

## Supplementary Material

S1. Questionnaire on COVID-19 vaccine hesitancy among liver transplant recipients. The translated adapted version of the validated questionnaire.

### A) Personal and socio-demographic data

- Gender

☐ M

☐ F

- Age

\_\_\_\_\_

- Nationality

☐ ITA

☐ UE

☐ Not UE

- Place of birth

\_\_\_\_\_

- Municipality (where You live and are being treated)

\_\_\_\_\_

- Marital status

☐ single

☐ married

☐ cohabiting

☐ widower

☐ married in second marriage

☐ separated / divorced

• How many members are there in your household (including yourself)?

☐ 1

☐ 2

☐ 3

☐ 4

☐ > 4

• Do you have any children under the age of 10?

☐ Yes

☐ No

• What is your highest level of education obtained?

☐ none

☐ elementary school

☐ middle school

☐ high school

☐ degree / post-graduate degree

• What is your current occupation?

☐ student

☐ employed part-time

☐ busy full-time

☐ precarious

☐ unemployed

☐ home-made

☐ in layoffs

☐ retired

☐ wealthy without work

☐ freelance

• What kind of profession do you have (or did you have)?

☐ manager / entrepreneur / professional

☐ employee / technical profession

☐ manual / craft work

☐ armed / police forces

• Do you work as health care provider?

☐ Yes

☐ No

## **B) Data relating to the disease**

• Which is the reason of your liver transplantation?

☐ Cirrhosis

☐ Hepatocellular Carcinoma

☐ Acute liver failure

• Are you currently being treated with? (more than one answer possible)

☐ Tacrolimus

☐ Ciclosporines

☐ Corticosteroids

☐ Azathioprine or 6-Mercaptopurine

☐ Everloimus

☐ Micophenolate

• How many years ago were you transplanted?

☐ <5 years

☐ 5-10 years

☐ > 10 years

• Do you follow the therapeutic recommendations?

☐ Yes

☐ No

☐ most of the time

### **C) Lifestyles, behaviors, attitudes**

• Do you smoke cigarettes / cigars?

☐ Yes

☐ No

☐ Yes, electronic / non-combustion devices

☐ Former smoker

• Do you consume alcohol?

☐ Yes, often or in large quantities

☐ Yes, minimal consumption

☐ NO

• Do you think you have an active lifestyle (do regular physical activity, eg individual sport, running, walking, team games, gym)?

☐ YES

☐ No

• Are you vegetarian, vegan?

☐ Yes

☐ No

• Do you practice homeopathy, naturopathy or other alternative medicine?

☐ Yes

☐ No

• Do you undergo preventive diagnostic activities (pap-test, mammography, fecal occult blood test etc.)?

☐ Yes

☐ No

• What kind of attitude do you think you have towards vaccinations in general?

☐ positive

☐ partly positive, partly negative

☐ negative

• Do you intend to get vaccinated again in the future?

☐ Yes

☐ No

• If you have children, do you intend to vaccinate your children in the future?

☐ Yes, in full

☐ Yes, in part

☐ No

#### **D) Knowledge and perceptions of vaccinations and vaccine preventable diseases**

• Do you think vaccines are: (more than one response possible)

☐ Effective

☐ Safe

☐ Necessary

☐ Protective towards yourself

☐ Protective towards the community

☐ Free of adverse effects

☐ With mild adverse effects

☐ With significant adverse effects

☐ in number and adequate vaccination sessions

☐ too many

☐ I don't know

• Do you believe that the diseases for which vaccines are planned are: (more than one response possible)

☐ Not self-resolving

☐ With long-term consequences (amputations, dementia, deafness, blindness, etc ...)

- ☐ Potentially fatal
- ☐ Easily contagious
- ☐ Frequent
- ☐ Paid by the whole community

• Do you believe that diseases for which vaccines are provided and which have disappeared from circulation, can return if vaccination is stopped?

- ☐ Yes
- ☐ No

• What do you think is the correct strategy (s) to prevent these diseases?

- ☐ vaccination
- ☐ alternative strategy to vaccination (healthy diet and physical activity, proper personal hygiene, food supplements, homeopathy, etc.)
- ☐ vaccination and other strategies

• Can you distinguish between mandatory and recommended vaccinations?

- ☐ Yes
- ☐ No

### **E) Vaccination history**

• Which of these vaccinations have you had in your life?

- ☐ Tetanus
- ☐ HBV (Hepatitis B)
- ☐ HAV (Hepatitis A)
- ☐ MPR (Measles-Mumps-Rubella)
- ☐ Influenza
- ☐ Pneumococcus
- ☐ HPV (Papilloma Virus)
- ☐ Meningitis
- ☐ Some (I don't know)
- ☐ None
- ☐ I don't remember

• Have you been vaccinated against one of the previous agents motivated by your inflammatory bowel disease or by the therapies you do?

