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45 – Is There Such a Thing as a Correct Diagnosis in Family Medicine? Learning Points from the Use of Consensus in Validating Diagnoses in Family Practice

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Background

A correct diagnosis is the basis for therapy in clinical medicine. Research in validation of medical diagnoses has however demonstrated disappointing results. Different doctors have been shown to make different diagnoses when presented with the same case history, and the same doctor makes different diagnoses when the same history is presented several times.

The author wanted to study the ability of experienced family doctors to make a diagnosis based upon a video recording of real life consultations in family practice, and to test the impact of subsequent information about the long-term outcome as well as a small group discussion on agreement or disagreement about correct diagnosis.

Setting and Methods

244 consecutive patients over the age of 15 presenting for consultations with the author in a group practice in northern Norway, were asked for informed consent to video recording of their meeting with the doctor. Immediately following each consultation the doctor decided whether the patient had presented a new problem that had not been discussed before. The doctor made a note of the new diagnoses that he had made by the end of the consultations. The patients were interviewed by telephone 3-6 months later. Three years later the medical records of the patients were scrutinised and the doctor made a final diagnosis.

Altogether, 69 video recorded consultations where the patients presented 90 new problems were included. In 20 problems a specialist had made the final diagnosis after referral. Among the remaining 70 problems, 20 were selected at random for validation by experienced FDs. Four patients did not consent to their video being shown to other FDs, which allowed the remaining 16 video recorded consultations with 16 new problems to be analysed further.

Five experienced family doctors were invited and each of them met three times in groups of three. The video recordings and the medical history of the patients were presented according to a step-by-step procedure:

1. The doctors were given a short written summary of the patient's previous history and presented with one new problem which they were expected to diagnose. They then watched the video recording of the whole consultation. After the video, the author answered clarifying questions and elaborated on his clinical findings during

the consultation. The author then left the room. Each doctor was asked individually to write down the most likely diagnosis of this single problem (Diagnosis 1), without discussing this with the other doctors in the group.

2. The doctors were then presented with a summary of results of subsequent tests, further examinations and the long-term outcome after three years. Each doctor then wrote down the most likely diagnosis at this point (Diagnosis 2), still with no discussion within the group.

3. The doctors were then presented with the final diagnoses that the author - who had performed the consultations - had made after three years, and they were asked to score whether they agreed or disagreed with these diagnoses.

4. Finally, the participating doctors were asked to compare their diagnoses and engage in a discussion in the group of three to try and reach consensus about the most likely diagnosis (Final diagnosis) in each case. The participants were asked to indicate the certainty of each diagnosis on a scale from 1 (most unlikely, but possible) to 5 (certain).

Results

For each of the 16 videos there were three doctors making individual diagnoses of the new problem, yielding 48 individual diagnoses altogether. The participating doctors reached consensus on the most likely final diagnoses for all 16 problems. For one problem the final diagnosis was that of a symptom (T 08 Loss of weight), whereas the diagnoses for the remaining 15 problems were clinical diagnoses (ICPC-code 70+). Details of diagnoses of the 16 new problems are presented in table 1. The results of the doctors' self-assessed feeling of confidence with his or her own diagnoses at each step are shown in table 2.

There was no major disagreement between the final diagnoses made by the author and those made by consensus between the FDs. However, two cases deserve commenting upon:

- In case no. nine the author stated R 78 acute bronchitis as the most likely diagnosis, whereas consensus among the other doctors as their first choice was R96 COPD. In view of the long-term outcome, the author did agree.
- In case no. three the author - having made an unexpected clinical finding - maintained a rare diagnosis for his first choice even following validation:
Case 3: A 65-year-old married woman presented with upper gastric pain. The pain gradually subsided spontaneously over three weeks and when palpating the epigastric area one month later the author had noticed a tender subcutaneous lump in the area where she had located her pain. He concluded that the most probable reason for her pain was acute necrosis in a subcutaneous lipoma with a probability score of 4. The participating doctors individually gave a probability score of two ("unlikely") on the 1-5 scale for this diagnosis, and found consensus that the most probable reason was biliary dyskinesia.

Discussion

The fact that all the FDs were able to find a diagnosis in agreement with earlier findings that doctors are able to make a correct diagnosis in more than 90% of cases after taking medical history only.

The finding that the FDs initially had less confidence in their own individual diagnoses than the author is hardly surprising. What is surprising is that the doctors did not feel more confident with their diagnoses after having been presented with the long-term outcome.

Only after having discussed the case with other colleagues did they feel as confident with their own diagnoses as the doctor who had seen the patient in the flesh. This may be taken as an illustration of the strong normative power of consensus in professional judgement.

Take Home Messages

- Experienced FDs are able to find consensus about a correct diagnosis when given all relevant information and watching a video recording of the consultation.
- Only after having discussed the case with other colleagues will they feel as confident with their own diagnoses as the doctor who has seen the patient in the flesh.
- Unexpected clinical findings made by the doctor during the consultation may be decisive for the doctor to insist on a different or rare diagnosis.

Table 1: Diagnoses based on viewing video recordings of 16 consultations in family practice. Problems presented by the patient, the author's diagnoses before validation, and consensus by experienced FD's. Most likely diagnosis first.

Case no.	New problem presented by the patient	ICPC	Author's diagnoses before validation	ICPC	Consensus by participating doctors	ICPC
1	Lump in the groin	S04	Lipoma Atheroma	S78 S93	Lipoma	S78
2	Pain in the left hand	L11	Tendinitis	L93	Tendinitis	L93
3	Pain in the stomach	D02	Necrosis in lipoma Biliary stones	S78 D98	Biliary bladder colic	D98
4	Loss of weight	T08	Depression Cerebral infarction Encephalitis	P76 K89 N71	Depression	P76
5	Pain under the right heel	L17	Pressure ulcer Fasciitis	S97 L93	Osteotendinitis	L93
6	Pain in right side of the neck	L01	Shoulder myalgia	L92	Myalgia of the neck	L83
7	Pain on micturition	U01	Cystitis	U71	Cystitis	U71
8	Reduction of medication	R50	Reduction of medication	R50	Reduction of medication	R50
9	Cough	R05	Acute bronchitis Chronic obstructive pulmonary disease	R78 R96	Asthma Chronic obstructive pulmonary disease	R96 R95
10	Difficulties in swallowing	D21	Functional problems with swallowing Thrush	P75 D83	Functional problems with swallowing	D21
11	Pain in the right shoulder	L08	Tendinitis Problems with sick child Problems at work	L92 Z18 Z05	Shoulder tendinitis	L92
12	Loss of weight	T08	No disease	A97	Loss of weight	T08
13	Pain in the chest	L04	Myalgia Angina pectoris	L99 K74	Intercostal myalgia	L99
14	Pain in the head, neck, back and chest	L01	Myalgia Fibroadenomatosis of breasts	L84 X88	Myalgia of neck and back	L84
15	Pain in both shoulders and hands	L08	Arthritis	L91	Arthritis	L91
16	Sore throat	R21	Upper respiratory infection (viral)	R74	Upper respiratory infection (viral)	R74