post-lecture scores could have happened Without the structured workshop, simply because the teachers had the opportunity to think about the questions again and give a more considered answer. This could have been avoided if participants subjected to the MCQ test were randomized to no intervention and to structured learning groups[8].

Conclusion:

Implementing workshops similar to this may be a feasible, effective way to enhance the knowledge and skills for doing most objective evaluation of medical student. In addition, it would be reasonable to assume that a similar method could be adopted to teach medical teachers newer techniques in teaching, learning and evaluation. Results of this study could be used to guide the development and implementation of continuing education program for medical teachers.

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Original Article

A study on health aspects of agate workers in Shakarpura- Khambat

Deepak B Sharma[1], Tushar A Patel[1], Amit Mohan Varshney[2]
[1]Assistant Professor, [2]Resident -2nd year, Community Medicine, P.S. Medical College, Karamsad
Contact : Deepak B. Sharma, Email: drdeepak1105@gmail.com

Abstract:

Background: Workers working in the agate industries are dying of silicosis in regular interval for last 40 years in Khambhat. The agate industry is a household industry in the Khambhat region of Gujarat and its surrounding villages (1) .

Objectives: To find the:

1. Age and sex distribution of studied agate workers
2. Occurrence of tuberculosis in agate workers and the number of times the TB treatment was taken
3. Number of deaths in the family because of agate work.
4. Health problems if any and type of health problems

Methods: Cross sectional study involving 98 agate workers engaged in grinding work

Results: One family member in 22 families had died because of working as agate grinder. 25(25.5%) cases were diagnosed of having tuberculosis and had taken AKT (DOTS). Out of these 25 persons who were diagnosed to be having TB, 1 person did not took the treatment, 15(60%) got this disease only once and had AKT (DOTS) once; whereas 6(24%) workers had taken AKT (DOTS) twice. On asking about the current health problem, 85(86.7%) replied that they were having one or the other health problems. 78(79.6%) replied that there remains bodily pain after work and 75(76.5%) said malaise is there.

Conclusions: The condition of the agate workers is pitiable. They are working in the agate industry and putting their lives at risk for silicosis and silico-tuberculosis.

Keywords-Agate, TB, Silicosis, Silico-Tuberculosis, TB treatment, Death of family members, Health problems

Introduction:

Among the occupational diseases, silicosis is the major cause of permanent disability and mortality. It is caused by inhalation of dust containing free silica or silicon dioxide (SiO_2)(2). Year after year, both in developed and developing countries, overexposure to respirable dust containing crystalline silica causes disease, temporary and permanent disabilities, and death. Silicosis results in conditions such as lung fibrosis and emphysema. The form and severity in which silicosis manifests itself depend on the type and extent of exposure to silica dusts: chronic, accelerated and acute forms are all recognized. In later stages the critical condition can become disabling and is often fatal. A frequent cause of death in people with silicosis is pulmonary tuberculosis (silico-tuberculosis).

Grinding the stone on grinding (emery) wheels driven by electricity at a speed of 2-3,000 RPM generates large amount of dust. The generated dust contain fine dust of the size 2-5 micron size which, when inhaled reaches alveoli of lungs. The dust contains more than 90% of free silica.

Thus Silica particles get settled in lungs causing Silicosis-a deadly disease. Large numbers of workers, men and women, till date have died of Silicosis. Number of families has been completely wiped off. Large numbers of children have been left orphans. The widows have their own specific problems of livelihood. Elders loss support when youngsters in the family die of silicosis, when they need the support most(3).

Though more finished products made it a profiteering industry the exhaust system have not been installed or has not become mandatory for the manufacturer to reduce the inhalation of silica dust, one of the most important preventive steps to save the workers from silicosis. The colours of the agate may mesmerize us but it takes away the colours of the lives of the workers and family.

The problem of silicosis is much more severe in the unorganized sector of industries like slate pencil cutting, stone cutting and agate industry. The flaw here is that most industries belonging to the unorganized sector do not fall under the purview of the statutory tools such as the Factories Act aimed to protect the health and safety of the working population. Moreover, the employers lack the will to provide safe working environment for the workers. It is probably economic compulsions that the workers choose to work in hazardous environments and are subjected to exploitation (4).

Aims and Objectives:

The following study is carried out to find the:

1. Age and sex distribution of agate workers
2. Occurrence of tuberculosis in agate workers and the number of times the TB treatment was taken
3. Number of deaths in the family because of agate work.
4. Health problems if any and type of health problems

Materials and methods:

Subject recruitment procedure: People engaged in grinding work of agate stones.
Inclusion criteria: 98 agate workers engaged in grinding work
Exclusion criteria: Persons engaged in mining, drying, frying, and polishing of agate stones.
Methodology of the study: Cross sectional study involving 98 agate workers in Shakarpura
Sampling method- Cross sectional study
Sample size-

Total agate grinders in Shakarpura village in Khambat are around 200.We decided to interview half of this agate grinder population which makes it to 100. So a total of 100 agate workers were decided for study but 2 persons did not responded well and the information was not collected adequately in these two cases, so total study participants became 98.

Questionnaire method was used for interviewing the workers. A total of 30 minutes was allotted for each worker and the questionnaire was filled taking necessary information.

The analysis is done by EPI-info package and the results were interpreted in terms of %, mean, S.D, median, χ^2 test, Odds ratio

Results :

65(66.3%) agate workers were males and 33(33.7 %) were females. Maximum workers were from the age groups 30-50 in both male (70.8%) and female (74.0%).

Table 1 shows age & sex wise distribution of agate workers

Age	Male (%)	Female (%)	Total (%)
15-20	1(1.5)	1(3.1)	2(2.1)
20-25	5(7.7)	4(12.5)	9(9.3)
25-30	9(13.8)	1(3.1)	10(10.3)
30-35	15(23.1)	5(15.6)	20(20.6)
35-40	12(18.5)	9(28.1)	21(21.6)
40-45	9(13.8)	10(30.3)	19(19.4)
45-50	10(15.4)	0(0.0)	10(10.3)
50-55	0(0.0)	2(6.3)	2(2.1)
55-60	2(3.1)	1(3.1)	3(3.1)
>60	2(3.1)	0(0.0)	2(2.1)
Total	65(100.0)	33(100.0)	98(100.0)

Mean age – 35.94 years, S.D-8.91 years, Median-35years, Mode- 40 years

Table 2-Distribution of study subjects by literacy status

Literacy status	No (%)
Illiterate	21(21.4%)
Primary	60(61.2%)
Secondary	15(15.3%)
HS	1(1.0%)
Graduate	1(1.0%)
Total	98(100.0%)

Out of 98 agate workers 21 (21.4%) were illiterate. Maximum number of workers 60 (61.2%) were having primary education. This is illustrated in **Table 2** as distribution of agate workers by literacy status

Table 3-Distribution of study subjects by years of work

Years of Work	No (%)
<1 year	1(1.0)
1-2	4(4.1)
2-5	26(26.5)
5-10	37(37.8)
10-15	15(15.3)
15-20	5(5.1)
>20	10(10.2)
Total	98(100)

Out of 98 workers, 37 (37.8%) has worked for 5-10 years followed by 26 (26.5%) workers who has worked for 2-5 years.15 (15.3%) workers has worked for 10-15 years and 10 (10.2%) workers has worked for >20 years.

Table 4-Distribution of study subjects according to the death of family members because of agate work

Family members died	Families
0	48
1	22
2	4
3	1
4	1
5	1
6	2

In 22 families one family member died because of working as agate grinder. In 2 families 6 family members died because of working as agate grinder.

Table 5- Distribution of study subjects by sex and the TB status

Status of TB	Female (%)	Male (%)	Total (%)
Yes	7(26.92)	18(27.69)	25(25.51)
No	26(78.78)	47(72.30)	73(74.48)
Total	33(100)	65(100)	98(100)

	Value	CI Lower	CI Upper
OR	0.703	0.2597	1.903
	Value	p value (2tail)	
Chi test	0.4837	0.4868	*Not significant*

7(26.92%) females and 18 (27.69%) males were prescribed AKT (DOTS).

