Early detection of hazardous drinking

construction and validation of
a screening questionnaire for French GPs
FACE

**Philippe Michaud, Anne-Violaine Dewost,
Sonia Arfaoui, Sylvie Lancrenon**

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INSTITUT DE PROMOTION DE LA PREVENTION SECONDAIRE EN ADDICTOLOGIE

!PPsa

Background

- French GPs needed to get out the "alcoholism" model, to take into account the alcohol-related risk
- Screening strategies were based upon lab tests
- A qualitative study, carried out in 2001 with GPs, showed that
  - AUDIT, as a self-answered questionnaire for the waiting room, isn't adapted for French GPs, who work by themselves in their practice
  - There's a need for a short interview questionnaire
- Many questionnaires exist, but only CAGE and AUDIT have been validated in French
- Questionnaires for hazardous or harmful drinking detection often share some questions

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Design

- Nine questions picked out of still existing questionnaires (AUDIT, CAGE, 5-shot questionnaire, TWEAK)
- Objectives : choose the best questions to elaborate a short questionnaire (five questions) with as good performances as AUDIT's for detecting
  - Alcohol hazardous or harmful drinking
  - Alcohol abuse and dependence
  - In both genders
- Comparison of
  - a gold standard (hazardous drinking and/or alcohol abuse or dependence, as diagnosed by a trained doctor through a structured interview)
  - AUDIT (answered in the waiting room)
  - The nine questions asked during the consultation by the GPs participating in the study
- For each diagnosis, find the best combination of questions through a logistic regression analysis

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« hazardous drinking » and « abuse or dependence » in this study

Hazardous drinking
- men : more than 21 « standard drinks » a week
- Women : more than 14 drinks a week
- In France a standard drink contains 10 grammes of pure ethanol

Alcohol abuse and dependence
- DSM-IV criteria

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The 9 Questions tested

- 1- How often do you have a drink containing alcohol ? (5 answers possible)

- AUDIT, 5-shot

- 2- How many drinks containing alcohol do you have on a typical day when you are drinking ? (5 answers possible)

- AUDIT, 5-shot

- 3- How often do you have six or more drinks on one occasion ? (5 answers possible)

- AUDIT

- 4- Have your friends or relatives worried or complained about your drinking ? (Yes/ No)

- CAGE, 5-shot,TWEAK

- 5- Have you ever felt bad or guilty about your drinking ? (Yes/ No)

- CAGE, 5-shot

- 6-Do you sometimes take a drink first thing in the morning ? (Yes/ No)

- CAGE, 5-shot,TWEAK

- 7-How many drinks does it take before you begin to feel the first effects of alcohol ? (Open question)

- TWEAK

- 8- Are there times when you drink and afterwards you can't remember what you said or did ? (Yes/ No)

- TWEAK

- 9- Have you ever felt the need to cut down on your drinking ? (Yes/ No)

- CAGE, TWEAK

Statistical method

- For each diagnosis
  - Hazardous drinking (males)
  - Hazardous drinking (females)
  - Abuse and dependence (both genders)
- Analysis conducted step by step
- Logistical regression through SAS software

Results (1)

Hazardous drinking, men : example of the process of regression step by step

- *Selection of Frequency of excessive drinking*
- *Selection of Frequency of drinking*
- *Selection of Usual quantity*
- ***Withdrawal** of Frequency of excessive drinking*
- *Selection of Friends and relatives*
- No other questions remain

So are kept in the selection

- *Frequency of drinking* (OR 6.8 and CI 95% [3.3-14.2])
- *Usual quantity* (OR 3.2 and CI 95% [1.8-5.8])
- *Friends and relatives* (OR 6.8 and CI 95% [1.1-10.9])

Results (2)

Hazardous drinking

males

- *Frequency of drinking*
  OR 6.8
  CI 95% [3.3-14.2]
- *Usual quantity*
  OR 3.2
  CI 95% [1.8-5.8]
- *Friends and relatives*
  OR 6.8
  CI 95% [1.1-10.9]

females

- *Frequency of drinking*
  OR 5.8
  CI 95% [2.9-11.7]
- *Frequency of excessive drinking*
  OR 1.9
  CI 95% [1.0-3.8]
- *Friends and relatives*
  OR 7.7
  CI 95% [1.5-38.5]
- *Tolerance*
  OR 1.6
  CI 95% [1.1-2.3]

Abuse or dependence

- *Frequency of excessive drinking*
  OR 3.2
  CI 95% [1.8-5.4]
- *Usual quantity*
  OR 4.4
  CI 95% [2.6-7.4]
- *Eye opener*
  OR 31.3
  CI 95% [4.6-200]
- *Amnesia*
  OR 4.5
  CI 95% [1.5-1 3.3]

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Results (3)

males

- *Frequency of drinking*
  OR 6.8
  CI 95% [3.3-14.2]
- *Usual quantity*
  OR 3.2
  CI 95% [1.8-5.8]
- *Friends and relatives*
  OR 6.8
  CI 95% [1.1-10.9]

females

- *Frequency of drinking*
  OR 5.8
  CI 95% [2.9-11.7]
- *Frequency of excessive drinking*
  OR 1.9
  CI 95% [1.0-3.8]
- *Friends and relatives*
  OR 7.7
  CI 95% [1.5-38.5]
- *Tolerance*
  OR 1.6
  CI 95% [1.1-2.3]

Abuse or dependence

- *Frequency of excessive drinking*
  OR 3.2
  CI 95% [1.8-5.4]
- *Usual quantity*
  OR 4.4
  CI 95% [2.6-7.4]
- *Eye opener*
  OR 31.3
  CI 95% [4.6-200]
- *Amnesia*
  OR 4.5
  CI 95% [1.5-1 3.3]

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Results (4)

1- How often do you have a drink containing alcohol ?

