Engaging with patient variety in health professions education - VISION

In line with FHML's educational mission 'Fit for the future' (2022) and 'the Dutch blueprint' (Raamplan geneeskunde 2020) for medical curricula, we want our medical graduates to be prepared to work in a diverse and globalising society. This means that future doctors acquire the necessary knowledge and skills to treat a diverse patient population.
What 'diversity' means in the healthcare practice and how learning to treat a diverse patient population is integrated in the medical curriculum, needs careful consideration. This careful consideration includes the choice for an appropriate term to refer to (relevant) differences in people. An often used (policy) term is 'diversity', referring to aspects such as sex, ethnicity, and religion. Since our approach wants to steer away from these standardized categories, and in order to better align with medical terminology, we choose to use 'variety' when referring to differences among patients.

This overview consists of two paragraphs: it outlines the challenges healthcare professionals face when treating a diverse patient population, followed by an attempt to unravel this patient variety. A separate document contains the translation of this 'engaging with patient variety' approach into concrete suggestions, to be integrated in the medical curriculum.

The current document focusses on the medical curriculum: learning about the treatment of a diverse patient population and the doctor-patient interaction and consultation. However, paying attention to 'diversity and inclusivity' in the medical education goes hand in hand with cultural changes elsewhere. Engaging with differences in the interaction with students and teachers, creating a safe space and inclusive learning climate in which all students and staff feel welcome, and aiming at a diversely composed student and staff population, are also important for educational practice.

Challenges

Healthcare professionals face several (interrelated) challenges when engaging with differences in patients. Historically, medical research takes the white, cis, heterosexual, middle-aged man as a standard. Women – as well as children, the elderly, black, indigenous, sexually and gender diverse people – have been under-studied in clinical research. It has been assumed that the findings based on the study of white, cis, heterosexual, middle-aged man (the reference man) could be generalised and applied to the entire population. This approach leads to both overestimation as well as underestimation of medically relevant social and biological variety between sexes, genders, ages and ethnicities. Furthermore, the common practice of thinking in terms of 'normal/standard' and 'deviations from this standard' carries the risk of stereotyping, and leads to challenges when treating individual patients. Although this deductive approach is crucial to predict and treat (patterns of) diseases, it risks losing sight of the patients' personal characteristics, needs and circumstances, which are crucial for effective individual health care. [i] A concept that helps to overcome the risk of stereotyping is 'intersectionality': patients (people) always have several social identities which mutually influence each other [ii]. These intersecting identities can differ greatly within one social group; every human being is in fact a unique person.
The challenges healthcare professionals face include:

1. a lack of awareness of relevant variations in patients due to the implicit cis-gendered, white, European-American, heterosexual man as a biopsychosocial reference,
2. the tension between taking decisions based on information (evidence, guidelines, protocols) derived at *group*-level (through cohort studies, RCTs, etc.) on the one hand, while considering the context, background and characteristics of each *individual* patient on the other hand.

Differences unravelled

In order to address these challenges and to unravel which types of variations need to be taken into account in medical diagnosis and education, the following distinctions are suggested. These distinctions aim to address both challenges together (not per identified challenge).

1. A distinction can be made between ***direct*** and ***indirect*** impact (see horizontal axis in table below):
    - Aspects that *directly* have impact or are cause of the medical issue, by which a medical problem manifests itself (biologically) or that play an immediate mediating role (contextual aspects).

   - Aspects referring to group information that *indirectly* have impact or cause of the medical issue. These aspects need to be considered as relevant background information in a consultation, for differential diagnoses or for medical treatment, but they only have an indirect impact on health and disease.

2. A distinction can be made between ***biological*** and ***contextual variations*** (see vertical axis in table below):
   - *Biological/physiological* aspects: everything body and mind-related
   - *Contextual* aspects: circumstances and perceptions

Level of impact **Variations**	**Direct impact**		**Indirect impact**
Biological	genetics, anatomy, skin colour, body posture, height, weight, body fat	muscle volume, reproductive organs, hormones, blood pressure, amount of lactase enzyme, psychological vulnerability	sex, age, ethnicity, (dis)ability
Contextual	medical history, family situation, epigenetics, work situation, living conditions, lifestyle, dietary habits, health capabilities, illiteracy, life story (history), language, language skills	communication styles, coping styles, using a wheelchair, economic circumstances ideas about: - health/death/life/etc., - how medicine should be delivered, - the doctor-patient relation	ethnicity, gender, age, socio-economic status (ses), level of education, nationality, religion, sexual orientation, cultural orientation, (dis)ability

This table and the distinctions made can be further explained and illustrated with the following examples. Making this distinction between *direct - indirect* aspects may seem a minor issue, but how students learn about these difference can have significant consequences once they see individual patients.