Table 6- Distribution of study subjects by the number of times TB treatment was taken

Number of times TB Rx taken	No (%)
1	15(60.0%)
2	6(24.0%)
3	3(12.0%)
Nil	1(4.0%)
Total	25(100.0%)

Out of the 25 persons who were diagnosed to be having TB*, 1 person did not took the treatment,15 (60%) got this disease once and had taken AKT (DOTS); whereas 6 (24%) person had taken AKT (DOTS) twice and in 3(12%) cases three times the treatment was taken because of reinfection.

Based on the workers history of taking AKT (DOTS) ,as workers were told that they are suffering from TB and the diagnosis is hardly STB or silicosis. Owing to occupational exposure, it would have been STB or silicosis.

Table 7-Distribution of study subjects by current health problem

Health problem if any	No (%)
No	13(13.3%)
Yes	85(86.7%)
Total	98(100.0%)

On asking about the current health problem, 85 (86.7%) replied that they were having one or the other health problems

Table 8: Distribution of study subjects by the type of health problem

Health Problem	No (%)
Cough	26(26.5)
Fever	18(18.4)
Decreased weight	50(51)
Malaise	75(76.5)
Bodily pain	78(79.6)
Breathlessness	42(42.9)

78 (79.6%) replied that there remains bodily pain after work, 75 (76.5%) said malaise was there. 50 (51%) complained of weight loss whereas 42 (42.9%) said that they feel breathless.26 (26.5%) said that they were having cough and 18 (18.4%) had fever

Discussion:

In the present study a total of 98 agate workers are studied. Out of these 98 workers, 66.3% were males and 33.7 % were females. Maximum workers were from the age groups 30-50 in both male (70.8%) and female (74.0%). 21.4% agate workers were illiterate. Maximum number of workers 60 (61.2%) were having primary education.

In 22 families one family member died because of working as agate grinder. In 2 families 6 family members died because of working as agate grinder. 7(26.92%) females and 18 (27.69%) males were prescribed AKT (DOTS). The PUCL Bulletin stated that the prevalence of silicosis in male and female agate grinders was 39.8% and 34.2% respectively. About 19% of the male agate grinders and 22% of female agate grinders developed silicosis within five years. The overall prevalence of tuberculosis amongst male and female agate grinders was 37.4% and 40.3% respectively[(1)].

Rastogi SK stated that the prevalence of pulmonary tuberculosis was very high in both agate workers and controls (15.5% and 12.1%, respectively), probably because of poor socio-economic and unhygienic living conditions.[(5)] Out of the 25 persons (25.51%) who were diagnosed to be having TB*, 1 person did not took the treatment,60% got this disease once and had taken AKT (DOTS); whereas 6(24%) person had taken AKT (DOTS) twice and 3(12%) cases three times the treatment was taken because of reinfection.

All the workers were exposed to silica dust as a part of their work, but the diagnosis was tuberculosis only in all these cases and not the silicosis or silico-tuberculosis. The workers were put to AKT (DOTS) treatment and other symptomatic treatment only. The PUCL Bulletin mentioned that the facts of Silicosis menace among the workers have been suppressed by traders, employers and Government machineries. The workers treated in the hospitals are never or hardly diagnosed as silicosis. In apprehension of losing jobs, the workers themselves hide their infections[(1)].

TB is curable while Silicosis is incurable. Though Silicosis is a compensable disease under Workman Compensation Act, there is not a single case of claim, due to complex social situation. Once the worker gets the disease his condition becomes pitiable. In many cases there is no one to look after and one is compelled to work till death, lest he & his family would not be able to get evening meal. Large numbers of women work as grinders and hence death rate among women is also high[(3)].

On asking about the current health problem, 86.7% replied that are having one or the other health problems.79.6% replied that there remains bodily pain after work, 76.5% said malaise is there. 51% complained of reduction in weight whereas 42.9% said that they feel breathless. 26.5% said that they were having cough.18.4% had fever.

In the April 1998 issue of “Outlook India” Saira Menezes mentioned the results of a study conducted by the Industrial Toxicology Research Centre which compelled the Gujarat High Court to examine the conditions of agate workers. According to the article, the expert panel comprised of the National Institute of Occupational Health (NIOH) and the Office of the Labour Commissioner. Some 40 per cent of the male workers and 37 per cent of the female workers displayed various symptoms of silicosis: dry cough, breathlessness, fever and gradual weight loss. Indicating that the numbers might have seen a sizeable increase since then, Dr H.N. Saiyed, director, NIOH, reveals: "The 'akik' workers are not covered under any health programme. There are no specialists to treat them, no diagnostic facilities. Medicines meant for TB are used to combat silicosis as the disease has no cure[(6)].

With a view to improve the working environment and prevent the factory workers from being exploited, the Gujarat state government has decided to extend the provisions of Factories Act even to units with just one worker. This may help them fix the responsibilities for occupational hazards in cases of silicosis and silico-tuberculosis among the agate workers of Khambhat and the stone quartz grinders [7].

In the absence of specific therapy for silicosis, there is a need for planning a National strategy for the prevention and control of silicosis. The concern for prevention and control should be focused on unorganized sector like stone-cutting for slate pencil, Artisans involved in working with stones, some areas of construction sector, Glass and bangle workers and Agriculture workers[4].

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(N.B-Akik is Gujarati word for agate).

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Original Article

IMNCI Training at a Medical College in Gujarat-A feedback from the facilitators and Nursing Participants.

Misra S V[1], Baxi R K[2], Kotecha P V[3]
[1]Associate Professor, [2] Professor, [3]Ex-Professor & Head of Department of Preventive and Social Medicine, Medical College, Baroda
Correspondence to Shobha Misra email- shobhamisra@rediffmail.com

Abstract
The paper describes the feedback from facilitators based on checklist used for monitoring clinical sessions during IMNCI (Integrated Management of Neonatal and Childhood Illness) trainings at a Medical College in Gujarat. Randomly selected checklists were analyzed for classification and problems faced by nursing staff participants. Ability to correctly classify and treat the illnesses ranged from 35% to 93%. The article also discusses the feedback from 55 participants (Nursing staff) drawn randomly from 25 batches of IMNCI trainings, gathered by VIPP (Visualization in Participatory Programmes) method applied at the end of the training. Suggestions to improve the quality of IMNCI trainings are recommended based on the findings.
Key words:-IMNCI, Checklist form, VIPP

Introduction:

Implementation of IMNCI is one of the center piece components of RCH (Reproductive & Child Health) II Child health programme. The Integrated Management of Neonatal and Childhood Illness (IMNCI) strategy includes the integrated management of the most common childhood diseases and health problems with a focus on important causes of death(1). The desired impact of IMNCI is the reduction of mortality, as well as morbidity and suffering, through assuring children's access to quality health care in the health facilities and improved health management at home. Maintaining the performance of health and village workers will be essential to achieve this impact (2). IMNCI training network at Medical Colleges is to conduct TOT (Training of Trainers) for health workers and IMNCI for MO's (Medical Officers) and staff nurses for 8 – 10 days. Baroda Medical College is responsible to train MO's, staff nurses, health workers and ICDS workers from 5 districts viz. Vadodara, Panchmahal, Dahod, Bharuch and Narmada over 4 years staring from August'05 to 2012 .

Methods:

In order to assure quality in IMNCI training some of the basic tools currently available to maintaining quality not in only the training sessions conducted, but also in the compliance of health/village workers to IMNCI protocols and algorithms are; daily review of clinical monitoring forms/ checklists, summary of training performance and external observer feedback. The feedback from 55 participants (2 Nursing staff per batch) randomly drawn from 27 batches of IMNCI trainings conducted at Medical College Baroda till January 09, gathered by VIPP (Visualization in Participatory Programmes)(3) method applied at the end of training are discussed and analyzed in this paper. They were asked to give not more than 2 opinions each on good aspects and aspects of training which need improvement on 2 different colored cards. A checklist for monitoring clinical sessions is an integral component of training. Randomly selected checklists (4 per batch) for monitoring clinical sessions were analyzed for classification and problems faced by participants.

Results and Discussion:

The facilitation was felt to be good by 37% of respondents, for 25% training was practical, 24% felt that they had acquired necessary skills, for 22% training environment and facility provided were good. Almost all of them seemed to be happy at the end of training. However, only 15% approximately, responded that the training has helped build confidence. The feedback for scope for improvement was given due importance and MOs as a group was separated from Paramedical /nursing staff trainees. Medium of instruction for the training suitably was changed to Gujarati (vernacular language).