2- How many drinks containing alcohol do you have on a typical day when you are drinking ?

3- Have your friends or relatives worried or complained about your drinking ?

4- Do you sometimes take a drink first thing in the morning ?

5- Are there times when you drink and afterwards you can't remember what you said or did ?

Results (5)

FACE informative values					
For heavy drinking (men)					
Cut-off	**Sensitivity**	**Specificity**	**PPV**	**NPV**	**Se + Sp**
3	95.1	61.3	35.8	98.2	156.4
4	**87.8**	**74**	**43.4**	**96.4**	**161.8**
5	68.3	79.6	43.1	91.7	147.9
6	63.4	82.9	45.6	90.9	146.3
For heavy drinking (women)					
Cut-off	**Sensitivity**	**Specificity**	**PPV**	**NPV**	**Se + Sp**
2	100	73.3	28.1	100	173.3
3	**84.4**	**84**	**35.5**	**98.1**	**168.4**
4	53.1	93.2	44.7	95	146.3
5	40.6	94.1	41.9	93.8	134.7
For alcohol abuse or dependence (both genders)					
Cut-off	**Sensitivity**	**Specificity**	**PPV**	**NPV**	**Se + Sp**
7	77.8	92.2	40.6	98.4	170
8	**75**	**95.8**	**55.1**	**98.2**	**170.8**
9	69.4	97.3	64.1	97.9	166.7
10	58.3	98.5	72.4	97.2	156.8

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Formule pour
Apprécier la

Consommation par
Entretien

or

Fast
Alcohol
Consumption
Evaluation

- ***How often do you have a drink containing alcohol?***
  Answers :
  - *0 = « never »,*
  - *1 = « once a month or less »,*
  - *2 = « 2 to 4 times a month »,*
  - *3 = « 2 or 3 times a week »,*
  - *4 = « 4 times a week or more »*

- ***How many drinks containing alcohol do you have on a typical day ?***
  answers :
  - *0 = « one or two »,*
  - *1 = « three or four »,*
  - *2 = « five or six »,*
  - *3 = « seven to nine »,*
  - *4 = « ten or more »*

- ***Have your friends or relatives worried or complained about your drinking ?***
- ***Do you sometimes take a drink first thing in the morning ?***
- ***Are there times when you drink and afterwards you can't remember what you said or did ?***
  for these three last questions : no = 0, yes = 4

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Formule pour Apprécier la

Consommation par Entretien

or

Fast Alcohol Consumption Evaluation

- *A quelle fréquence vous arrive-t-il de consommer des boissons contenant de l'alcool ?*
  Réponses :
  - *0 = « jamais »,*
  - *1 = « une fois par mois ou moins »,*
  - *2 = « 2 à 4 fois par mois »,*
  - *3 = « 2 à 3 fois par semaine »,*
  - *4 = « 4 fois ou plus par semaine »*

- *Combien de verres standards buvez-vous au cours d'une journée ordinaire où vous buvez de l'alcool ?*
  Réponses :
  - *0 = « un ou deux »,*
  - *1 = « trois ou quatre »,*
  - *2 = « cinq ou six »,*
  - *3 = « sept à neuf »,*
  - *4 = « dix ou plus »*

- *Votre entourage vous a-t-il fait des remarques au sujet de votre consommation d'alcool ?*
- *Avez-vous déjà eu besoin d'alcool le matin pour vous sentir en forme ?*
- *Vous arrive-t-il de boire et de ne plus vous souvenir ensuite de ce que vous avez pu dire ou faire ?*
  Pour ces trois dernières questions : non = 0, oui = 4

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scoring and interpretation

- Each question scores 0 to 4
- Total score ranges 0 to 20

- For men
  - score under 5 : no or low risk
  - scores 5 to 8 : probable hazardous drinking
  - scores over 8 : probable dependence
- For women
  - score under 4 : no or low risk
  - scores 4 to 8 : probable hazardous drinking
  - scores over 8 : probable dependence

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Compared FACE and AUDIT Informative Values

			Se %	Spe %	PPV %	NPV %
Heavy drinking	AUDIT	Men (score >7)	76.9	84.3	52.6	94.2
		Women (score >6)	62.5	94.7	55.6	96
	FACE	Men (score >5)	87.8	74.0	43.4	96.4
		Women (score >4)	84.4	84.0	35.5	98.1
Abuse or dependence	AUDIT	Both genders (score >12)	69.4	98	71.4	97.8
	FACE	Both genders (score > 8)	75.0	95.8	55.1	98.2

Conclusion

- Hard work !
- But useful : FACE has been compared with AUDIT and AUDIT-Health questionnaire (Daeppen) and is much more acceptable by the French (and Belgian, and Swiss francophone) GPs: less time needed, less errors in scoring…
- Seems to be useful to keep three levels (in comparison with short versions of AUDIT)
- And it is now the reference questionnaire in training GPs in EIBI in France – and seem to be adopted by them
- A computerized version has been proposed as a reminder