

GRAPHIC PATHOGRAPHERIES IN MEDICAL EDUCATION AND PATIENT CARE -STUDENTS PERSPECTIVES

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Abstract

Introduction: Graphic pathographies(GP) are the use of graphics and illustrations for patient care and education. A disease, its symptoms, progression, and treatment plans are explained with the use of comics for better comprehension and understanding by the patients and students.

Objectives: The study aims to find out the opinion and attitude of students on using GP in education & patient care, to create awareness and enhance knowledge of students by using GP.

Methods: A cross-sectional study was conducted at our institute. The study population included 250 undergraduate medical and dental students. An introduction to GP was given and a set of samples of GP created by authors was also attached along with a pre validated questionnaire. The pre-validated questionnaire which was distributed to these students, was analyzed by percentage of agreement or disagreement.

Results: More than 50% of students agreed that GP were helpful (53.2%), would enable all patients (58.8%) and those with disabilities (57.2%) to understand disease, cultivate broader awareness (53.6%), improve students' skills (52%) and increase understanding of the subject (51.2%). 73% of students preferred studying using GP. 32% felt it could discredit a doctor's credibility. More than 40 % of students felt young patients suffering from progressive illness that can be cured would feel less afraid of what is about to happen to them (46%) though 37.6% felt it would not help patients . After being aware of GP, majority (44.8%) of students would now search

for GP. Only 37.2% felt that GP would enhance doctor-patient relationship. However there was a varied response to the fact that illustrations shown could be manipulated in a wrong way by the reader.

Conclusion: Based on this research, we have discovered that GP are indeed still a foreign idea to most students. Despite this, many individuals are open to this idea and believe that the use of graphics in medical education and patient care is very helpful.

Keywords: Graphic pathography, images, illustrations, medical education, patient care

Introduction:

Graphic pathographies (**GP**) are comics and graphics used to illustrate the disease process or the pathogenesis of disease, used for better understanding of the disease itself, effective both towards patient care and medical education. A disease, its symptoms, progression, and treatment plans are explained with the use of comics for better comprehension and understanding by the patients and students [1, 2].

The objectives of the study were to study the opinion of medical and dental students on using GP in education and patient care, to evaluate their attitude towards GPs and to create awareness among students about the existence, usage and purpose of GPs in education and patient care.

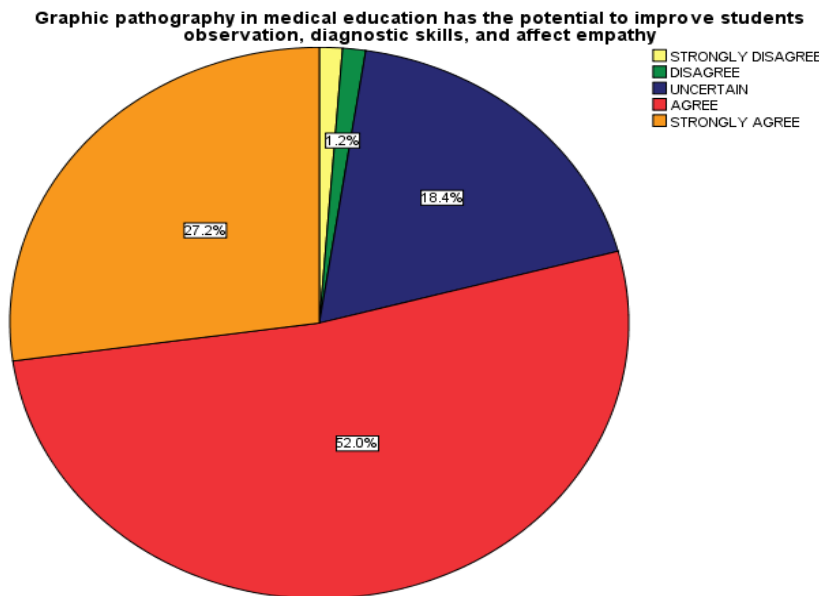
Materials and methods:

This is a cross sectional study conducted from May 2020 to July 2020 at our institute. The study population included second year MBBS and BDS students. The students who had spent <6 months in the institute were excluded from the study. A pre-validated questionnaire which included questions to study the opinion of students about GP in education and patient care was distributed to 250 students of MBBS batch 38, 39, 40 and BDS batch 7 after taking informed consent. A detailed introduction of GPs with various examples and their use was given to the students before filling the questionnaire. To make sure all the students understood the concept of GPs, a set of samples of GPs created by the authors was attached together with the questionnaire provided. After the introduction, the subjects answered the questionnaire composed of 15 questions regarding GPs and their use in education and patient care. The data was collected from 3 main ranges of answers which was '**Strongly Agree**', '**Agree**', and '**Disagree**'. Data was analysed by percentage of agreement or disagreement by the students. Anonymity of the respondents for the questionnaire was maintained for the safety purpose of the participants. Students had the freedom to choose whether or not they wanted to participate in this research so that they would not be affected negatively or positively in any way possible by it in case they chose to not participate in the study.

