

# Extremely wicked, shockingly evil and undoubtedly COVID-19: the silent serial killer

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## Research Article

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# Abstract

## Background:

The SARS-COV-2 virus has more than just an infectious role to play in the society. The rapid spread has also led to significant personal, professional, financial and economic recession globally. Health care professionals are getting seriously compromised due to these issues. No published data is available on the indirect effects of COVID-19 on high risk medical specialties. Otorhinolaryngology is considered as one such specialty. Hence we designed a national survey to address these issues.

## Materials and Methods:

A google questionnaire was sent to all the otorhinolaryngologists in Czech Republic with the help of the Czech Society of Otorhinolaryngology and Head and Neck Surgery to evaluate the problems they encountered during the first wave of COVID-19. Personal, professional and financial losses were also addressed. Online access to the survey was from 15<sup>th</sup> April 2020 to 26<sup>th</sup> April 2020.

## Results:

The psychosomatic indirect impact of the disease affected female doctors than males. Burnout syndrome was the most commonly reported problem. Around 44.75% of all doctors had a combination of health, financial and economic as well as professional development and educational issues. Doctors from private practices faced higher financial losses.

## Conclusions:

Our study showed that personal, professional and financial disturbances amongst doctors can lead to more serious consequences. With the lack of drastic measures in improving the support system for healthcare workers, the healthcare systems will fail quickly. Adequate support should be made mandatory by health authorities.

# Introduction

A serial killer is defined as a murderer who repeatedly commits the same offence, typically following a characteristic, predictable behaviour pattern [1]. The World Health Organization officially declared COVID-19 outbreak as a pandemic on 11 March 2020 and since then mortality has been increasing due to the SARS-COV-2 virus [2]. Apart from the rise in fatalities due to the devastating viral infectious outcomes of the disease, the collateral damage associated with it, makes the pandemic even more catastrophic. An overview of the world economic outlook projection shows a global growth projected at -4.9%, with Advanced Economies at -8%, Emerging Market and Developing Economies at -3% and Low-Income Developing countries at -1% [3]. The constant apprehension associated with COVID-19 has led to unparalleled uncertainty in life. The health-related, professional, financial and economic recession are being faced worldwide. Healthcare providers are also incredibly threatened by this and should be

protected. A survey done in April 2020 evaluating 724 physicians (75% related to independent medical practices) reported 97% of medical practices suffered negative effects either directly or indirectly by COVID-19. It showed a decrease in revenue by 55% and 22% layoffs amongst medical practices [4]. Another publication also discusses the financial issues with independent vascular surgeons [5].

These harmful effects related to COVID-19 are also leading to substantial psychological consequences among healthcare professionals. An interesting systemic review on mental health outcomes was made in the attempt to assess 5 studies with 3258 healthcare workers (HCWs) reported negative mental health outcomes included stress, depression, anxiety, insomnia [6]. Other similar studies were also published [7, 8].

We found no studies that analysed adverse health, professional, financial problems as a whole amongst specific individual medical specialities. Otorhinolaryngology is considered a significantly high risk speciality with respect to COVID-19 [9]. In view of these, we decided to evaluate the indirect COVID-19 factors that affected otorhinolaryngologists in Czech Republic.

## Materials And Methods

In April 2020, we did a national survey addressing 900 doctors practicing otorhinolaryngology in Czech Republic. A questionnaire using Google forms was designed to evaluate the issues confronted by ENT doctors during the COVID-19 situation. It contained 17 mandatory multiple choice questions and 1 optional question regarding the name of the medical practice. Five questions addressed the indirect effects of COVID-19. One question had the option of adding further comments. This was translated into Czech language. An online link to the survey was sent with the help of the Czech Society of Otorhinolaryngology and Head and Neck Surgery. Online access to the survey was from 15<sup>th</sup> April 2020 to 26<sup>th</sup> April 2020. Data compilation and analysis was done using Microsoft Excel.

## Results

The survey was completed by 115 female and 66 male doctors, 96 were hospital-based and 85 from private practices. In terms of experience in practice, 5 categories showed 18.8% in 0-5 years, 8.8% in 6-10 years, 24.3% in 11-20 years, 32.6% in 21-35 years and 15.5% in >35 years in the ENT specialty. Ninety-six were hospital-based and 85 were from private practices.

