

What has access and skills got to do with it? A qualitative study exploring health literacy among Indian IT employees

Mahati Chittem

Indian Institute of
Technology Hyderabad

Venkatesh Boddu

Indian Institute of
Technology Hyderabad

Ramesh Babu
Byrapaneni

Medwin Hospital

Kirsti Sarheim
Anthun

Norwegian University of
Science and Technology &
Sor-Trondelag University
College

Low health literacy is associated with worse health outcomes, poorer utilization of healthcare services, increased hospitalizations, and decreased adherence (e.g., Berkman et al., 2011; Kalichman et al., 1999). With 487 million workers and 121000 occupational deaths (CIA, 2012), it is surprising that only one study from India has explored workers' health literacy. Haldiya et al. (2005)

examined knowledge and practices related to health issues among workers on salt manufacturing sites in Rajasthan. The authors found that despite having adequate awareness about the occupational health hazards, protective measures and the benefits of those measures, few workers used preventive techniques (e.g., wearing masks, goggles). Non-availability, non-affordability, and physical discomfort were provided as reasons for not adhering to safety measures. This highlights a gap between health awareness, health information-processing and available opportunities to use this information. While this study addressed an important issue on health literacy in India, it focused only on health-protective behaviours at the workplace. Further, it did not examine participants' sources of information and the experiential aspects of navigating the concepts of health literacy and related

decision-making.

There is a significant increase in the number of people with chronic diseases in the IT industry in India (Jena, 2011) due to work-stress, engaging in unhealthy behaviours, and sedentary lifestyles. However, there is no research assessing health literacy among IT workers. Therefore, using qualitative methodology, the current study explores knowledge and sources of information about health, health behaviours, and chronic illnesses among Indian IT employees.

Method

Participants

Thirteen employees at an IT company in Hyderabad, India, were interviewed individually. None of them reported any diagnosed illness at the time of the study. Table 1 outlines participants' demographic and health behaviours information. The Institutional Ethics Committee at Medwin Hospital, Hyderabad, and the Chairman of the company gave ethical approval for the study.

Procedure

Participants were recruited using snowball sampling. The Department of Human Resources sent an email to all employees, detailing the study and requesting those interested to email the lead author (MC). Consenting participants were interviewed in a private room on the company premises. The semi-structured inter-

Table 1
Participant demographic and health behaviours information

Age	Mean	25 years
	Range	21 – 36 years
Gender	Male	10
	Female	3
Marital status	Single	11
	Married	2
Level of education	Undergraduate	8
	Postgraduate	5
Employment status	Entry-level	7
	Mid-level	4
	High-level	2
Months since employment	Mean	23.62
	Range	4 – 84
Salary (per annum)	Mean	Rs. 309307
	Range	Rs. 140000 – 650000
Shift	Morning (06:30 – 15:30)	4
	Evening (15:30 – 00:30)	2
	Regular (09:00 – 06:30)	7
Time spent commuting to work	Mean	46.15 minutes
	Range	15 – 75 minutes
Meals eaten at work (i.e., not home-cooked) per week	Mean	2
	Range	0 – 10
Number of hours spent on physical exercise per week	Mean	3.18
	Range	0 – 10.5
Number of hours of sleep per day	Mean	6.62
	Range	6 – 8

views with open-ended questions (see Table 2 for interview topics and sample questions) lasted on average 36 minutes. Following each interview, participants were requested to inform colleagues about the study and provide those interested with MC's email address.

Analysis

The study used interpretative phenomenological analysis (IPA; Smith & Osborn, 2003), a qualitative methodology chiefly exploring individuals' personal perceptions of a specific phenomenon. Each transcribed interview was read iteratively and the first (MC) and second (VB) authors identified emergent themes inde-

pendently. Themes were then checked for developing patterns across participants, and the role of particular beliefs and behaviours. From these, five super-ordinate themes were developed and then used to group sub-ordinate themes when analyzing subsequent transcripts. Pseudonyms were used for all quotes.

