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# Mapping French People's Attitudes toward Xenotransplantation: A pilot Study

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## INTRODUCTION

- Organ shortage has become a prominent public health issue. In 2015, 553 French patients on the waiting transplant list died due to lack of organs.
- Xenotransplantation – the use of animal organs for human transplant – is currently considered as an alternative to overcome shortage of human organs. The biggest medical limits are immunological incompatibility and virus transmission. In order to reduce incompatibility, genetically modified pigs have been raised in laboratories.
- Ethical, psychological and societal reasons can explain reluctance to animal organ transplantation. Xenotransplantation can induce side effects that impact patients' quality of life and increase the risks of developing infections. Furthermore, (a) this medical procedure could lead to significant psychological impacts that would be even more consequential than in human-to-human organ transplant, and (b) animals' rights should also be taken into consideration.
- Few international studies have so far examined people's level of acceptability of animal organ or cell transplantation in humans. In the majority, the xenotransplantation seems to be acceptable. However, people keep some reserves to disease transmission and not yet identified risks.

## OBJECTIVE

The present study is aimed at assessing the extent to which xenotransplantation is considered as acceptable to the French people.

## METHODS

### Participants

26 participants (M = 34,04; SD = 13,15)  
19 women (M = 33,26; SD = 11,37) and 7 men (M = 40,67; SD = 17,75)

### Material

Questionnaire of 32 scenarios, were constructed by the combination of three factors impacting the judgment of acceptability of xenograft:

**Urgency of surgery (2 modalities):** Serious conditions but short-term death not very high; Serious conditions and short-term death very high

**Type of organ transplant (4 modalities):** Heart valve from a pig; Liver from a pig; Liver from a baboon; Kidney from a pig

**Consent of the recipient's family (4 modalities):** Totally agree; Mixed opinion; Disagree for health reasons; Disagree for religious reasons

Participants had to **judge the acceptability to practice the xenotransplantation** in each scenario, on a 11-point scale (from 0 to 10).

### Example of scenario

Mr. Mourain is 49. He suffers from kidney disease. Only transplantation could save him. Currently, he is in a **serious condition, but the short-term death is not very high.**

Dr. Gontier, surgeon in the hospital where Mr. Mourain is treated, suggests **to transplant a kidney from a pig.** This organ would be safe.

This xenotransplantation could be benefit to Mr. Mourain and give him some time until a human kidney is available.

Mr. Mourain cannot give his agreement. However, **his family has been informed and totally agrees with the transplantation.**

To what extent do you think this xenotransplantation is acceptable?

Totally unacceptable o---o---o---o---o---o---o---o---o---o---o Totally acceptable

## PRELIMINARY RESULTS

Some factors have a significant effect on the acceptability of xenotransplantation:

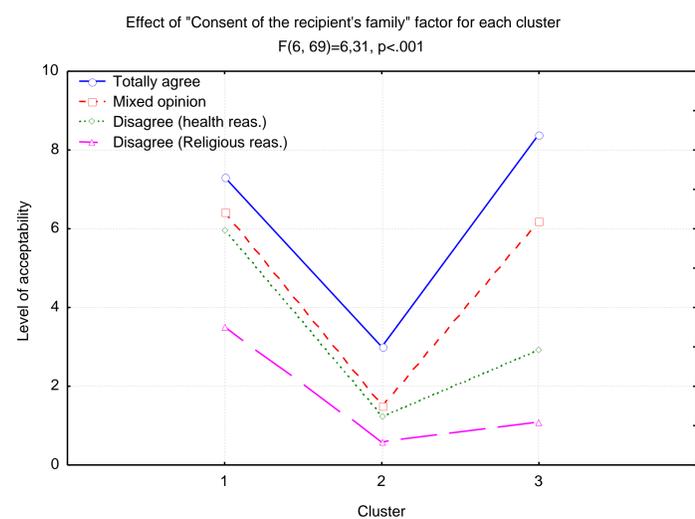
Consent of the recipient's family  $F(3;75) = 37,71; p < .000$

Urgency of the surgery  $F(1;25) = 21,03; p < .001$

The interaction of "**Consent of the recipient's family**" and "**Type of organ transplant**" factors has also an effect on the acceptability of xenotransplantation:

$F(9;225) = 3,06; p < .001$

**Cluster analysis** allowed clearing different groups of policy of judgment:



**Cluster 1** named "**Respect of religious beliefs**" (N = 12): lower acceptability when the recipient's family refused for religious beliefs than in the three others situations. For these participants, it seems to be acceptable to practise xenograft even if the family is against for health reasons.

**Cluster 2** named "**Unacceptable**" (N = 5): low acceptability for all type of the consent family. The xenograft seems to be not acceptable, regardless the type of consent of the family.

**Cluster 3** named "**Respect of the consent of the family**" (N = 9): acceptability depending on the opinion of the family. When the family did "totally agree" the procedure was acceptable and a little bit lower when the family had a mixed opinion. On the contrary, if the family did not agree with the procedure, these participants judged the xenotransplantation not acceptable.

## CONCLUSION

- The **consent of the recipient's family seems to have a major effect on the acceptability** to practice xenotransplantation. This first results about patient's and relatives' consent are also found in other studies concerning ethical and medical issues.
- Three different judgment policies were found. Participants seem to integrate the consent of the family in three significant different ways.
- This study is a pilot study. With more participants, we are expecting to have more significant impact of the different factors on the acceptability of xenotransplantation, as well as more interactions.
- To pursue the investigation, we will also consider **additional factors** such as patient consent or even permanence (transient or final) of organ transplant.

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