Analysis of checklist for monitoring clinical sessions showed that 76% could classify possible serious bacterial infections correctly and it was observed that few over diagnosed chest in drawing, grunting and nasal flaring. 35% classified

local bacterial infection correctly. 60% mentioned no dehydration correctly while rest failed to write no dehydration as classification when diarrhea was present. 93% assessed breast feeding correctly. Not able to feed – possible serious bacterial infection, feeding problem and no feeding problem were correctly classified by 70%, 74% and 83% respectively. 93% prescribed oral drugs correctly and 95% could give correct advice on home care.

In 79% of cases of General danger signs, 80% Severe Pneumonia or very severe disease, 87% Pneumonia and 90% of cold were classified correctly. In 80% of Severe dehydration, 62% some dehydration and 87% No dehydration were correctly classified. 67% of Very severe febrile disease was classified correctly and this was mainly because participants forget to use general danger signs if present while writing this classification. All the cases of severe malnutrition and severe anemia were correctly classified. 96% each of Very low weight and Not very low weight were correctly classified. 93% and 91% of Anemia and No anemia were correctly classified.

Majority of participants tried memorizing the classifications and found it unusual to use chart booklet every time. A few of them left reference chits incomplete or forgot to write it altogether. The check-lists also reflect the type of cases given to participants for assessment and classification during clinical sessions. They were found to be adequate.

Conclusion:

The feedback of participants helped identify problems related to medium of instruction, classifying some illnesses, usage of chart booklet and completing referral notes. Useful information related to supportive and problem solving attitudes of facilitation, conducive training environment and skill development through clinical sessions also came out. It is also important to note that over 80% participants perceived that they learnt what was intended to be learnt.

Limitation:

A follow-up visit as recommended within four to six weeks after training of these trainees was needed to ensuring supply of medicines and equipment that are required in the practice of IMNCI strategy along with supportive supervision.

Recommendation:

VIPP method- a qualitative research method, used regularly with IMNCI can come up with findings which can help improve quality of this ongoing training programme impacting the entire health service manpower.

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Original Article

A Cross Sectional Study Of Thalassemia In Ahmedabad City, Gujarat. (Hospital based)

Shrenik Talsania[1], Niti Talsania[2,] Himanshu Nayak[3]
[1].Internee, [2.] Professor, [3.] Tutor, Department of Community Medicine, B.J.Medical College, Ahmedabad
Corresponding author: Dr.Niti Talsania, nitibenok@hotmail.com

Abstract

Thalassemia is a quantitative problem of too few globins synthesized, whereas sickle-cell anemia (a hemoglobinopathy) is a qualitative problem of synthesis of an incorrectly functioning globin. The present study was undertaken with objective to study the occurrence and socio-demographic profile of thalassemia cases. There were 223 patients (55 from Municipal Corporation Hospitals & 168 from New civil hospital, Ahmedabad) admitted in the hospitals during January 2006 to March 2009.Majority of patients were males, from 1-5 year age group and from Hindu community. Majority of patients from corporation hospitals had more frequency of blood transfusion compared to government hospital. Thalassemia major cases were higher compared to minor.

Key words: Thalassemia type, Sociodemographic profile, Blood requirement

Introduction

Thalassemia (from Greek, thalassa, haima, blood; British spelling, "thalassemia") is an inherited autosomal recessive blood disease. In thalassemia, the genetic defect results in reduced rate of synthesis of one of the globin chains that make up hemoglobin. There are an estimated 60-80 million people in the world who carry the beta thalassemia trait alone[(1)]. Thalassemia syndromes are a heterogeneous group of single gene disorders, inherited in an autosomal recessive manner, prevalent in certain parts of the world [(2)]. BETA-thalassemia is the most common single gene disorder in our country[(3)]. In fact beta-thalassemia has emerged as a huge public health problem worldwide[(4)]. Increase in survival of patients with this disorder has led to more prevalence of this disease. Reportedly, there are about 240 million carriers of b-thalassemia worldwide, and in India alone, the number is approximately 30 million with a mean prevalence of 3.3%[(5,6,7)]. But among certain communities and religions like Punjabis, Sindhis, Bengalis, Jams and Muslims, the incidence of beta-thalassemic trait ranges between 8-15 %[(8)]. It is estimated that there are about 65,000-67,000 b-thalassemia patients in our country with around 9,000-10,000 cases being added every year [(1,5,6,7)]. The carrier rate for b-thalassemia gene varies from 1 to 3% in Southern India to 3% to 15% in Northern India. Certain communities in India, such as Sindhis and Punjabis from Northern India, Bhanushali's, Kutchis, Lohana's from Gujarat, Mahar's, Neobuddhist's, Koli's and Agri's from Maharashtra, & Gowda's and Lingayat's from Karnataka etc. have a higher carrier rate[(6,9)].

Genetic prevalence

Thalassemia has an autosomal recessive pattern of inheritance and β thalassemia is often inherited in an autosomal recessive fashion although this is not always the case. For the autosomal recessive forms of the disease both parents must be carriers in order for a child to be affected. If both parents carry a hemoglobinopathy trait, there is a 25% chance with each pregnancy for an affected child. Genetic counseling and genetic testing is recommended for families that carry a thalassemia trait.

Countries such as India, Pakistan and Iran are seeing a large increase of thalassemia patients due to lack of genetic counseling and screening. Generally, thalassemia is prevalent in populations that evolved in humid climates where malaria was endemic. It affects all races, as thalassemia

protected these people from malaria due to the blood cells' easy degradation. There is growing concern that thalassemia may become a very serious problem in the next 50 years, one that will burden the world's blood bank supplies and the health system in general[10]. The most effective approach to reduce the burden on the society and reduce the disease incidence is through implementation of a carrier-screening programme, offering genetic counseling, prenatal diagnosis and selective termination of affected fetus[3]. Present study was undertaken at two different institutions to find out occurrence of disease, its severity and management in two different sectors hospital of Ahmedabad.

Aims

To find out occurrence of thalassemia major/minor in Pediatrics wards.

To describe the socio-demographic profile of the patients.

To know the complication among patients.

Measures to prevent and health education to create awareness in general populations.

Method

A cross- sectional hospital record based study was carried out in two institutions one was Municipal corporation hospitals which include two hospitals V. S. General and L. G. Hospital and second one was Civil hospital run by Governement of Gujarat. All patients of thalassemia who were admitted in pediatric ward of respective hospitals during January 2006 to March 2009 were included in the study. All the information regarding their socio-demographic profile and their thalassemic status were collected in pre designed and pre tested standard proforma from the hospital records. The study was conducted in the year 2009. After taking permission from institutional heads, the record section was contacted and all relevant information collected.

Data was collected and compiled in excel sheet and analyzed with appropriate statistical methods.

Results

Total 223 patients were admitted to the pediatric wards of both hospitals during Jan 2006 to March 2009, out of them 55(24.7%) were from Ahmedabad Municipal corporation hospitals while168 (75.3%) were from the new civil hospital, Ahmedabad.

Table 1: sociodemographic profile of patients

Sociodemographic characteristic	Municipal corporation	Govt. hospital	Total
Male	37(67%)	118(70.2%)	155(69.5%)
Female	18(33%)	50(29.8%)	68(30.5%)
Age <1	9(16%)	37(22%)	46(20.6%)
Age 1-5	34(62%)	75(44.6%)	109(48.9%)
Age 6-9	10(18%)	33(19.6%)	43(19.3%)
Age 10 yrs & more	2(4%)	23(13.8%)	25(11.2%)

Table 1a: Sociodemographic profile of patients (Contd.)

Sociodemographic characteristic Religion	Municipal corporation	Govt. hospital	Total
Hindu	42(76.4%)	124(73.8%)	166(74.4%)
Muslim	13(23.6%)	44(26.2%)	57(25.6%)
Total	55(24.7%)	168(75.3%)	223(100%)

Figures in parenthesis show percentage.