At least 81 doctors selected a combination of health, financial and economic as well as professional development and educational issues with respect to the most significant impact made by the COVID-19 pandemic, in which 65.4% were females (Figure 1). Otherwise, health related concerns also showed a high priority amongst 38.7% of the doctors.

A moderate degree of psychological impact of the disease was felt by almost 50% of the participants (Figure 2). Amongst 181 doctors, 4 out of 5, who found it unbearable or extreme were females. One had 0-5 years, 2 with 11-20 years and 1 with greater than 35 years of professional experience. Amongst 34

doctors, who experienced severe psychological problems, 18 (44.4% males, 55.5% females) had more than 21 years of experience and on the other end of the spectrum, 8 (12.5% males, 87.5% females) doctors working for less than 10 years in ENT had similar issues.

In response to further problems encountered personally, 6 options (none, physical tiredness and exhaustion, mental fatigue and exhaustion, burnout syndrome, combination of all, other), the respondents selected as many applicable. Furthermore, if the participant selected other problems, then an open option of entering a comment was available. Results showed 10 possible outcomes (Table 1). Three main criteria for health related issues were outcomes 2,3 and 4. Mental fatigue was the most commonly reported problem either as a single issue or in combination, it was seen in 73 doctors, similarly burnout syndrome was experienced by 23 doctors, and physical tiredness by 20 doctors. Whereas at least 40 doctors selected other problems. The most common issues confronted were fear, anger, uncertainty and confusion with the situation, dissatisfaction with the health care system, lack of support, disrupted personal life and lack of insight to the future.

According to work experience category, 1 or more issues were experienced by at least 67.6% with 0-5 years, 81.3% with 6-10 years, 63.6% with 11-20 years, 64.4% with 21-35 years and 64.2% with >35 years.

In response to the services provided by employer if an ENT doctor contracts COVID-19, a staggering 42% of doctors were unaware of any services available to them. Only 21 doctors (11 hospital based, 10 private practice) stated medical services and 28 doctors (8 hospital based, 20 private practice) had provisions of a combination of medical and financial services (Figure 3).

With respect to the question addressing services that should be provided by employers, 50.8% of doctors agreed to all services (Figure 4).

## Discussion

Our study showed a higher response from female doctors. A greater number of responses was obtained from hospital-based doctors and those with at least 21-35 years of professional experience. With respect to the most significant impact caused by the COVID-19 pandemic, around 44.75% of all doctors (53 females, 28 males) had a combination of health, financial and economic as well as professional development and educational issues. Around 54% of all had financial issues. Owners of private practices had suffered more personal losses due to costs for maintenance, provision of personal protective equipment and so on. They did not receive adequate support. Similar findings were seen in certain studies [4, 5].

About 70 doctors were concerned only about their health. A study done in China amongst 1357 health professionals reported more than 85% feared of self-infection [10], however this accounts for a larger study group than just doctors.

Amongst 128 participants who reported moderate to unbearable psychological impact that was related to COVID-19, 67% were females. And with those with less than 21 years of professional experience, the disease had severe psychological impact on 15 doctors (66.7% females) and had unbearable psychological impact on 5 doctors (60% females).

Certain studies had similar findings of women, young age, married and frontline workers being susceptible to severe mental health problems [6, 7, 8]. Even though we had a higher number of female respondents, the pattern is similar.

Whilst evaluating additional personal problems in our study, 64.2-81.3% doctors reported at least one issue, either singly or in combination. Mental fatigue was the most commonly reported problem, followed by burnout syndrome and physical tiredness. Amongst all doctors, 22% selected other problems too. An evaluation of 3599 Northern Italian dentists found fatigue as one of the most common symptoms suffered [11]. A multinational, multicentre study amongst 906 HCWs in Singapore and India found at least 66.7% experiencing 1 symptom, physical or psychological. 19.4% had anxiety and at least 13.6% had depression [7]. Another systemic review and meta-analysis evaluated 13 studies with a combined total of 33,062 HCWs with a pooled prevalence of 23.1% with anxiety in 12 studies, 22.8% with depression in 10 studies and 34.32% with insomnia in 5 studies [8]. These findings were also corroborated by a study amongst Chinese surgical staff [12].