Results

1. Lay definitions of health and illness

All participants defined health as the absence of illness and being physically able. Illness was,

Table 2
Interview topics and questions

Interview Topic	Sample Question
Beliefs about health and illness	What does 'having an illness' mean to you?
Awareness and knowledge about health behaviours (diet, exercise, smoking, alcohol consumption)	What are your thoughts and behaviours in relation to diet?
Awareness and knowledge about chronic illnesses (diabetes, heart diseases, cancer)	Can you tell me what you know about cancer?
Sources of health information	Where do you get information about health?

however, defined as both a physical and psychological concept; where being ill impacted mental well-being.

"When you are healthy only you can work better...you can achieve your goals." (Mansi, female, 24 years)

"Illness is again, not keeping your body healthy...again it could be psychological as well.... illness will be something, it could be psychological as well as (physical) health wise..." (Rani, female, 30 years)

2. Awareness of and engagement in healthy behaviours (diet, exercise, smoking, alcohol use)

All participants acknowledged the importance of healthy behaviours and avoiding unhealthy ones. However, most participants (9) reported being unable to engage in healthy behaviours and cited reasons such as enjoyment of unhealthy habits, disinterest, peer pressure, lack of time and/or motivation, and lack of social support.

"I don't like it (smoking) because it hampers our lives and we have good lives, you know, lungs are given by God, then why should we corrupt it by some other... by other means?" (Kartik, male, 36 years)

"I eat lot of junk food, I am not health

conscious...fries...oily food...I like dosa, I eat dosa every day or at least thrice a week, I eat cutlets, pizza and all that..." (Aravind, male, 21 years)

"If 10 people are going somewhere... someday taking some party, then they (friends) will say, "You must drink!" Some people will be forced by friends, "If you don't drink I will not drink."...like in that kind of difficult situation we must drink." (Chandra, male, 32 years)

3. Awareness of and knowledge about chronic illnesses (diabetes, heart diseases, cancer)

Most participants (9) were aware of and able to give a lay definition of chronic illnesses. However, some (4) were unaware about these illnesses, suggesting a need for health information. Interestingly, participants (4) able to accurately describe chronic illnesses used medical terms and had obtained this information through personal experiences, not because they were provided it (from formal/informal sources).

"If the blood pressure increases that will be exceeding the limit of the heart which it can pump or it can take...so, there at a particular time...air gets blocked in the lungs...so that causes, heart attack, heart stroke..." (Vishal, male, 22 years)

"I don't have proper guidance like what is cancer... cancer is a disease that's it." (Sridar, male, 23 years)

"Cancer is a mutation in your cells which leads to uncontrolled growth in cells... seriously I had no idea regarding this until actually one of my uncles got it." (Anupama, female, 25 years)

4. Link between knowledge about health behaviours and medical explanations of chronic illnesses

Participants (6) aware of the benefits of healthy behaviours were also the ones able to describe chronic illnesses using basic medical terminology (i.e., not in layman terms).

Alok, male, 22 years:

"Smoking it will affect our lungs, it may lead to cancer and TB, stuff like that - lung problems."

"Cancer is caused by not proper cell division and heart disease is caused by cholesterol."

Suresh, male, 23 years:

"We must have food healthily...do exercise and whatever to be taken to be healthy...like juice...do exercise, otherwise it produces some fat...cholesterol so...just playing exercise... whatever, resource you have, use it...utilize it.."

"Diabetes come because of sugar...much of insulin in their body or they have some deficiency of insulin in blood and causes some...deficiency in the other cells..."

5. Sources of health information

Participants reported navigating the concepts of health, illness, and health behaviours on their own, with the internet (13) and family/friends (4) being the main sources of information.

"There used to be one of my buddies during

graduation and we used to discuss these things (about exercise) a lot...so I got (information) from him. He used to share what he knew (about exercise) and made me do push-ups every day!" (Shiva, male, 23 years)

"I am surfing (the internet)...about what things we need to do and not to do...to maintain our health...so basic tips I have been surfing (the internet)." (Brinda, female, 22 years)

"Internet is there na...if you don't know anything, you type on the Google... It comes!" (Giri, male, 23 years)

Discussion

Using IPA, the current study explored knowledge and sources of information about health, health behaviours, and chronic illnesses among Indian IT employees. The study raised two crucial issues with existing institutional (and governmental) support within the context of health literacy. First, the study found that employees obtained health information by themselves, through the internet and/or their social network. This suggests a need to provide authenticated health information to Indian IT employees. As Saiyed and Tiwari (2004) posited providing workplace health education is a matter of urgency in India.