In both govt. as well as Municipal corporation hospitals most of the thalassemic patients were male, being 70.2% and 67% respectively. This difference was found statistically insignificant(X^2=0.06; P>0.05). Majority 34(62%) of the patients attending Municipal corporation hospitals and 75(44.6%) of the patients attending Govt. hospitals were from 1-5 years of age group. The difference was found to be statistically insignificant (X^2=6.92; P>0.05). According to

religion wise distribution, majority42 (76.4%) & 124(73.8%) were Hindu from both the Municipal corporation & Government hospital respectively. (Table 1, 1a)

Table 2: Particulars of blood requirement among patients

Particulars of blood requirement	Municipal corporation	Govt. hospital
Frequency of blood requirement		
< 1month	37(67.3)	20(11.9)
>1 month	18(32.7)	148(88.1)
Parents/relative ever donated blood	5.4±3.8	76(45.2%)
Average duration of treatment (yrs)	11.2±4.8	

Table 2 revealed that majority 37(67.3%) from municipal corporation hospitals had blood requirement frequency of less than one month, while majority 148(88.1%) from Govt. hospitals had blood requirement frequency of more than one month. This difference was statistically highly significant(X^2=8.37; P<0.001). Significantly (Z=3.85; P<0.01) higher proportion of parents 40(72.7%) attending the municipal corporation hospitals had donated blood for their children as compared to 76(45.2%) of the parents/relatives attending govt, hospital. the difference between average duration of treatment between both the sectors were highly significant (Z=8.16, P<0.001)

In Table-3, Out of total 223 patients, majority 179(80.3%) had thalassemia major while only 8(3.6%) had thalassemia minor. Difference between the thalassemia & both the sectors hospitals were found statistically insignificant. (X^2=3.06; P>0.05)

In Table-4, Out of total 223 patients, 32(14.4%) had congestive cardiac failure including 6(11%) from corporation hospital & 26(15.5%) from Govt. hospital. This difference was not statistically significant(X^2=0.38; P>0.05).

Table 3: Thalassemia Type-wise distribution:

Thalassemia	Municipal corporation	Govt. hospital	Total
Major	40(73%)	139(82.7%)	179(80.3%)
Intermediate	13(23%)	23(13.7%)	36(16.1%)
Minor	2(4%)	6(3.6%)	8(3.6%)
Total	55(24.7%)	168(75.3%)	223(100%)

Table 4: distribution based on congestive cardiac failure presentation in the thalassemic patients:

CCF	Municipal corporation	Govt. hospital	Total
Present	6(11%)	26(15.5%)	32(14.3%)
Absent	49(89%)	142(84.5%)	191(85.7%)
Total	55(24.7%)	168(75.3%)	223(100%)

Discussion:

The numbers of affected children were more at Govt. institution compared to Municipal corporation hospitals. This might be due to large catchment areas of Govt. hospital Ahmadabad which covers the population of all Gujarat and also serves as referral center of other neighbor state compared to Municipal corporation hospitals which covers only Ahmadabad urban areas.

In both the institutions, proportion of male patients was higher more than twice. Relatively higher proportion of male patients 67% at corporation hospitals & 70.2% at Government hospitals. This may be explained by the deep-rooted gender bias among the parents of these chronically ill children who seek medical care and

are ready to spend more for their male children only. The finding of male preponderance was observed in other studies as well; Bhaswati et al[11], Harsha et al[7] and Sur et al[12] reported65.5%, 56% and 62.1% of male patients, respectively. Proportion of the affected children in the age group 1-5 years was found to be more in the both the municipal corporation & Govt. hospital. The possible reasons may be that the study was conducted in the pediatric wards of the institutions.

Higher frequency of blood requirement for the affected children was observed in Municipal corporation hospitals as compared to those attending the govt. institution. This might be due to the fact that parents attending the Municipal corporation hospitals were literate and also made aware and more alert about the symptoms and sings of their children as well as importance of their regular follow up including Hb estimation by ongoing regular counseling services and moreover catchment areas of municipal hospitals covers only Ahmedabad urban areas so parents could easily access the centers more frequently for treatment. in contrast Govt. hospital whose benefiaries were from remote areas ,poor accessibility and most of the illiterate parents were not aware of the value of regular follow-up and would attend the facility only when severe signs and symptoms developed. Due to the same reasons higher proportion of parents (72.7%) attending the Municipal hospitals had donated blood for their affected children compared to those in govt, hospital (45.2%). Average duration of treatment of thalassemia patients was higher in the Municipal hospitals as compared to Govt, hospital, which might be attributed all of these reasons.

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Original Article

Road traffic accidents; An observational and analytical study exploring the hidden truths in Pakistan and South East-Asian Countries

Tabish Hussain[1], Li Yu Shu[1], Tumenjavkhlan Sosorburam[2], A.Seid Adji[3], Ali Hassan Khan[4], Asim Farooq Raja[5]

[1.]Department of Internal Medicine, Cardiology Division, [2.]Department of Anesthesia, [3.] Department of Internal Medicine, Gastroenterology Division, Union Hospital,Tongji Medical College,Huazhong university of sciences and Technology,Wuhan,430030,China .

[4].Department of Public Health, The Private Clinic, Fateh Jang,Rawalpindi,44000,Pakistan.

[5.] Department of Public Health, Faculty of Health Sciences, Simon Fraser University, Vancouver, Canada.

Correspondence to Dr. Tabish Hussain **Email-** drtabish@hotmail.com

Abstract

Despite national traffic legislation and known safety benefits of traffic laws, awareness remains low in Pakistan. Study aim was to determine level of knowledge about traffic legislation and attitudes towards their observation in capital city Islamabad to provide baseline data for formulation of an intervention aimed at strengthening road safety law enforcement. Survey-Analysis with Random Observational study was conducted by using standard survey questionnaire focusing Road-safety awareness levels and use of helmets/seatbelts on MainRoads and StreetRoads.Drivers/passengers/pedestrian were randomly selected to participate in face-to-face interview to ascertain attitudes. Overall, Deficient Road-Safety Awareness was at top(27%)followed by wrong use/no use of seatbelts/helmets(21%) and legislative aspects were at last(17%)including under-age driving,vehicles without fitness and licensure problems exploring the bitter hidden truths. Actions areas for preventing Road Traffic Accidents(RTAs) include interventions to improve road-safety education, identification/implementation of safety measures for traffic black-spots, enforcement of seatbelt/helmet laws and the development of highway ordinances. PRECAUTION IS BETTER THAN CURE as Road Traffic Accidents are 100% preventable.

Keywords: Awareness level, road safety education, road traffic accidents (RTAs), survey analysis, traffic legislation.

Introduction

Road traffic accidents and injuries related to them are the biggest threat coupled with a challenge to the upcoming world. In year 2000, Road traffic accidents(RTAs) and related injuries alone were the 10th leading cause of death worldwide and is suspected to increase gradually till it will become the 3rd leading cause of disability adjusted life years lost worldwide by 2020 [(1,2,3)]. 90% of the global RTAs related deaths occur in middle and low income countries, where 85% of the world's population lives [(2, 3)]. Developing countries especially Asia Pacific region is widely hit by this problem [(1, 2)] (Appendix 1). Road traffic accidents, traffic legislation and awareness regarding road safety with their implementation make a close triangle where every corner has its own vital importance. Aim of this study was to determine level of knowledge regarding traffic laws and its correlation to the incidence and prevalence of RTAs in the capital city of Pakistan, Islamabad so as to provide baseline data and specific evidence for formulation of an intervention aimed at strengthening road safety law enforcement. Previous research studies [(4,5)] (Appendix 2,3,4,5) conducted in Asia Pacific region shows direct collinear relationship between decline in RTAs and associated injuries with increase in awareness of traffic safety laws among general public (China, Singapore, Thailand, and Taiwan). Taiwan witnessed a 14% decline in motorcycle fatalities and a 22% reduction of head injury fatalities with the introduction of a helmet law. In Thailand, after enforcement of a helmet law, helmet-use increased five-fold, the number of injured motorcyclists decreased by 33.5%, head injuries decreased by 41.4%, and deaths decreased by 20.8%. There is considerable evidence that mandatory traffic laws with enforcement alleviate the burden of traffic injuries greatly [(3)].