Only 15% of our study group reported access to medical and financial support if an employee contracts COVID-19, most were unaware of any services. This is a dire finding, because there is a real risk of reduction in physicians due to the disease or the fear of contracting it. The study done amongst medical practices in USA has shown a real healthcare workforce shortage of 22% layoffs and 48% furloughs in April 2020 with an increased prediction of 36% and 60% respectively in May 2020 [4]. It could be accordingly worse in low income countries, as was seen during the Ebola virus epidemic in West Africa [13].

In terms of support that should be provided to all ENT doctors, 58 on health services and 48 with financial support, 92 agreed on all services including psychological counselling.

In order to help healthcare systems, USA has signed the Coronavirus Aid, Relief and Economic Security (CARES) Act providing 100 billion dollars to the Department of Health and Human Services to reimburse eligible health care providers for healthcare related expenses or lost revenues attributed to COVID-19 [5]. Europe has decided to provide incentives for surge capacity like Germany pays hospitals 50,000 Euros for each new intensive care unit bed, Netherlands receives 10 Euros for each registered patients and so on. Supplementary payments have been promised to several European countries. Ireland has made agreement with private hospitals to draw on their space, supplies and staff, so that these premises are accessible to the whole population [14]. Maintenance and efficient functioning of health care systems are the key elements in every society worldwide and always need a strong backbone of support, without which, the consequences would be irreparable and disastrous. Furthermore, a large part of maintaining good physical and mental health amongst HCWs, more so amongst specialties with high risk such as

Otorhinolaryngology should be made a priority. Mandatory health checks and evaluation of the psychological status of a healthcare professional should be made, if necessary with the help of questionnaires [6].

## Conclusion

All protective measures and equipment should be provided by employers to reduce undue risk and ensure safe practice amongst otorhinolaryngologists. Local health authorities should be assigned and dedicated in helping practices with little or no support. The vicious cycle or trend with personal (physical and mental health) problems, professional issues and financial insecurity can pose a psychological threat and must be taken very seriously. If any deteriorating factor is discovered that may compromise the health or professional continuity of an ENT doctor, then appropriate measures such as leave, counselling or health support and or financial compensation should be made to reduce the risk of self-harm, detriment to the profession and near ones. Appropriate special funds should be set aside for emergency needs and reimbursement of COVID-19 related damages. These measures will also help reduce the risk of mortality directly and indirectly associated with COVID-19. The lessons learnt from the first attack of the COVID-19 pandemic ought to serve as invaluable tools to avoid repeating the same oversights. Fear is the epitome of poor performance in any profession. Psychosomatic problems are rising amongst health providers due to the failure in identifying and eliminating causative factors. Such health problems are linked to financial problems and vice versa. ENT is a high risk department with respect to COVID-19 and are facing unparalleled clinical challenges on a daily basis. The care of non-covid-19 seriously ill patients is also of grave concern in centres where medical supplies are deficient. Financial detriment will lead to further redundancy and deprivation, more so amongst most private practices. With the lack of drastic measures in improving the support system for healthcare workers in countries such as Czech Republic, the healthcare systems will fail quickly.

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## Declarations

Acknowledgements: None

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Compliance with ethical standards:

Conflicts of Interest: The authors declare that they have no conflict of interest.

Research involving human participants and/or animals: Formal ethical approval was not required for this survey since it was questionnaire based. Protocol followed in studies involving human subjects were in compliance with the Helsinki declaration and further in accordance with local ethical guidelines of the institutional ethical committee of 3<sup>rd</sup> faculty of Medicine, Charles University, Prague, Czech Republic. Furthermore it was also approved by the Czech Society of Otorhinolaryngology and Head and Neck Surgery.

Informed consent to participate: not applicable; completion of online survey implied consent to participate. All participants have been kept anonymous.