- ☐ Yes
- ☐ No

### **F) Sources of information**

• If you need information on vaccinations against the new Coronavirus responsible for COVID-19, who would you contact?

- ☐ General Practitioner
- ☐ Pediatrician
- ☐ operator of the vaccination center
- ☐ another health worker
- ☐ pharmacist
- ☐ relatives / friends / acquaintances / colleagues who work in healthcare
- ☐ relatives / friends / acquaintances / colleagues who do not work in healthcare
- ☐ scientific literature
- ☐ mass media (TV, radio, newspapers)
- ☐ internet
- ☐ social networks

• Do you think you are informed about COVID-19 and its vaccination?

- ☐ Yes
- ☐ No

• If so, through which channel?

- ☐ General Practitioner
- ☐ Pediatrician
- ☐ operator of the vaccination center
- ☐ other health professionals
- ☐ pharmacists
- ☐ scientific literature
- ☐ Ministry of Health (information campaigns, etc.)
- ☐ relatives / friends / acquaintances / colleagues
- ☐ mass media (TV, radio, newspapers)
- ☐ websites
- ☐ social networks

• Do you have a personal computer (PC), smartphone or tablet?

- ☐ Yes
- ☐ No

• Do you use the internet?

- ☐ Yes
- ☐ No

• If so, how often do you look for health information and health data?

- ☐ Every day
- ☐ A few times a week
- ☐ At least once a month
- ☐ Less than once a month
- ☐ Never

### **G) Trust and Influences**

- What do you think are the reasons that push the Ministry of Health and the Regional Health Department to strongly recommend vaccinations?

- ☐ collective well-being / health
- ☐ economic interests of pharmaceutical companies
- ☐ other economic interests
- ☐ both of the above

- Have you had any negative personal experiences (relating to yourself or your family, friends, acquaintances) with vaccines in the past?

- ☐ Yes
- ☐ No

- If so, which ones?

- ☐ severe adverse reactions, such as allergy, shock
- ☐ disabling diseases
- ☐ autism
- ☐ mild adverse reactions
- ☐ perception of lack of protection

- Have you heard of negative experiences with vaccines on the internet in the past?

- ☐ Yes
- ☐ No

- If so, which ones?

- ☐ severe adverse reactions, such as allergy, shock
- ☐ disabling diseases
- ☐ autism
- ☐ mild adverse reactions (fever, pain, etc.)
- ☐ perception of lack of protection

- Do you have more confidence in health professionals than in the mass media regarding information on vaccinations?

- ☐ Yes
- ☐ No

### **H) Liver transplantation and the new Coronavirus responsible for COVID-19**

- Do you think that your Liver transplantation could expose you to a greater risk of contracting the new Coronavirus infection?

- ☐ Yes
- ☐ No



- Do you think that your Liver transplantation may be associated with a worse course of the disease?

☐ Yes

☐ No

- Do you think that the treatments you are taking for your Liver transplantation may increase the risk of contracting the new Coronavirus infection?

☐ Yes

☐ No

- Do you think that the treatments you are taking for your Liver transplantation may be associated with a worse course of COVID-19 disease?

☐ Yes

☐ No

#### **I) Liver transplantation and vaccination against the new Coronavirus responsible for COVID-19**

- Do you think that your Liver transplantation could expose you to a greater risk of having side effects from the new Coronavirus vaccine?

☐ Yes

☐ No

- Do you think that the treatments you are taking for your Liver transplantation could increase the possibility of having any unwanted effects from the new Coronavirus vaccine?

☐ Yes

☐ No

#### **L) Intention to vaccinate against COVID-19**

- If asked to get vaccinated against COVID-19 tomorrow, how would you respond?

☐ Yes

☐ No

- If answered yes, do you think your condition is a reason to access vaccination as a priority?

☐ Yes

☐ No

- If you answered no, for which of these reasons?

☐ Fear of possible adverse reactions

☐ I fear the speed at which the vaccine was developed

- ☐ I think it is not effective
- ☐ I am not afraid of the disease
- If you answered no, would you get vaccinated in the future when we have more data?
  - ☐ Yes
  - ☐ No
- If you answered no, was your choice influenced by having already had the disease (even if in an asymptomatic form diagnosed by antibody test)?
  - ☐ Yes
  - ☐ No
- If you answered no, was your choice influenced by your underlying chronic inflammatory disease?
  - ☐ Yes
  - ☐ No

**Table S1.** Socio-demographic of the total cohort of 711 patients.

Characteristic	(n=711)
Age, years, median (range)	63 (19-84)
Male gender, n (%)	502 (70.6%)
Years from liver transplant, median (range)	9 (0-35)