Traffic legislation is vital for road safety all around the world. The biggest burden of RTAs is in South East Asia .Nearly 50 % RTAs occur in Asia pacific region (Appendix 6). Pakistan, a South East Asian country has also its own proper certified traffic safety legislature but despite national traffic legislation and know safety benefits of traffic laws, awareness and judgment regarding importance of traffic rules remains very low as shown by previous studies due to multifactor causations [(6)](Appendix 7).

In Pakistan traffic law and legislation is based on two grounds. one pillar is standing on standard ground i.e., the international traffic safety rules and regulations, the second pillar is based on local customs and social setup of Pakistan like right handed driving(Appendix8). Awareness of traffic safety rules vary from region to region having different percentage(rural and urban).In South East Asian countries [7](Appendix 6) like India, Pakistan and Bangladesh pattern of awareness nearly remains same as in past it was one country and one nation having very close culture, customs and socio-economic backgrounds(all having right handed driving).

Methods

Over a period of 1 year from March 2009 to March 2010, random observational study along with survey analysis was conducted in Islamabad, capital city of Pakistan regarding RTAs prevention focusing legislative aspects, road safety awareness levels and use of helmets/set belts to make a suggestive report in minimizing RTAs.

Standardized traffic safety awareness level check survey form with grading scale (Table.1 and Table.2) was designed while keeping in view all international and localized traffic safety rules.

Table: 1

No	GRADE	RESPONSE
1.	Excellent	Answering at least 9 questions out of 10(9/10)
2.	Very good	Answering 7-8 questions (7-8/10)
3.	Good	Answering 5-6 questions (5-6/10)
4.	Verge	Answering 3-4 questions (3-4/10)
5.	Below average	Less than 3

Two kinds of roads were selected for this purpose. Main roads including highways with traffic flow of 50 vehicles per minute involving both heavy traffic vehicles (HTV 20/min) and light traffic vehicles (LTV 30/min).

Street roads near residential areas were second with traffic flow of 20 vehicles per minute on average (only light traffic vehicles).Drivers, passengers and pedestrians were randomly selected from service stations, elementary schools and supermarket car parks to participate in a face to face interview to ascertain attitudes.

Questionnaire body was a combination of 10 basic and 5 supplementary questions including biographic details of the participants being interviewed.

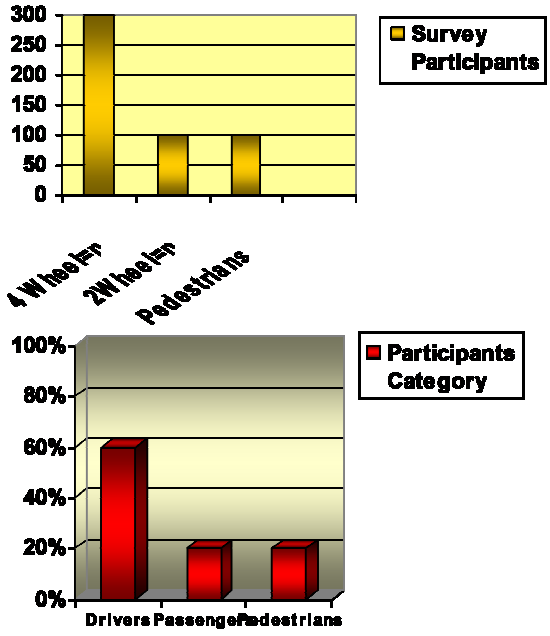
Based on 10 basic questions, grading score was given to ascertain level of traffic safety knowledge among the participants of the survey so as to make a final report.

Observational study was also conducted regarding behavior of drivers and passengers in use of set belts/helmets and other precautionary measures.

In parallel to questionnaire, data from Emergency departments of 2 big tertiary care hospitals of the city was also collected. 300 cases of RTAs were collected over the study period and cases were individually studied while keeping in view the medico legal reports regarding incident trace evidence, injury site evidences and possible causation of accidents.

Results

Every Questionnaire was scrutinized individually. Out of 500 questionnaires, 300 were filled by 4 wheel vehicle holders (both drivers/passengers), 100 were filled by 2 wheel vehicle holders (both drivers and passengers) i.e. motorcyclists and 100 were pedestrians. Overall 300n (60%) were drivers, 100n (20%) were passengers and 100n (20%) were pedestrians



(Graph.1 & 2).

Table: 2

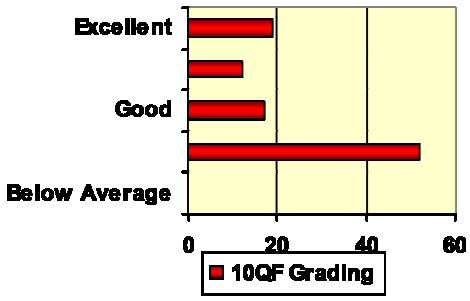
Road Safety Awareness Check Survey Analysis Form

Name	Age	Sex….M / F
Contact Details	Driver / Passenger / Pedestrian	
Address	Tel.No	E-mail

10 Basic Questions (10QF)**What do you know about**	**Response**		
1. Importance of traffic signals/sign boards.			
2. Importance of driving license/legalized driving.			
3. Importance of vehicle status/quality assurance.			
4. Importance of seat belts/helmets/baby sitters.			
5. Importance of over speeding.			
6. Importance of overloading (public transport)			
7. Underage driving			
8. Driving under Premorbid conditions (Angina, Epilepsy, After MI, Color blind, Night blindness)			
9. Driving under special circumstances (Rain, Snowfall, Caves, Tunnels, Bridges, Railway Crossings)			
10. Measures to carry out when you suffer from RTA			
Supplementary questions			
*****What do you know about traffic legislation of Pakistan?			
*****Do you always obey/sometimes obey/not obey at all the traffic safety rules?			
*****What is the advantage/disadvantage of obeying/not obeying traffic safety rules?			
*****Have you /your family member/relative/close friends ever suffered RTA in past?			
*****If yes what do you think what was the cause of that RTA.			
Seat belt/Helmet use observation during interview	Proper use	Wrong use	No use
Vehicle status observation and legalization of vehicle	Very good	Good	Bad

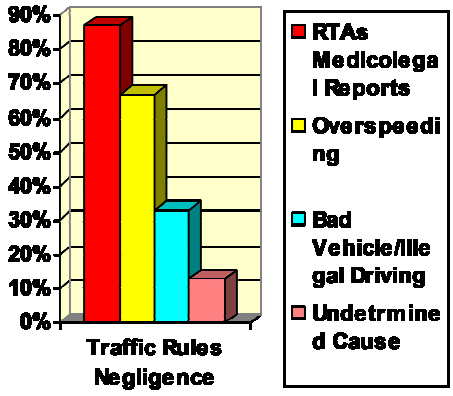
10 QF GRADE **10 , 9 , 8 , 7 , 6 , 5 , 4 , 3 , 2 , 1 , 0**

Excellent, Very Good, Good, Average, Below Average



On combination of data while keeping in view the formula of 10Q,grading showed that 52%(260=n) were falling in average category,17 %(85=n) were good,12%(60=n) were very good and 19 %(95=n) were excellent with no one in below average category(**Graph.3**). Overall deficient road safety awareness was at the top 27 % (mean).

Observational study on spot of interview revealed that there was either no use or wrong use of seat belts and helmets up to 21%(63=n seat belts,21=n helmets).legislative aspects were at last but not least with 17%(68=n)incidence with either under age driving, driving without license and legal documents. Data collected from hospitals reflected that 87 %(261=n) RTAs were due to traffic law negligence and remaining 13 %(39=n) with undetermined causes **(Graph.4)**.



Over speeding was at the top with 67 %(175=n Avg) followed by bad vehicle status and illegal driving 33 %(86=n Avg).

Data strongly suggests that lack of awareness of traffic rules contributes the most in causation of RTAs. Actions areas [1,8] for preventing RTAs include interventions to improve road safety education, both types i.e. general knowledge as well as common sense of traffic laws along with specific technical terminologies related to road safety, identification and implementing of safety measures for traffic black-spots, enforcement of seatbelts and helmet laws ,development and implementation of highway ordinance, creating sense of importance of traffic laws[8] and their relation to injury prevention ,enhancing the role of print and electronic media and facilitation of services for common man like traffic police-public seminars, involvement of law and security authorities at public level and medical teams in form of signboards, pamphlets and banners[9]. Suggestions were also posted to Ministry of Communication, Pakistan, National Highways Authority, Pakistan and Traffic Police Islamabad to improve the safety measures.