Availability of data and material: available on request

## Tables

Table 1 Psychosomatic problems reported during the COVID-19 pandemic

		<i>Years of experience in Otorhinolaryngology</i>				
		<i>0-5</i>	<i>6-10</i>	<i>11-20</i>	<i>21-35</i>	<i>&gt;35</i>
<b>1</b>	<b><i>I have no problems</i></b>	<b>11</b>	<b>3</b>	<b>16</b>	<b>21</b>	<b>10</b>
<b>2</b>	<b><i>Physical tiredness &amp; exhaustion</i></b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>1</b>	<b>1</b>
<b>3</b>	<b><i>Mental fatigue &amp; exhaustion</i></b>	<b>7</b>	<b>4</b>	<b>12</b>	<b>16</b>	<b>4</b>
<b>4</b>	<b><i>Burnout syndrome</i></b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>1</b>
<b>5</b>	<b><i>Other problems</i></b>	<b>6</b>	<b>4</b>	<b>9</b>	<b>8</b>	<b>4</b>
<b>6</b>	<b><i>Combination of 2+3</i></b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>2</b>
<b>7</b>	<b><i>Combination of 3+4</i></b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>0</b>
<b>8</b>	<b><i>Combination of 3+5</i></b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>4</b>
<b>9</b>	<b><i>Combination of 2+3+4</i></b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>
<b>10</b>	<b><i>All of the above problems</i></b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>