Second, the study revealed that employees lacked ability to interpret health information and translate it into daily healthy lifestyle choices. Hence, efforts to increase health literacy at the workplace should include skills-building components on: (i) how to make sense of health information, and (ii) techniques to maintain healthy habits (e.g., health discussion groups, tips on handling peer pressure during social

events).

Interestingly, it was observed that participants aware of the benefits of healthy habits also understood and used medical terminology to describe chronic illnesses. This suggests that not only was medical language comprehensible to them but they may also be able to perceive a link between health behaviours and chronic illnesses. Therefore, future health literacy interventions could deliver health information that is both medically descriptive and defines the relationship between health behaviours and chronic illnesses.

The current study's strengths comprise the inclusion of topics on sources of health information and a sample of Indian IT employees thereby adding different cultural perspectives to existing health literacy literature. While a qualitative methodology was appropriate in gaining employees' accounts and experiences, the results may not be generalizable to the wider working population. Quantitative research to expand on these findings would be useful. Recommendations include further work with broader based populations of IT workers, workers in other occupations, and examining the link between a variety of demographic factors (e.g., age, gender, type of employment) and health literacy.

References

- Berkman, N. D., Sheridan, S. L., Donahue, K. E., Halpern, D. J., & Crotty, K. (2011). Low health literacy and health outcomes: An Updated Systematic Review. *Annals of internal medicine*, 155(2), 97-107. doi:10.7326/0003-4819-155-2-201107190-00005
- Kickbusch, I. S. (2001). Health literacy: Addressing the health and education divide. *Health Promotion International*, 16(3), 289-297. doi:10.1093/heapro/16.3.289
- Central Intelligence Agency. (2012). *The World Factbook: India*. Retrieved from <https://www.cia.gov/library/publications/the-world-factbook/geos/in.html>
- Haldiya, K. R., Sachdev, R., Mathur, M. L., & Saiyed, H. N. (2005). Knowledge, attitude and practices related to occupational health problems among salt workers working in the desert of Rajasthan, India. *Journal of occupational health*, 47(1), 85-88. doi:10.1539/joh.47.85
- Jena, M. K. (2011). Indian IT industry and work: A study of health risk among BPO workers in Bangalore. *Labour and Development*, 18, 25-41. Retrieved from http://www.vvgnli.org/sites/default/files/publication_files/Labour-Development-June-2011.pdf
- Kalichman S. C., Ramachandran, B., & Catz, S. (1999). Adherence to combination antiretroviral therapies in HIV patients of low health literacy. *Journal of General Internal Medicine*, 14(5), 267-273. doi:10.1046/j.1525-1497.1999.00334.x
- Smith, J. A., & Osborn, M. (2003). Interpretative phenomenological analysis. In J. A. Smith (Ed.), *Qualitative Psychology, A practical Guide to Research Methods* (pp. 51-80). London: Sage.
- Saiyed, H. N., & Tiwari, R. R. (2004). Occupational health research in India. *Industrial Health*, 42(2), 141-148. doi:10.2486/indhealth.42.141



Mahati Chittem
Department of Liberal Arts, Indian
Institute of Technology Hyderabad
(IITH), Hyderabad, India
mahati@iith.ac.in



Ramesh Babu Byrapaneni
Department of Cardiology, Medwin
Hospital, Hyderabad, India
ramesh.byrapaneni@gmail.com



Venkatesh Boddu
Department of Liberal Arts, Indian
Institute of Technology Hyderabad
(IITH), Hyderabad, India
la14resch11004@iith.ac.in



Kirsti Sarheim Anthun
Department of Social Work and
Health Science, Norwegian
University of Science and
Technology, Trondheim, Norway,
& Department of Occupational
Therapy, Sor-Trondelag University
College, Trondheim, Norway
kirsti.anthun@ntnu.no