Conclusion

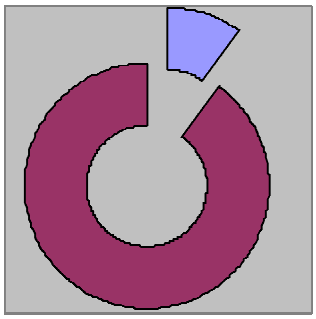
Injuries (avoidable as well as unavoidable injuries in form of natural disasters) remains the biggest burden over health system of any country. Avoidable injuries require little attention just in mean of educating the people about severity and misery of the accidents. RTAs are totally avoidable in a sense that it only needs to create a sense among people regarding road safety and to enhance its benefits in their own interests.

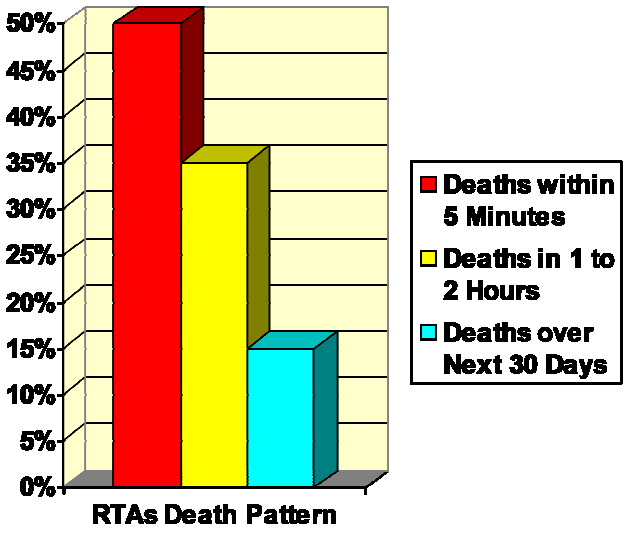
Prevention is superior to rehabilitation and treatment in case of RTAs. Physical as well as psychological, both aspects are involved in these cases [10].

Every year in the world nearly 1.2 Million road accidents occur, 90 % takes place in developing world **(Circle Diagm.8)** and 50 %

worldwide fatalities and injuries occur in Asia-Pacific region(Appendix)8. For every death.4 people suffer with severe disbilities,10 people require hospital admissions and 30 people require emergency room treatment [11,12](Appendix 6).The economic cost ranges from 1 % to 5 % of GDP for every nation thus creating a big burden over the total budget of a country that can be utilized for other welfare works in a sense that just educating the people about traffic laws costs one tenth .Taking a look at misery of RTAs, 50 % death happen within next 5 minutes due to visceral injuries including brain, heart and major blood vessels (on spot deaths),35 % die in next 1 to 2 hours (bleeding injuries and complications) and rest 15 % die over next 30 days primarily due to sepsis and poor hospital care [11,12] **(Graph.9)**.

Graph: 8 & 9





So the message is that burden over health system due to RTAs can be minimized by simplified measures like enhancement of road safety knowledge among general public, making law applicable and quality assurance of vehicles as RTAs are 100% preventable.

Acknowledgment

The authors would like to thank Mrs.Roshan Ara, Mr. M.Ismail Anwar, Engg.Tajammul Hussain, Dr.Sara Tajammul, Dr Aamra Sartaj and Dr.Abbas Hayat for assisting with the preparation and compiling of the manuscript.

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Appendix – Databases Searched (Last Accessed Sep 2010)

1. http://www.who.int/evidence
2.www.taiwanjournal.nat.gov.tw/ct.asp?CtNode=122&xItem=44929 - 14k
3.www.taiwanjournal.nat.gov.tw/ct.asp?xItem=14157&CtNode=118 - 6k
4.www.sciencedaily.com/releases/2008/06/080604194701.htm - 47k
5. www.iconocast.com/D1/C1/News8.htm - 28k
6. http://www.buet.ac.bd/?page_id=84
7.http://www.nha.gov.pk/Info/info.asp/*www.pakistan.gov.pk/ministries/communication-ministry/media/psdfnhmp.pdf*
8.http://islamabad.metblogs.com/?s=+islamabad+traffic+police+

Original Article

Knowledge, attitude and health behavior of dental students towards HIV patients

Venu Shan[1], Nimisha D. Shethwala[2], D.V.Bala[3]
[1] 3rd year Resident student, [2] Assistant Professor, [3] Professor and Head; Department of Community Medicine, Smt. NHL Municipal Medical College, Ahmedabad
Correspondence to Vaibhavkumar Ramanuj Email- venushah@yahoo.co.in

Abstract:
Background: HIV/AIDS had profoundly affected every aspect of the health sector. Most importantly doctor's attitude of avoiding treatment of HIV patients is mainly due to their apprehensions caused by their lack of understanding of the disease and its modes of transmission.
Aims and objective: To investigate a group of dental students' knowledge about HIV infection, attitudes towards treating HIV/AIDS patients and behaviour practices.
Materials and methods: study population consisted of 150 dental students from College of Dental Science and Research Center, Bopal, Ahmedabad. who were treating patients in the clinics of the college. The survey instrument was a pre-designed and pre-tested questionnaire.
Result: Mean age of the study population is 20.5 yrs. According to them most common modes of transmission – sexual transmission and contaminated blood transfusion. Preventive measures are use of condom and safe blood transfusion and common oral manifestation are Candidiasis, Apthous ulcer, Hairy leukoplakia. Range of score is 0-13. Mean score of knowledge regarding general and dental aspects was 9.73 and 5.08 respectively. Difference between two is statistically significant. Most of them were using gloves and mask but not using protective eye wear as Universal Work Precautions.
Conclusions: These findings highlight the importance of teaching the dental students on various aspects of the disease. Universal Work Precautions implementation should be emphasized at an early level of their curriculum and reinforced from time to time.
Key words : HIV/AIDS, Dental students, Knowledge, attitude

Introduction:

The possibility of HIV transmission in the oral health care setting is very rare, nonetheless the oral health care environment has become a helpful setting for early detection, as most lesions present orally during the first stage of the disease. Willingness to treat patients with HIV/AIDS appears to be related to the knowledge of the disease process, it's oral manifestations and modes of transmission thus influencing health care workers' attitudes and behavior towards management of such patient(1). A sound basis of knowledge about HIV infection is essential to allow students to develop as dentists who undertake appropriate measures during clinical practice(2). The aim of study was to determination of knowledge, attitude of dental students towards HIV/AIDS patients.

Materials and methods:

Study design: Cross sectional
Study area: College of Dental Science and Research Center, Bopal, Ahmedabad.
Study subject: 3rd & 4th year dental students who were treating patients in clinics of college.
Study Duration: September-October 2009
Study size: 150
Study material: Pre-designed & pre-tested questionnaire was used for collection of data.
Sampling Method: Convenient Sampling

All the students who gave verbal consent to participate in the study were asked to fill up a self administered questionnaire, each correct response was given "1" score & wrong or no answer was given"0" score. Maximum score was 13 each for general knowledge of HIV/AIDS and oral specific score as well. General knowledge score includes the questions about awareness about the disease in general, modes of transmission and prevention etc. While oral score includes questions of oral manifestations of HIV/AIDS, risk of transmission of disease in dental practice and disinfection of dental equipment.

Results and Discussion:

Table 1. shows the distribution of the sample by age and gender. There were 79 males and 71 females students. It is observed that knowledge regarding transmission by contaminated needle, syringe and dental equipment was only in 69(46%) students and 65

(43%) knew the mother to fetus transmission of HIV.

Table 1- Distribution of the dental students by category and gender.

Students category	Male	Female	Total
Third year BDS	53	47	100
Fourth year BDS	26	24	50
Total	79	71	150

Table 2 shows the percentage of students having correct knowledge regarding preventive measure. It shows only 62% of students were aware of universal work precautions.