## Figures

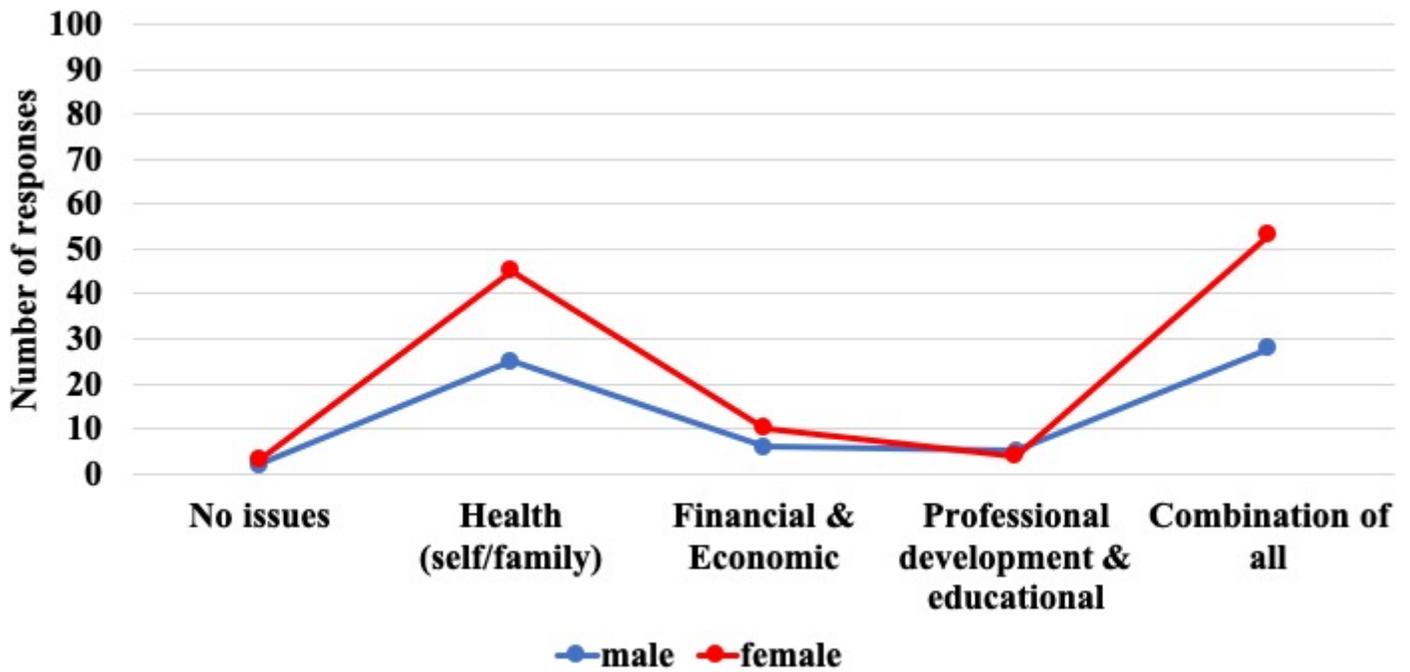


Figure 1

Impact of COVID-19 on ENT doctors

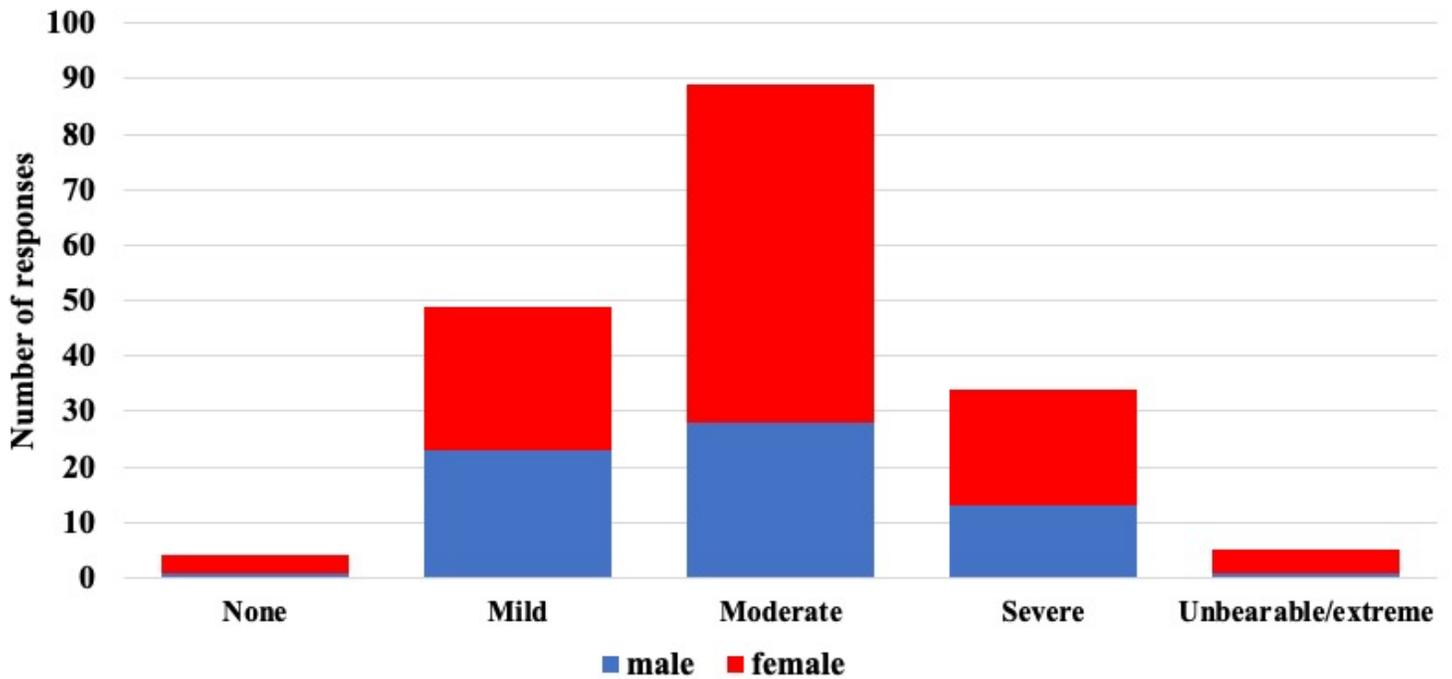


Figure 2

Psychological impact of COVID-19 on ENT doctors