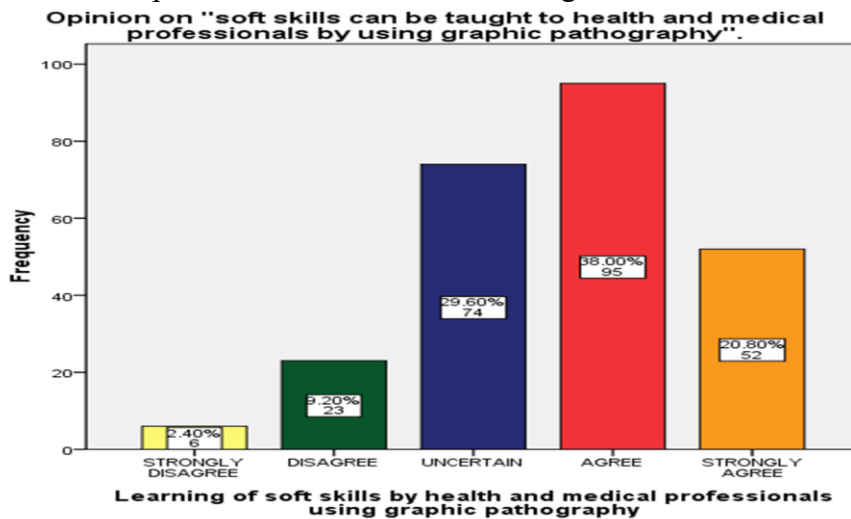
Results:

About 52% of students agreed that GP in medical education had the potential to improve students' observation, diagnostic skills and affect empathy positively. [Figure 1] About 58% felt that soft skills could be taught to health and medical professionals using GP. [Figure 2] More than 50% of students agreed that GP were helpful (53.2%), would enable all patients(58.8%) and those with disabilities (57.2%) to understand disease, cultivate broader awareness (53.6%), improve

students skills (52%) and increase understanding of the subject (51.2%). 73% of students preferred studying using GP and 32% felt it could discredit a doctor’s credibility. More than 40 % of students felt young patients suffering from progressive illness that can be cured would feel less afraid of what is about to happen to them (46%) although 37.6% felt it would not help patients. After being aware of GP, majority (44.8%) of the students would now search for GP. Only 37.2% felt that GP would enhance doctor-patient relationship. However there was a varied response to the fact that illustrations shown could be manipulated in a wrong way by the reader. About 44.8% of students opined that GP could enhance research interest in education [Figure 3]

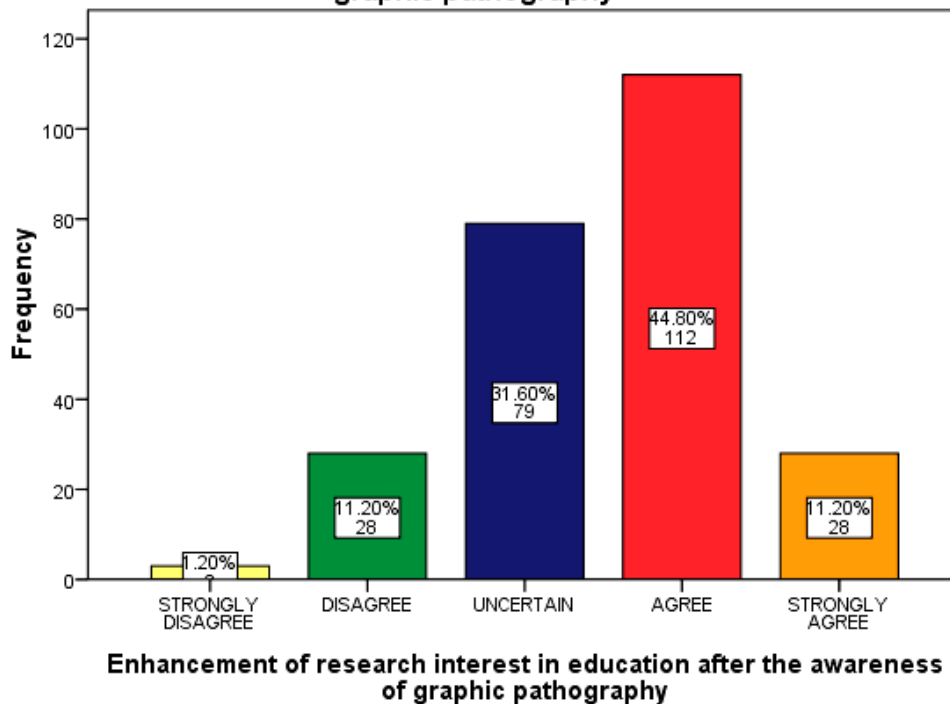


Graph 1 : Pie chart showing that 52% of students agreed that GP in medical education had the potential to improve students’ observation, diagnostic skills and affect empathy positively.