Table 2. Percentage of students having correct knowledge regarding HIV associated oral manifestation

Oral manifestations	Number	Percentage
Candida infection	91	61%
Apthous ulcers	64	43%
Hairy leukoplaki	63	42%
Kaposi's sarcoma	60	40%
Angular chelitis	60	40%
Herpes	58	39%
Lymphoma	24	16%
Hyper pigmentaion	18	12%
Purpura	06	04%

*Note: more than one answer has been given by several students

Majority of the students were aware of the oral lesions associated with HIV. The knowledge was Oral candidiasis (61%), Apthous ulcers (43%), Hairy leukoplakia (42%), while the condition like Hyper pigmentation(12%), Lymphoma (16%) and Purpura (4%), were less known. These figures were much lower than that reported in other studies[1,3].

Table 3. Average score of general knowledge of HIV and Knowledge of oral manifestation related to HIV.

Score	Average	SD
General score	9.73	1.8
Oral score	5.08	2.1

Table 4. Genderwise distribution of mean score.

Sex	General score		Oral score	
	Mean	SD	Mean	SD
Male	9.8	1.7	5.7	1.9
Female	9.6	2.0	4.2	2.1

General knowledge about HIV/AIDS and knowledge of associated oral lesions is displayed in the Table 3& 4. Overall general score was 9.73 as compared to the specific oral score which was 5.08 and the difference was statistically significant. Gender wise distribution of mean general score and mean oral score showed no significant difference.

Nearly half of the students stated that an AIDS patient should be referred to special HIV/AIDS supporting clinic to provide with dental treatment. While 18(12%) thought that they should be treated in a public dental facility, 60(40%) opined treatment at a private dental clinic. Some studies found that increased knowledge of issues concerning HIV has led to increased willingness by dentists to treat HIV infected patients[3,4].

Practice of Universal work precautions like wearing gloves and masks were observed in 144(96%) but protective eye wear was used by only 43(29%) students. Non-compliance to these practices put them at a higher risk of exposure. In study carried out by Al Naimi R J that 90% of the students were using all three type of barrier technique[6]. Dental health staff are exposed to infectious agents during work, especially when proper barrier precautions are not followed [8,9,10].

In our study, 7(5%) of the students were exposed to the needle stick injury. This figure is much less than that reported in another study[11]. This might be due to the reason that in the Askarian and in Malekmakan's study all the health care students in the university were included and not dental students alone. Almost 60% of needle stick injury occurred at the time of needle recapping. Handling of used needles or disposal of the same and unexpected patient movement each accounted for 20% causes of needle stick injury.

Conclusion:

These findings clearly highlight that knowledge of the dental students about HIV/AIDS (both general and oral in specific) was low. All the three types of barrier techniques (gloves, mask and goggles) during routine work were not undertaken by any of the students, reported infection control practices also showed a lack of compliance. The importance of teaching emphasis of dental educators on the disease is vital so that universal precaution also should be adopted through faculty policies and reinforced at early level of study. So that the barrier technique become a protocol and norm in their daily practices as clinicians. Because of certain gaps in knowledge and infection control practices among responders, a curriculum focusing on the management of HIV/ AIDS, including infection for all blood borne diseases is recommended. Therefore, teachers in the healthcare area have an important role in diffusing knowledge to their student, future healthcare professional.

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Original Article

A cost analysis of deliveries conducted in various health care settings in a city of India

Sheetal Vyas[1], Gneyaa S Bhatt[2], Kinnari I Gupta[3], Hemant Tiwari[4]
1 Professor and Head, 2 Junior lecturer, Community Medicine Department, AMC MET Medical College, LG Hospital Compound, Maninagar, Ahmedabad; 3 UN Mehta Cardiac and Research centre, Ahmedabad; 4 PhD (Biostatistics), Assistant Professor, Department of Community Medicine, Smt. NHL Municipal Medical College, Ellis Bridge, Ahmedabad
Correspondence to Dr.Sheetal Vyas E mail:dr_shvyas@yahoo.com

Abstract
Background: Health is associated with various socio-economical issues which affects accessibility of a common man to the health care delivery systems. Cost analysis can be an important element in setting levels of user fees and can help sort out important economical issues. The present study was carried out to study the total cost borne in case of normal delivery and caesarean section in various health care settings and to compare them.
Material & Methods: Personal interviews of 101 women delivered either by normal (ND) or by caesarean section (CS) in Government, Corporation or Private Hospital or in Home were taken. Information was collected regarding the direct medical cost, direct non medical cost and the indirect cost was analyzed by using appropriate statistical software.
Results: Mean of Total cost in case of normal delivery was Rs. 575.13 (± 172.04), Rs. 1839.73 (± 887.07), Rs. 3035.56 (± 1538.32), and Rs. 812.27 (± 658.21) in Government, Corporation and Private Hospitals and in Home respectively. Mean of total cost in case of CS delivery was Rs 1823.67 (± 801.13), Rs. 4232.87 (± 1135.94), & Rs. 9754.67 (± 2450.28) in respective institutions. Significant difference ($p < 0.001$) was found in total cost among above mentioned settings both for ND & CS. However after Post hoc analysis, no significant difference was found between total cost of normal delivery at home and at government hospital.
Conclusions: The above analysis helped us to explore the cost of delivery care in above settings. As there was no significant difference found between total costs of normal delivery at home and at government hospital, people should be motivated for the Government hospital deliveries instead of home deliveries. Further research on long term outcome needs to be done.
Key-words: cost analysis, direct cost, indirect cost, delivery, hospital delivery, home delivery, India

Introduction:
Maternal mortality and infant mortality are two important indicators for adequacy and utilization of health care delivery system and for over all development of the country. In India MMR is 254 per 100000 live births [(1)] and IMR is 53 per 1000 live births [(2)]. The institutional delivery or delivery by skilled personal plays major role in reducing MMR and IMR. In India rate of institutional deliveries is 41% and deliveries assisted by health professional are 49%[(3)]. The major deterrent for institutional delivery is economic condition of the family. Current health expenditure in India is 3.6%. Of which 75% is private expenditure and out of that 91.4% is out of pocket expenditure [(1)].
Economic issues have had a growing importance in the health care field as the sector's share of the gross national product has risen [(4)]. Cost is a measurement, in monetary terms, of the amount of resources used for some purpose [(5)]. Cost, in simple words, means the total of all expenses. Cost analysis includes examining the costs of alternatives [(6)]. In India looking at the present scenario of health insurance cost of care is major factor which needs to be attended. Cost analysis can be an important element in setting levels of user fees [(7)] which is affordable to a common man. Measuring unit cost can be of definite help sort out important economical issues [(8)].
The present study was conducted in Ahmedabad, a premier city of Gujarat state in western part of India. There are three municipal corporation hospitals, one civil hospital, one municipal urban health centre per each ward of city and many private nursing homes available for providing pregnancy and delivery care. However in many of urban slums deliveries are still conducted in home by untrained elderly females of the locality. The present study was carried out to analyse out of pocket expenditure incurred for child birth in various settings and to assess whether cost of health care services is a significant factor in choice of the setting for delivery care.

Methods:

It was a Cross sectional study carried out in various health care settings of Ahmedabad city during September- October 2008. For data collection following settings were chosen: Civil hospital, one of the municipal corporation hospitals, purposively selected three private hospitals and two of urban slum areas (Gulbai Tekra and Kagdivad area). The private hospitals were chosen based on the results of survey conducted in the mentioned slum areas regarding the favourable private hospitals for the local population.

30 cases from each of the health care settings (15 of normal delivery and 15 of Caesarean section delivery) based on experience of getting similar replies after such a number of interviews. And 11 cases of home delivery could be taken out of around 13 cases occurred at home in last 2 months preceding the interview with live issue in study area to limit recall bias. The women having any complication during or after pregnancy or delivery were excluded. The women registered under Janani Suraksha Yojana [9] or Chiranjeevi Yojana [10] (schemes by Government to increase institutional deliveries) were also excluded. Total 56 cases of normal delivery with or without episiotomy and 45 cases of cesarean section were taken. After obtaining oral consent total 101 women and/or care taker in these settings were personally interviewed by the investigators. For the hospital setting the interviews were taken every day till the women got discharge. Information was collected regarding Direct Medical Cost, Direct Non Medical Cost and Indirect cost.