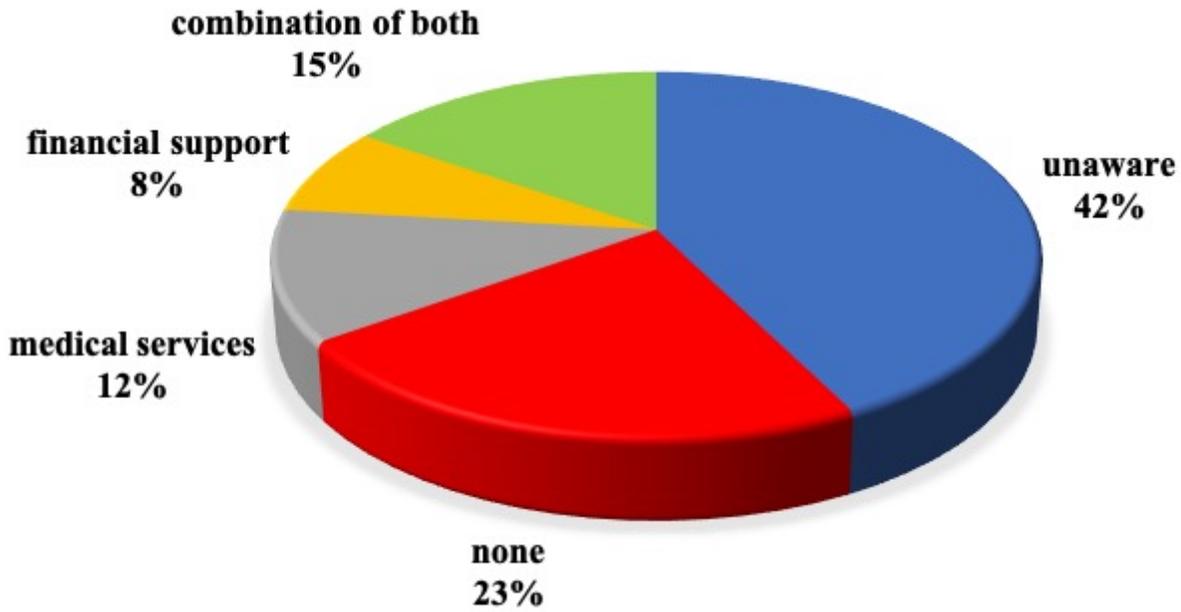


Figure 3

Support provided by employer if an employee contracts COVID-19

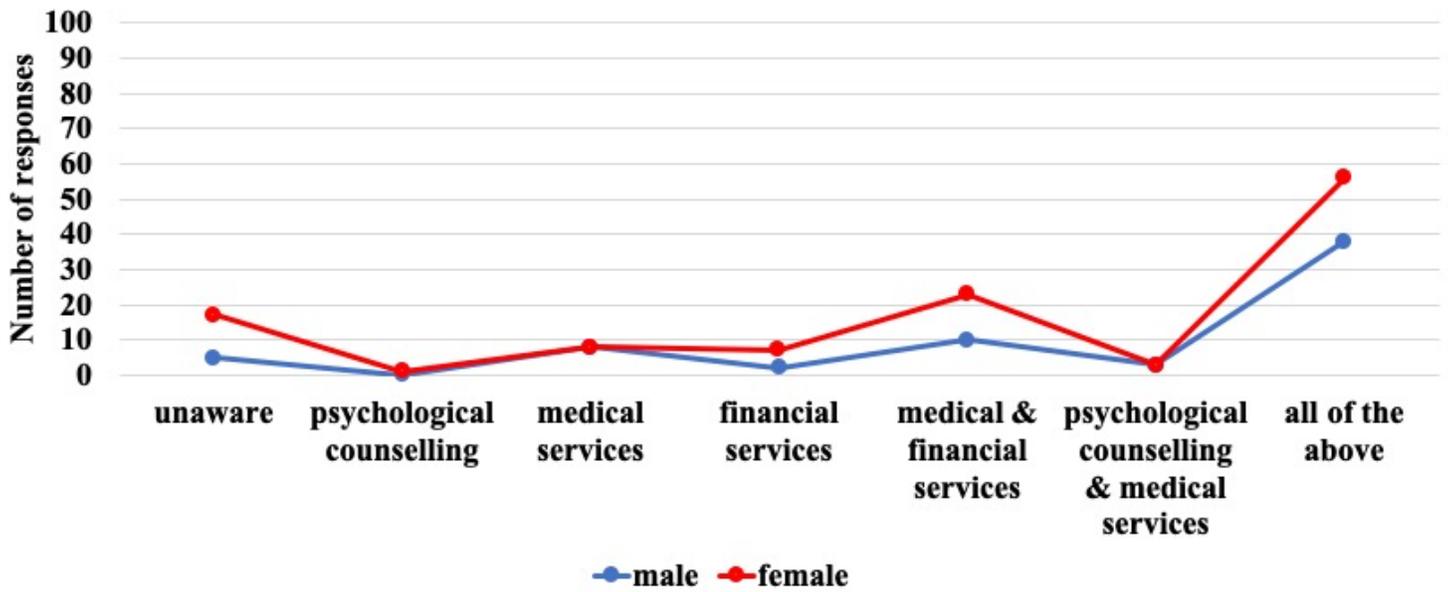


Figure 4

Suggested services that should be provided by employers