Graph 2 : About 58% of students felt that soft skills could be taught to health and medical professionals using GP.

Enhancement of research interest in education after the awareness of graphic pathography



Graph 3 : About 44.8% of students opined that GP could enhance research interest in education.

Discussion:

It was in 2007 that Williams coined the term “graphic medicine” that referred to the use of comics, including “graphic novels” or book length narratives, in health care. [1,2] The term graphic pathographies (i.e., “illness narratives in graphic form”) was coined by Green and Myers. It refers to a subgenre of comics that addresses the patient experience of illness. Most of the GPs are made in the non-fiction form and illustrate the entire process of illness. [3,4] The development of GP focuses mainly on two main aspects which is education and patient care but it is widely used in other aspects as well such as in politics, architecture and business studies. [5]

In the case of medical field, the use of GPs are believed to improve medical students observational and interpretive skills and it can mainly be used to teach in the context of a wider medical humanistic training programme, involving large number of students from various parts of the world with various interest in the field of medicine[4,5]. We have offered some examples of how this medium works and ways it might be integrated into medical education through a few graphic stories created by the investigators of this study. 79% of the students in our study agreed that GP would help improve their observational and diagnostic skills. Lesińska-Sawicka in his study implemented graphic stories and comic strips to teach nursing students and found that students achieved better learning outcomes when taught using graphic medicine. Conveying

information about difficult or sensitive topics was also made easier by this method of teaching.[5,6]

In patient care, diagrams and visual aids are often used to help patients to understand and remember information [1,4]. For instance, if the procedures that they have to go through, is shown to them in visual, they would remember those visuals for a longer term compared to complicated medical terms which are barely understood by people from a non-medical field jobscope. Graphic image based information brochure when used to explain about planned coronary angiography and percutaneous coronary intervention (PCI) procedures to patients significantly improved peri-procedural patient related variables like patient satisfaction and comfort. It also helped better comprehension and acceptance of the procedure while allaying anxiety related to the procedure. GP also enhances the development of history taking skills and betterment of the doctor-patient relationship where the fear of confronting a doctor is diminished. This is because, the use of GP enables the patients to understand various aspects of their illness and enable them to question the doctor instead of being confused by various medical terms. But unfortunately the teaching of visual literacy skills in medical education curriculum is still in its infancy [3,5]. 58.8% of the students felt that GPs would serve as a helpful aid towards understanding of the diseases by patients. Patients with disabilities like deafness would understand the disease better when presented in the form of GP according to 57.2% of the students.

The strongest point in using GPs is the equality in delivering information to people of every aspect of life. Although GPs are often thematically similar to standard textual accounts of illness, their powerful visual messages convey immediate visceral understanding in ways that conventional texts cannot [1,4,5]. People from medical field and non-medical field would be able to visualise what is happening to them in the sense of pathogenesis, mechanism and clinical manifestation and are able to prepare themselves to encounter the same type of problem. But it would be better because they will be well prepared [2,5,6]. 53.6% of the students felt that a broader awareness regarding the disease processes could be cultivated by using GPs. More than 40 % of students felt young patients suffering from progressive illness that can be cured would feel less afraid of what is about to happen to them (46%) when presented about the illness in the form of GP, although 37.6% felt it would not help patients. The harmful effects of smoking when explained using colorful comic content was more effective as a teaching modality and also helped bring about behavioral changes in adolescents in a study conducted by Ridha A et al.[7,8]

GPs gives a great platform to the doctors to understand a disease from a patient's point of view as certain genre of GPs are written by individuals who underwent the disease themselves. Patients and their families can most effectively teach healthcare professionals what a lived experience of illness looks like. This will enable them to treat their patients with more empathy and love [2, 5, 6]. 79% of our students felt that GP would have a positive impact on empathy towards patients and help treat them better. Family caregivers may receive support from emotinally

impactful comics if introduced with care with special consideration given to the caregiver's needs and abilities. [9,10]

Graphic stories are a novel and creative way to learn and teach about illness, and we believe the themes and structure of this medium will resonate with an increasingly large number of medical professionals. After introducing our students to GP, 44.8% of them agreed that they would now go back and search for GP and 73.2% of the students preferred to study using GP. More than 50% of the students felt GP would help improve students' skills and increase understanding of the subject. A varied response was received to the fact that illustrations shown could be manipulated in a wrong way by the reader.

Conclusion:

Based on this research, we have discovered that GPs are indeed still a foreign idea to most students. Despite this, many individuals are open to this idea and believe that the use of graphics in medical education and patient care is very helpful. Multicentric studies involving larger groups of students would help better confirm our findings. Our study could also pave the way to the introduction of GP as one of the novel teaching methods in Medical institutions.

Acknowledgments

We wish to thank the students for participating in the study and giving their valuable opinions.

Conflicts of interest

The authors declare no conflicts of interest. No sources of funding were used in the present study.

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