Terms:

Direct Medical Cost includes: cost of medicines and consumables, hospital bill i.e. Cot charges, charges of Investigations, Operation Theatre charge if any, Charge of Anesthesia if any and charge of Caesarian section if any, Dai charges in case of home delivery

Direct Non Medical Cost includes: cost of food, cost of accommodation for attendants, cost of transport

Indirect cost includes: wage loss of self and/or care taker

Statistical Analysis was done by calculating averages, proportions and applying test of significance using appropriate statistical software.

Results:

Mean age of the women in the study was 23.3±3.22 years. Socio economic status of women showed 90 % of women fell below class 3 of Modified Prasad. Mean duration of Hospital stay was 2.2 ±1.99 days and 7.9± 4.41 days in ND and in CS respectively.

Average of total cost is in case of Normal Delivery is highest for private hospital while lowest for government hospital (Table 1). The difference was found to be significant (KW= 41.37, p<o.ooo1) in total cost among above mentioned settings for ND. However on Post-hoc analysis no difference was found between mean cost of ND at Government hospital Vs Home delivery.

Average of total cost is in case of Caesarean Section Delivery is highest for private hospital while lowest for government hospital (Table 2) and the difference in total cost was found to be significant (KW= 37.65, p<o.ooo1) among above mentioned settings for CS and on Post-hoc analysis also the difference between each setting was found significant.

Direct medical cost contributes the most to the total cost in case of normal delivery in each setting except in government hospital where direct non medical cost contributes highest (figure 1). However in case of CS direct medical cost contributes the most to the total cost in all the institutions (figure 2). In both the cases it is lowest at the government hospital.

When expenditure for child birth is calculated as a percentage of total monthly income, average expenditure for ND was found to be 38.61% and that for CS it was 116.56%. Maximum percentage of income was spent in case of private hospital delivery and lowest for government hospital for both ND and CS (figure 3). Even 21% of family had to take debt to meet the expenses of delivery. Of which 64% had CS delivery, 18% had home delivery and rest 18% had normal delivery.

Table 1 Each type of cost in case of Normal Delivery in each setting

		Government	Corporation	Private	Home
Direct Non-Medical Cost (Rs.)	Mean	269	208.8	240.45	0
	SD	91.03	140.3	120.83	0
Direct Medical Cost (Rs.)	Mean	143.13	1485.07	2802.1	697.73
	SD	152.01	740.54	1214.24	620.73
Indirect Cost (Rs.)	Mean	170.67	145.8	160.65	114.55
	SD	89.48	112.94	124.23	147.53
Total Cost (Rs.)	Mean	575.13	1839.73	3203.25	812.27
	SD	172.04	887.07	1012.34	658.21
	Median	665	1510	2980	940
	Range	345-905	868-3675	2100-6000	100-2300

Figure 1 Contribution from each type of the cost to the Total Cost in Normal Delivery

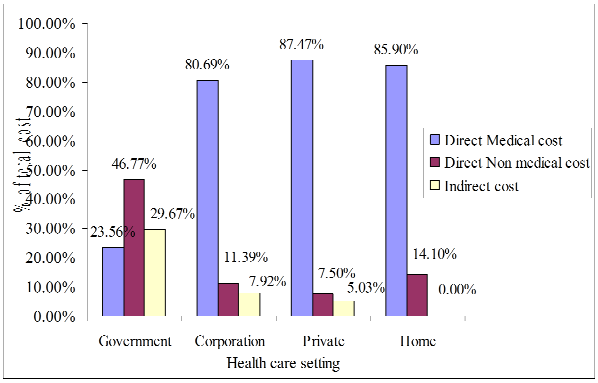


Table 2 Each type of cost in case of Caesarean Section Delivery in each setting

		Government	Corporation	Private
Direct Non-Medical Cost (Rs.)	Mean	488.67	369.67	254.46
	SD	231.36	98.18	92.34
Direct Medical Cost (Rs.)	Mean	824.66	3621.07	9297.65
	SD	228.11	989.81	2543.24
Indirect cost (Rs.)	Mean	523.73	242.13	270.56
	SD	493.68	412.01	116.32
Total Cost (Rs.)	Mean	1823.67	4232.87	9822.73
	SD	801.13	1135.94	2622.63
	Median	1540	4125	9500
	Range	1070-4050	2481-5880	5680-14660

Figure 2 Contribution from each type of the cost to the Total Cost in Caesarian Section Delivery

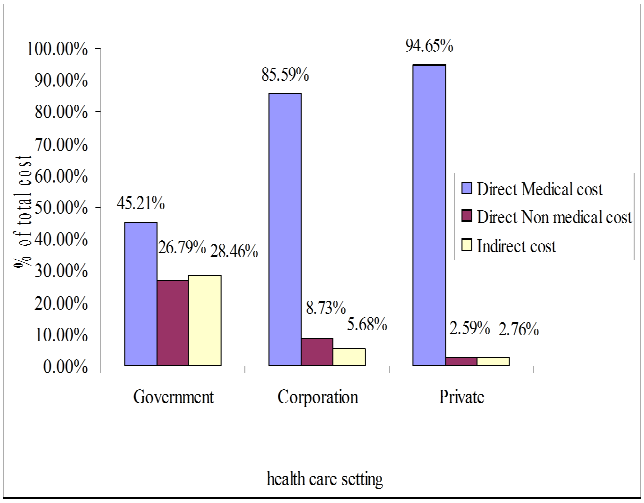
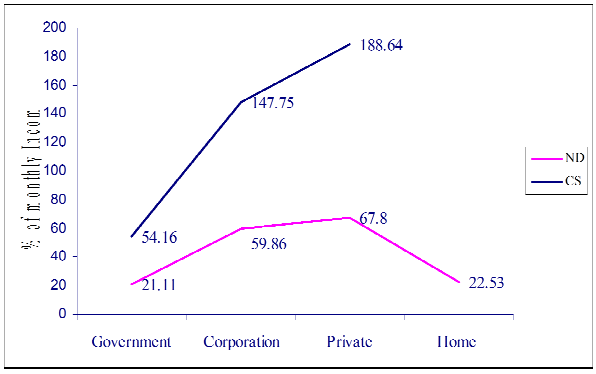


Figure 3 Percentage of Total Monthly Income spent for Delivery



Discussion:

In the present study the differences in average total expenditure in case of ND as well as CS in Government, Corporation and Private Hospitals and in Home (for ND only) were found significant. This difference is mainly because of difference in the direct medical cost in these settings. In civil hospital it is only that of medicines and consumables and no cost of hospital bill to the patients. Even the charges taken by personal in home delivery either in cash or in most cases in kind were higher than the cost in government hospital. In case of CS delivery direct non medical and indirect cost were higher in government hospital that may be because duration of stay was more in these cases. It was seen that quite a big share of monthly income was spent for child birth especially in corporation and private institutions. In case of CS delivery it even exceeded 100%. One fifth of the family were compelled to take debt to overcome the expenditure.

It shows that giving birth which is a physiological condition puts heavy toll on a common man. There needs to be a mechanism which can make a common man free of stress and strain of spending over and above his capacity. However centrally sponsored Janani Suraksha Yojna [(9)] and Chiranjeevi Yojana [(10)] of Gujarat state are the examples of work done in these areas. Still many challenges remain looking to the occurrence of home deliveries in urban slums of such a premier city. Studies to know the reasons for such behaviour of women/ family who still prefer to deliver at home in spite of less financial burden in the government and the perks given by the government schemes. As there was no significant difference found between total costs of ND at home and at government hospital, people should be motivated for the Government hospital deliveries. Major proportion of total cost was of Direct Medical cost & of that major proportion was of medicines so if they can be provided at subsidized rate than this component can be taken care of. The costs of delivery are far beyond the limits of lower class & an average middle class family in corporation & private hospitals and such important issue is to be addressed as a part of health economics.

Here, one aspect, which could not be explored in detail, is the differential in expenditure on home deliveries by type of attendance during the delivery. We also could not study the long term outcome with various health care settings. Monitoring of maternal and neonatal morbidities and mortality needs to be done so that it is possible to assess the impact of the program much more rigorously.

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