Some examples to clarify the ***direct - indirect distinction***:

a. The textbook says: ‘There are differences in cardiovascular pathophysiology between men and women’. In this example, the male/female distinction is an identity aspect (group information); the differences in underlying mechanisms of cardiovascular diseases (process of arteriosclerosis, blood pressure, MI) are the direct plausible cause for cardiovascular diseases. Making this distinction is relevant for the treatment of transgender patients: it is not their sex or gender that counts, but their biological characteristics and genetics.

b. Students learn: ‘patients from certain populations such as Africans, Asians, South-Americans and South-Europeans have a higher risk for lactose-intolerance’. The problem with this statement lies in how to take this information into account during a medical consultation. When is a person considered to be African or South-American? Is this a matter of passport, country of birth, ancestors, skin colour, residency, etc.? A more helpful approach would be to make a distinction between group information (aspects such as African, Asian, South-American and South-European) and the direct medically significant cause, which is in this case a shortage of the lactase enzyme. Because this shortage may also manifest itself in other groups, such as elderly people. Knowing about the elevated risk for lactose intolerance with certain populations is relevant illustrative information, but the starting point is shortage of lactase enzyme.

c. Students are taught: ‘people of Hindustan background have a higher risk to develop diabetes mellitus, probably caused by dietary habits, stress and a lower percentage of brown fat.’ Again the problem lies in how to deal with this information during medical consultation. What does ‘Hindustan’ refer to: to ethnicity, religion, location? Does it refer to people with a South-Asian or Indo-Caribbean or a certain religious background ? When is someone considered to be a Hindu, Muslim, Catholic, agnostic? When they are registered as such, or go to a church/mosque/temple every week, or join religious celebrations, etc.? A more helpful approach would be to make a distinction between group information (aspect: Hindu) and the direct medically significant cause, which is in this case dietary habits, stress and brown fat percentage. If these are the direct medical reasons, other people may have an elevated risk as well, whereas the elevated risk may not apply to all Hindus.

Therefore, the starting point for learning should be the ***direct aspects***, whereas the ***indirect aspects*** are relevant illustrative information. The direct aspects may be both biological as well as contextual information, as shown in the table above.

Both *biological* and *contextual aspects* play a role in every medical consultation. In patient cases, the disease should always be seen from the context of the individual person. An individual is part of a community, a local and global society. Exploring the disease is a medical expertise in the narrow sense. Exploring the patient's individual context is medical expertise in a broader sense, and requires relational and adaptive competencies. Not only to acquire and consider relevant information about the patient's circumstances and perceptions, but also to gain awareness of one's own status and cultural viewpoints. Contextual aspects explicitly include *cultural orientation*.

> A clarification as to 'culture':
> It not only refers to 'the other', but also to the (future) doctor's own values and perceptions. However, as shown in a recent analysis of Maastricht University's medical curriculum, culture in this curriculum usually implicitly refers to nationality, ethnicity or geographic location of groups of people or circumstances located *outside* the Netherlands, Europe or the Western world, thereby presenting these patients as exotic and deviant [1]. However, culture is not necessarily related to nationality or ethnicity, nor do only certain groups 'have culture'; *all* (groups of) people have certain values, beliefs and rituals (including academics, farmers, housewives, teenagers, football fans, Limburgers, doctors, Catholics, toddlers, journalists, Australians, etc. etc.). 'Culture' refers to patient's and (future) doctors' views and expectations related to health, start and end of life, doctor-patient relations, communication, etc., and not to their passport or to where they were born.
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> [1] Albertine Zanting, Agnes Meershoek, Janneke M. Frambach & Anja Krumeich (2020) The 'exotic other' in medical curricula: Rethinking cultural diversity in course manuals, Medical Teacher, 42:7, 791-798, DOI: 10.1080/0142159X.2020.1736534

> A clarification as to the difference between *sex and gender* (as summarised by the WHO):
> - Sex refers to "the different biological and physiological characteristics of males and females, such as reproductive organs, chromosomes, hormones, etc.".
> - Gender refers to "the socially constructed characteristics of women and men – such as norms, roles and relationships of and between groups of women and men".

Lastly, the differences between biological and contextual variations may not always be as distinct as indicated in the table (for ex. medical history may be both). What matters is that both variations need to be considered in consultation with the individual patient.

Implementation of this 'patient variety' approach is a long-term project encompassing many activities and initiatives, but most important more ***awareness*** and a ***change in mindset*** among students and staff needs to be achieved. Examples of these activities aimed at raising awareness and practical implementation are: information for teacher and curriculum builders with tools how to integrate the 'patient variety' approach in their educational materials, a Canvas database with relevant resources, and workshops for teachers and curriculum developers.

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[i] See for example:

- https://www.theguardian.com/science/2021/sep/21/bias-that-blinds-medical-research-treatment-race-gender-dangerous-disparity
- Caroline Criado Perez, 2020, *Invisible women – exposing data bias in a world designed for men*, Vintage
- https://www.nu.nl/advertorial/advertorial-nationale-wetenschapsagenda/6144389/er-is-te-weinig-aandacht-voor-man-vrouwverschillen-in-de-zorg.html
- Aparna Krishnan, MPH, Molly Rabinowitz, MD, MPH, Ariana Ziminsky, Stephen M. Scott, MD, MPH, and Katherine C. Chretien, MD, *Addressing Race, Culture, and Structural Inequality in Medical Education: A Guide for Revising Teaching Cases*, Academic Medicine, Vol. 94, No. 4 / April 2019
- https://www.volkskrant.nl/wetenschap/de-medische-wereld-heeft-een-witte-blik-en-dat-is-een-probleem-voor-etnische-minderheden~bebe191f/
- Margaret M. Lock, Vinh-Kim Nguyen, *An Anthropology of Biomedicine*, 2nd Edition, ISBN: 978-1-119-06913-3
- https://farma-magazine.nl/halveer-de-doses-voor-vrouwen/
- https://mensachterdepatient.nl/

[ii] Muntinga ME, Krajenbrink VQ, Peerdeman SM, Croiset G, Verdonk P. Toward diversity-responsive medical education: taking an intersectionality-based approach to a curriculum evaluation. Adv Health Sci Educ Theory Pract. 2016;21:541-559.

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